<table>
<thead>
<tr>
<th>CHAP</th>
<th>TABLE OF CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FOREWORD</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>HEALTH PROMOTION IN FAMILY HEALTH</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>PRINCIPLES AND CONCEPTS OF FAMILY HEALTH</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>EARLY CHILDHOOD DEVELOPMENT (THE INFANT AND YOUNG CHILD)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives, Strategies &amp; Target Group</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Components of Care</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Service Delivery</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>High Risk Children</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Guidelines for Home Visit</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>First Health Facility Visit</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Points to Consider regarding Early Childhood Development</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Counseling at Child Health Clinic</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Well Baby Clinics</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Nursery / Pre-School</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>School Entry Preparation</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Tools to be used</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Management of Childhood Illnesses</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>1. Under-nutrition</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>2. Acute Gastroenteritis (GE) /Diarrhoea</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>3. Acute Respiratory Infections &amp; Asthma</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>4. Rheumatic Fever</td>
<td>41</td>
</tr>
<tr>
<td>2</td>
<td>NUTRITIONAL ASSESSMENT AND COUNSELING FOR THE FAMILY (WITH SPECIAL EMPHASIS ON PREGNANCY AND EARLY CHILDHOOD)</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives &amp; Strategies</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Nutrition in Pregnancy and Lactation</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Ten Steps to Successful Breastfeeding</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Guidelines for Nutritional Care of The Newborn</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Breast-feeding – birth to 6 months</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Infant Feeding – 6 months and beyond</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Guidelines for Young Child Feeding</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Procedures for Nutritional Assessment at Child Health Clinic</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Criteria for determining Nutritional Risk</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Detection and Management of Anaemia</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Adolescent Nutrition</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Nutrition in the Elderly</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Practical Guidelines for Optimizing Nutrition in the Elderly</td>
<td>62</td>
</tr>
</tbody>
</table>
3 EXPANDED PROGRAMME ON IMMUNIZATION (E.P.I.)

Policy, Goal, Objectives & Strategies  65
Immunization Schedule  66
Administration of Vaccines  67
Family Immunization  69
E.P.I. Cold Chain  70
Vaccine Refrigerators  72
Monitoring the Temperature of Refrigerator  75
How to Adjust the Temperature of Vaccine Refrigerator  75
Vaccine Carriers  76
Ice Packs  77
Cold Chain Monitoring Equipment  78
Shake Test  82
Open Vial Policy  83
Site for Vaccine Administration  85
Positioning and Restraint  87
Contraindications to Vaccinations  91
Some Conditions which are NOT Contraindications to Immunization  91
Special Risk Groups for Immunization  92
Vaccine Safety  95
Events Supposedly Attributable to Vaccines and Immunization (ESAVIs)  95
Severe and Less Frequent Adverse Events  99
Clinical Management of ESAVIs  100
Management of Anaphylaxis  105
Vaccine-associated Paralytic Poliomyelitis  107
Disseminated BCG  108
Osteitis, BCG Osteomyelitis  109
Toxic Shock  109
Septicaemia  109
Peripheral Neuritis (Brachial or Sciatic)  110
Surveillance and Reporting for the Immunization Programme  110
E.P.I. Diseases slated for Eradication or Elimination  111
Standard Vaccination Procedures  112
Occupational Safety and Post-Exposure Prophylaxis  113
Management of Needle Stick Injuries  113
Procedures for Disposing of Injection Equipment  114
Health Education  114
Monitoring and Evaluation of EPI Programme  115
<table>
<thead>
<tr>
<th>CHAP</th>
<th>FAMILY PLANNING</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Policy, Goal &amp; Strategies</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Components of Family Planning Services</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Family Planning and the Adolescent</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>Client Assessment</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>First Visit</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>A Guide to Contraceptives</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Adolescents and Contraception</td>
<td>141</td>
</tr>
<tr>
<td></td>
<td>Post-abortion Contraception</td>
<td>144</td>
</tr>
<tr>
<td></td>
<td>Men and Family Planning</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td>Why should Men be involved?</td>
<td>148</td>
</tr>
<tr>
<td></td>
<td>Services of particular Interest to Men</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>Male Information Needs</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>Estimating Couple Years of Protection</td>
<td>152</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>SAFE MOTHERHOOD</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Antenatal Care Policy, Goal, Objectives, Indicators &amp; Strategies</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>Indications for Referral to High Risk Clinic</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>Risk Factors for Pregnancy-induced Hypertension</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>Hypertension in Pregnancy</td>
<td>166</td>
</tr>
<tr>
<td></td>
<td>Severe Pre-eclampsia and Eclampsia</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>Management of Minor Disorders of Pregnancy</td>
<td>168</td>
</tr>
<tr>
<td></td>
<td>Nutrition Supplements</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>Special Needs of the Pregnant Adolescent</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Prevention of Mother To Child Transmission (MTCT) of HIV/AIDS</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Antenatal Follow-up of HIV-positive Pregnant Woman</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td>Abortion</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td>Follow-up of Women who have had an Abortion</td>
<td>172</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>INTRANATAL CARE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Policy, Goal, Strategies, Objectives &amp; Indicators</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>Guidelines for the Selection of Location for Confinement</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Management of Labour</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>Specific Procedures in Labour Management</td>
<td>178</td>
</tr>
<tr>
<td></td>
<td>Observation Procedures during Labour</td>
<td>179</td>
</tr>
<tr>
<td></td>
<td>Using the Partograph</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>Immediate Care after Delivery</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>Modification of Obstetric Practice for HIV-positive Clients</td>
<td>187</td>
</tr>
<tr>
<td>CHAP</td>
<td>POST NATAAL CARE</td>
<td>PAGE</td>
</tr>
<tr>
<td>-------</td>
<td>------------------</td>
<td>------</td>
</tr>
<tr>
<td>7</td>
<td>POST NATAAL CARE</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, objectives, Indicators &amp; Strategies</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td>Post Nataal Visit at Six Weeks</td>
<td>194</td>
</tr>
<tr>
<td></td>
<td>Indications for Referral to Medical Officer/Obstetrician-Gynaecologist/ Paediatri- cian at 6 weeks Clinic</td>
<td>194</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAP</th>
<th>CARE OF NEWBORN</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>CARE OF NEWBORN</td>
<td>198</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives, Strategies &amp; Indicators</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>Essential Newborn Care</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>Management of Jaundice</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>Transport of Sick/Low Birth Weight Baby</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>Feeding of the Newborn</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>Intra-uterine Death or Stillbirth</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>Birth of a Baby with an Abnormality</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td>Surveillance and Mandatory Reporting of Maternal Mortality</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>Indicators of Maternal Mortality</td>
<td>207</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAP</th>
<th>WOMEN’S HEALTH</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>WOMEN’S HEALTH</td>
<td>208</td>
</tr>
<tr>
<td></td>
<td>Definition of Menopause</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives &amp; Strategies</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>Age at Menopause</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>Symptoms of Menopause</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>Osteoporosis and Fracture</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular Disease</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td>Contraception and the Late Pre-menopause</td>
<td>212</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAP</th>
<th>CANCER OF THE UTERINE CERVIX (CERVICAL CANCER)</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>CANCER OF THE UTERINE CERVIX (CERVICAL CANCER)</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives &amp; Strategies</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>Purpose of Cervical Screening Programme</td>
<td>218</td>
</tr>
<tr>
<td></td>
<td>Cervical Cancer Screening in Primary Health Care Setting</td>
<td>219</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAP</th>
<th>MEN’S HEALTH</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>MEN’S HEALTH</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives &amp; Strategies</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>For Screening Tools</td>
<td>227</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAP</th>
<th>ELDERLY HEALTH</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>ELDERLY HEALTH</td>
<td>230</td>
</tr>
<tr>
<td></td>
<td>Policy, Goal, Objectives &amp; Strategies</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td>Basis of Health Care</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td>Principles of Health Care of the Elderly</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td>Health Risks in Older Patients</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td>Assessment</td>
<td>233</td>
</tr>
<tr>
<td>CHAP</td>
<td>PAGE</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Preventive Care</td>
<td>234</td>
<td></td>
</tr>
<tr>
<td>Prevention of Adverse Drug Reaction</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Accidents</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Health Promotion</td>
<td>236</td>
<td></td>
</tr>
<tr>
<td>Eating Habits</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>Sexuality</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>Incontinence</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>241</td>
<td></td>
</tr>
<tr>
<td>Common Illnesses in Old Age</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Other Endocrine Disorders</td>
<td>244</td>
<td></td>
</tr>
</tbody>
</table>

13 **MENTAL HEALTH** 248

- Policy, Goal, Objectives & Strategies 249
- The Undefined Burden 250
- The Hidden Burden 250
- The Primary Health Care Approach to Mental Health 251

**BIBLIOGRAPHY & REFERENCES** 254

**ANNEXES** 258

2. Millenium Development Goals 261
3. Organisms Commonly Causing Diarrhoeal Disease in Children 262
4. List of Resource / Referral Agencies 263
## LIST OF TABLES & FIGURES

<table>
<thead>
<tr>
<th>CHAP</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Developmental Ages and Interventions</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Developmental Norms</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Developmental Milestones</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Child Development Milestones (Mean and Percentiles)</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Acquisition of Developmental Skills</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Summary of Procedures for Children under 8 years</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Summary of Interventions / Procedures by Visit</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Screening Procedures for Monitoring Growth and Development - Vision</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Ophthalmic Screening for Infants and Pre-School Children</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Screening Procedures for Monitoring Growth and Development – Hearing and Speech</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Intermediate Level and Tertiary and Diagnostic Agencies that Conduct Assessments</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Undernutrition—Marasmus and Kwashiokor</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Assessment of Dehydration</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Treatment Plan</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Guide to Rehydration Therapy</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Asthma Severity</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Differential Diagnosis of Asthma</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Some Possible Asthma Triggers</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Asthma Medicine Plan</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Comparison of Clinical characteristics of Streptococcal and non-Streptococcal Throat</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Treatment of Group A Streptococcal Pharyngitis (Primary Prevention of Rheumatic Fever)</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>WHO Criteria (Jones’ Criteria) for Guidance and the Diagnosis of Acute Rheumatic Fever</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Recommended Antibiotics for Secondary Prevention and Prophylaxis</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>General Principles for Duration of Secondary Prophylaxis</td>
<td>46</td>
</tr>
<tr>
<td>2</td>
<td>Ten Steps to Successful Breast-feeding</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Storage of Breast Milk</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Suggested Amounts of Multi-mix to Feed 6 months to 1 year</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Schedule for Feeding of Infants and Young Children</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Weight, Height and Head Circumference Measurement Schedule</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Guidelines for Management according to Nutritional Grade</td>
<td>60</td>
</tr>
<tr>
<td>3</td>
<td>The Routine Immunization Schedule</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Recommended Primary Immunization Schedule</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Booster Schedule</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Recommended Vaccine Storage Time and Temperature for Different Levels of Health Facility</td>
<td>72</td>
</tr>
</tbody>
</table>
Vaccine Refrigerator, highlighting the “Returned Box” 74
How to Read a Vaccine Vial Monitor 78
Vaccine Cold Chain Monitor 79
Dial and Stem Thermometer 80
Guidelines for Storing Vaccines During Power Cuts 80
Vaccine Susceptibility to Temperature 81
Guidelines on Use of Vaccines Exposed to Temperatures Outside of 2-8°C 81
The Shake Test 83
Allowable Preservation Time for Opened Vials 84
Site for Vaccine Administration 86
Needle Positions for Different Injection Sites 87
Vaccine Administration: Dose, Route, Application Area and Syringe 89
Administering Vaccine for Infants 90
Vaccination Scheme for Patients with Symptomatic and Asymptomatic HIV 95
Suspected ESAVIs 96
Programmatic Errors and Their Consequences 97
Types of Programmatic Errors 98
Minor Adverse Events due to Vaccination 98
Severe Adverse Events Attributable to Vaccination 99
Identifying Causes of ESAVIs 100
Clinical Management of Minor Vaccine-related Adverse Events 101
Management of Serious Vaccine-related Adverse Events 102
Symptoms and Signs of Anaphylaxis 106

First Visit 124
Intra-uterine Contraceptive Devices (IUDs) 126
Combined Oral Contraceptives (COCs) 127
Progestin-only Oral Contraceptives / Progestin-only Pills 129
Progestin-only Injectable Contraceptives 130
Barrier Methods 131
Spermicides 132
Condoms 133
Natural Family Planning 134
Female Sterilization 135
Vasectomy 136
Lactation Amenorrhoea Method 137
Emergency Contraception 138
<table>
<thead>
<tr>
<th>CHAP</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdrawal (Coitus Interruptus)</td>
<td>139</td>
</tr>
<tr>
<td>Progestin-only Implants</td>
<td>140</td>
</tr>
<tr>
<td>Adolescents and Contraception</td>
<td>141</td>
</tr>
<tr>
<td>Recommended Time to Start for Breastfeeding Women</td>
<td>143</td>
</tr>
<tr>
<td>Non-breastfeeding Women</td>
<td>144</td>
</tr>
<tr>
<td>New Female Contraceptive Technology</td>
<td>146</td>
</tr>
<tr>
<td>New Male Contraceptive Technology</td>
<td>151</td>
</tr>
<tr>
<td>Sample CYP Calculations</td>
<td>153</td>
</tr>
<tr>
<td>5</td>
<td>Norms and Recommended Procedures for Antenatal Visits</td>
</tr>
<tr>
<td>The “Act Now” Card</td>
<td>162</td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>164</td>
</tr>
<tr>
<td>Rapid Initial Assessment</td>
<td>165</td>
</tr>
<tr>
<td>Management of Minor Disorders of Pregnancy</td>
<td>168</td>
</tr>
<tr>
<td>6</td>
<td>Home Delivery Checklist</td>
</tr>
<tr>
<td>Descent assessed by Abdominal Palpation</td>
<td>182</td>
</tr>
<tr>
<td>WHO Partograph</td>
<td>184</td>
</tr>
<tr>
<td>Indications for Referral to Hospital—Mother &amp; Baby</td>
<td>185</td>
</tr>
<tr>
<td>Immediate Care after Delivery - Mother &amp; Baby</td>
<td>186</td>
</tr>
<tr>
<td>7</td>
<td>Post Natal Home Visits</td>
</tr>
<tr>
<td>Required Examinations/Actions of Mother and Baby</td>
<td>193</td>
</tr>
<tr>
<td>Management of Common Maternal Disorders</td>
<td>196</td>
</tr>
<tr>
<td>8</td>
<td>APGAR Score</td>
</tr>
<tr>
<td>Essential Newborn Care—General Care</td>
<td>201</td>
</tr>
<tr>
<td>Early Detection and Management of Abnormal Conditions in the Newborn</td>
<td>202</td>
</tr>
<tr>
<td>Definition of Maternal Deaths</td>
<td>206</td>
</tr>
<tr>
<td>9</td>
<td>Women’s Health Screening Tool</td>
</tr>
<tr>
<td>10</td>
<td>Cervical Cancer Screening Tool</td>
</tr>
<tr>
<td>11</td>
<td>Men’s Health Screening Tool</td>
</tr>
<tr>
<td>12</td>
<td>Activities of Daily Living Scale for Functional Assessment</td>
</tr>
<tr>
<td>Mental Impairment</td>
<td>242</td>
</tr>
</tbody>
</table>
Philosophy of Family Health

Integration of comprehensive services
  - health services
  - health systems
  - life cycle approach
  - renewal of Primary Health Care
  - healthy lifestyle
The Family Health Manual was developed to guide the transition of services from the traditional Maternal and Child Health Care to that of Family Health, in keeping with the paradigm shift and the new priority direction for the Caribbean Cooperation in Health. With increasing concerns regarding family values and life and the impact of an ageing population on the health services, more attention needs to be paid to families as a unit and to the elderly.

This manual was developed through a long collaborative process with input from medical officers, nurses and other categories of health care workers as well as experts in the field of reproductive health, care of the elderly and other areas.

This manual is expected to be used by medical officers, nurses, nurse practitioners, midwives, community health aides and other categories of health care workers in all types of health facilities. It is expected to guide and standardize the care given to individual members of the family throughout the life cycle.

Periodic review and modification will be done as necessary.

ACKNOWLEDGEMENTS

The Family Health Services Division of the Ministry of Health would like to acknowledge the collaborative work done with the following:

- UHWI Department of Child Health
- Various units of the Ministry of Health
- Hospital departments
- National Family Planning Board
- Department of Community Health and Psychiatry, UWI
- Pan American Health Organization
In keeping with the Ministry of Health’s National Strategic Plan for the Promotion of healthy lifestyles, the Family Health programme seeks to ensure this proactive approach to health care, empowering individuals and families to take charge of their own health and working in communities through an inter-sectoral approach in order to promote health and well-being of the family.

To this end, the Family Health programme will collaborate with other health programmes and agencies to:

- Promote healthy life-styles including diet, physical activity, safe sexual behaviours, and health-seeking behaviours.
- Use a combination of health promotion strategies to empower families
- Develop local models for health and education focused on the family
- Develop healthy public policies and legislation that support the family
- Strengthen strategic alliances/partnerships
- Build on and integrate evidence-based interventions into programmes
- Strengthen the implementation of a health promotion framework throughout the life cycle to ensure optimal growth and development and improve the quality of life for families, especially those headed by women
- Promote healthy public policies to support healthy choices, as well as the creation of appropriate physical and social surroundings to achieve healthy and productive family life
- Strengthen the role of family and community in health education
- Strengthen community participation and empowerment of families so they may become key actors for better health for themselves and their communities
- Contribute to human resource development in the areas of Family Health
- Promote and support operations research on reorientation of services with a family focus

In addition to the above, the Family Health programme will place emphasis on:

- Chronic disease prevention through the promotion of exclusive breastfeeding and appropriate complementary feeding, healthy eating behaviours with diets low in salt, sugars and fats, physical activity as well as the prevention and control of smoking.
• Reproductive health through the promotion of appropriate sexual behaviour and the involvement of men
• Mental health and well-being through the screening and timely management of depression, prevention and control of substance abuse
• Injury and violence prevention through the promotion of parenting as well as the protection and support of children, women and the disabled primarily.

In order to promote health, the Family Health programme will seek to deliver services in client friendly facilities, providing quality, equitable care, ensuring respect and maintenance of dignity for all clients at all times.
Traditionally, the Primary Health Care services in Jamaica have been compartmentalized with a strong focus on maternal and child health and the health of the environment. However due to demographic changes, socio-economic changes as well as changes in disease trends, it has become clear in Jamaica and indeed in the Caribbean and Latin American region, that there must be a shift to Family Health.

The Family is defined as the basic functioning structural unit of society. It is within the family that health behavior and health decisions are first established, where culture, values, and norms of the society begin. The family structure and function affects health and health affects family structure and function.

Family Health is used to denote both health of the family as a unit and health of its individual members across the life cycle.

The average family size is shrinking due to dispersal, rapid urbanization, decreasing prevalence of the nuclear family, greater access and participation of women in the labor market, low levels of education, and high prevalence of absolute poverty. These factors affect the family cycle, family-centered socialization of children, and care of young children as well as aging adults.

Poverty is an underlying theme impacting on the health of women, children, adolescents and the elderly. Maternal and child health tends to be worse among the poor. Children in the poorest third of the population are six times more likely to die before the age of 5 years than those among the richest 10%. Poor older people who survive to age 60 tend to have more years living with chronic disease and functional disabilities than those in resource-rich families and communities. Families in crisis in the Region have increased. Child abuse, neglect, sexual exploitation, spousal and other domestic abandonment and neglect of the elderly are common occurrences that are of public health significance. Addressing these problems will require social support, social policies and the development of a support network along with treatment for the family.

These family changes impact on children and adolescents and are associated with adverse health outcomes e.g. attempted suicide, depression, and drug abuse. In this changing context we need to re-examine the role of the family in promoting health and preventing illness. We need to contribute to family resiliency by increasing the protective factors associated with the family through our health interventions.
UN and other International Summit declarations have all addressed family issues extensively over the past 10 years. The family is entitled to receive comprehensive protection and support and should be strengthened. These declarations seek to:

- develop policies and laws, which support and contribute to the family and its stability; promote equality; identify objectives and actions of direct relevance to the family.
- stress the family role in promoting health and the need to reorient services with a family focus.
- demonstrate the growing need and recognition for a new social and health agenda for families.

Family Health models throughout the region have many similarities; they are physician-oriented, focus on the family in their communities, are government-funded, and deliver integrated holistic services using the life cycle and risk approach. Models view the family as a setting where health is produced. All models use a team approach to health that is, they place the health system resources directly in the community by placing the teams in close proximity to the families. Models also use health promotion and prevention strategies.

Developing a family approach to health involves empowerment of the families to solve their own problems; using an integrated approach; promotion of inter-sectoral collaboration; focusing on the family in a holistic manner; considering educational, social and economic needs; involving the community; facilitating access to client-friendly services; and strengthening monitoring, evaluation and surveillance.

**GUIDING PRINCIPLES FOR ACTION IN FAMILY HEALTH**

- Using a holistic life-cycle approach
- Putting the family as the focus of activities
- Using a health promotion and protection approach, address inequities, serving marginalized groups, facilitating respect for and the protection of the rights of families.
- Taking a public health, inter-sectoral, inter-disciplinary approach based on Primary Health Care principles and client-friendly services as the basis for the planning of comprehensive family health interventions.
PRIORITY AREAS FOR ACTION

While we seek to maintain the traditional programmes of the Primary Health Care system, new and emerging areas for priority now include the following groups:

- EARLY CHILDHOOD HEALTH AND DEVELOPMENT
- ADOLESCENT HEALTH
- SAFE MOTHERHOOD
- PARENTING
- MEN’S HEALTH
- HEALTH OF THE ELDERLY
- THE DISABLED

It is through the implementation of these principles and focus on the priority areas that we will indeed achieve the health of the family as we journey through the next millennium.
1. EARLY CHILDHOOD DEVELOPMENT
   (THE INFANT AND YOUNG CHILD)
1. EARLY CHILDHOOD DEVELOPMENT (THE INFANT AND YOUNG CHILD)

POLICY
In keeping with the Convention on the Rights of the Child, especially articles 23-25 (see Annex 1), every child shall be provided with holistic, integrated health care for their optimal development. No child shall be denied health care for any reason.

GOAL
To ensure the holistic development of the child through the promotion and protection of wellness, utilizing the involvement of the family unit, the health team and the wider community.

OBJECTIVES
- To have 80% of normal newborns and 100% of high-risk newborns visited by a health care worker during the first 2 weeks of life
- To have 95% of newborns commence vaccination (BCG) in hospital/delivery centre
- To offer support for the establishment of maternal infant feeding choice
- To ensure that 100% of attendees at child health clinics have adequate monitoring of their growth and development (achievement of milestones)
- To ensure early detection and appropriate referral of children with developmental delays
- To ensure compliance with the Child Care and Protection Act 2004, through parental education, increased awareness of health staff and promotion of the rights of the child

STRATEGIES
- Community assessment visits
- Team approach to management
- Structured service provision at specified ages
- Monitoring of growth and development (physical and psycho-social)
- Nutritional management (inclusive of supplementation where appropriate).
- Immunization at scheduled ages.
- Health promotion, education and counselling.
Parental support through education and counselling
Early detection and appropriate management of developmental delays.
Use of the Primary Health Care principles and referral system.

TARGET GROUP
- Children under the age of eight years, with special emphasis on the 0-60 months old child
- At risk children e.g disabled, abused, abandoned

COMPONENTS OF CARE
- Monitoring of physical growth and development
- Early detection and referral of developmental delays
- Caregiver counselling on early stimulation to aid psychosocial development
- Immunization
- Infant and Young Child Feeding
- Health Promotion and Protection

DEVELOPMENTAL AGES AND INTERVENTIONS

<table>
<thead>
<tr>
<th>DEVELOPMENTAL AGE/STAGE</th>
<th>PRIORITY AREAS FOR SERVICE PROVISION/INTERVENTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant</td>
<td>Home visit within the first 2 weeks of life</td>
</tr>
<tr>
<td>0-6 weeks</td>
<td>Establishment of bonding with parent/primary caregiver</td>
</tr>
<tr>
<td></td>
<td>Immunization</td>
</tr>
<tr>
<td></td>
<td>Exclusive Breastfeeding (if mother’s choice)</td>
</tr>
<tr>
<td></td>
<td>Prompt detection and management of diseases in the newborn e.g jaundice, sepsis</td>
</tr>
<tr>
<td></td>
<td>Parental (especially maternal) support (e.g. management of postpartum depression)</td>
</tr>
<tr>
<td></td>
<td>Identification of high risk conditions and referral to appropriate services/ agencies</td>
</tr>
<tr>
<td>Infant</td>
<td>Promotion of exclusive breastfeeding up to six months of age continuing up to 2 years or beyond</td>
</tr>
<tr>
<td>To the end of first year</td>
<td>Introduction of complementary feeds from six months of age</td>
</tr>
</tbody>
</table>

P.T.O.
<table>
<thead>
<tr>
<th>DEVELOPMENTAL AGE/STAGE</th>
<th>PRIORITY AREAS FOR SERVICE PROVISION/ INTERVENTION</th>
</tr>
</thead>
</table>
| Infant                  | Stimulation of development (including language) through communication and play  
                        | Completion of the primary series of immunization  
                        | Health promotion and education focusing on protection from diseases, accidents, injuries and abuse  
                        | Continue bonding  
                        | Screening and referral for vision, hearing and other disabilities  
                        | Detection and management of nutrition disorders of childhood including micronutrient deficiencies and obesity  
                        | Appropriate language stimulation  
                        | Parenting support |
| Toddlers                | As above  
                        | Continuation of immunization  
                        | Continued screening for disabilities  
                        | Monitoring of physical health, growth and development  
                        | Promotion of opportunities to develop independence, including self care  
                        | Parental education about psycho-social development, and child care alternatives (Early Childhood Development Centres)  
                        | Commencement of dental health intervention  
                        | Vigilance for the detection of child abuse |
| Pre-School              | As above  
                        | Continuation of immunization  
                        | Enrollment in an appropriate Early Childhood Development Centre (including Nursery, Day Care, Kindergarten)  
                        | Opportunities for development of fine motor skills.  
                        | Advice on healthy lifestyle including appropriate nutrition choices, regular exercise, good oral hygiene and normal growth and development  
                        | Language development (talking, reading & singing etc.)  
                        | Activities which will develop a positive sense of self  
                        | Opportunities to develop social skills - learn cooperation, helping and sharing.  
                        | Experimentation with pre-writing and pre-reading skills.  
                        | Environmental awareness for general safety and protection |
| School                  | Completion of immunization  
                        | Monitoring of physical health, growth and development  
                        | Continued promotion of a healthy lifestyle as well as protection from risk behaviours including external influences  
                        | Prevention, early recognition and management of mental health/behavioural problems  
                        | Continued development of social skills  
                        | Parenting education about the importance of healthy school environment to facilitate the physical and psycho-social development of children. |
Any problem identified in the first month of life should be referred to the hospital.

SERVICE DELIVERY
Routine service should be provided at the clinic at specified ages commencing at age 6 weeks. Subsequent visits should be in keeping with the immunization schedule but with an interval visit for monitoring growth and development at 9 months. Following the visit at 24 months, assessments should be done on an annual basis unless otherwise indicated.

At each child health visit or other contact visit, the child should be assessed by a Registered Midwife, Registered Nurse, Family Nurse Practitioner, Community Nurse (Public Health Nurse) or a Medical Officer, as appropriate.

HIGH RISK CHILDREN
- Low birth weight / prematurity
- Mother dead or mentally/emotionally disturbed
- Child of an adolescent mother
- Birth injury/congenital deformity
- In the care of an elderly relative
- Siblings who are malnourished
- Anaemia / Sickle Cell Disease
- Under 2 years with pregnant mother
- Not maintaining a satisfactory growth curve
- HIV-exposed or infected
- Physically/sexually/emotionally abused
- Disabled
- Wards of the State
- Living in violence-prone areas
- Lower socio-economic status

GUIDELINES FOR HOME VISITING
The following groups should be given highest priority:
- Families where a previous child died of a preventable cause.
- A mother who is having difficulty with breastfeeding.
- Any child who is failing to thrive or to attain developmental milestones.
• Evidence of social or psychological problems.
• Children who are high-risk.
• Immunization defaulters.
• Follow-up visits as indicated.

FIRST HEALTH FACILITY VISIT
Assessment of the Health Status of the Child
The objectives of this visit are to:
• conduct a detailed physical assessment in order to detect abnormalities
• continue the primary schedule of immunization
• reinforce optimum nutrition
• identify at-risk children and refer them for special services including social safety net programmes.
• educate parent/caregiver on early stimulation and child safety.

An integrated approach to the management of the child should be based on the history and physical examination findings. Appropriate referrals for further assessment and diagnosis should be made if the health status of the child is assessed as being abnormal.

The child’s status should be discussed with the parent(s) or care-giver(s) and the opportunity used to educate them on early childhood development, as well as their roles and responsibilities in the child’s well-being. Attempts should be made to address parental concerns and guidance given for avenues of assistance.

1. History
• Family – chronic, genetic and/or hereditary diseases; current infectious illnesses
• Medical - antenatal, perinatal and neonatal period
• Social - family structure and support
• Economic - ability to provide for the child
• Environmental - water supply, sanitation, waste disposal
• Nutrition - feeding practice and concerns
• Development - achievement of milestones

2. Growth monitoring
• Weight - without clothes, on an infant scale, measured in kilograms
• Height/length - lying on flat level surface, preferably on a length board, crown-heel measurement
• Head circumference - remove all hair accessories, measure around the
occiput posteriorly and mid-forehead anteriorly

- Plot on standard growth charts

3. **Examination** - Full examination involving all systems

- Skin condition - examine for rashes, jaundice, congenital abnormalities, condition of BCG scar (if given at birth)
- Head - assess shape, fontanelles, sutures, scalp, hair
- Eyes - examine for conjunctivitis, abnormal eye movements, cataracts, squints, nystagmus, pallor, jaundice
- Nose - examine for discharge, blockage (mouth-breathing)
- Mouth - assess for physical abnormalities e.g cleft lip or palate
- Ears - examine for discharges and abnormalities; assess hearing
- Chest - assess for respiratory abnormalities
- Breasts - examine for swellings, abscess formation or trauma
- Heart - examine for murmurs
- Abdomen - examine for herniae; condition of umbilicus; presence of masses or abnormal distention
- Spine - assess for abnormal curvatures
- Central Nervous System - assess for abnormal or involuntary movements
- Extremities - assess for physical abnormalities e.g hip dislocation, extra digits
- Rectum - examine for imperforate anus
- Genitalia:
  - Male - examine for undescended testes, hydrocoele, hypospadias
  - Female - examine for imperforate vagina, discharges

**NB**: Any abnormality detected should be referred to a physician for further assessment and diagnosis

**DEVELOPMENTAL NORMS**
Refer to standard growth charts for monitoring of these measurements.

If head circumference is below the $-2$ z-score or above the $+2$ z-score and weight and length are within normal range, refer to Medical Officer.

If weight for age or weight for height is below normal, refer to the nutritionist for assessment.

**POINTS TO CONSIDER REGARDING EARLY CHILDHOOD DEVELOPMENT**

- There is a tendency for males to achieve the developmental milestones at a later age than females
- Persistent bed-wetting beyond the expected age of attainment of night dryness may be an indication of a urinary tract infection especially in females. This may warrant further evaluation.
- Regression of milestones may occur following traumatic/stressful events, including a new addition to the family, sexual abuse or separation from caregiver, or exposure to violence.
- Assessment of development is an integral part of each child health visit. If delays in development are suspected, referrals should be made to a medical officer or the appropriate agency for further evaluation.

<table>
<thead>
<tr>
<th>AGE</th>
<th>WEIGHT</th>
<th>HEIGHT</th>
<th>HEAD CIRCUMFERENCE</th>
<th>SLEEP PATTERNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>3.5 kg</td>
<td>50cm</td>
<td>35cm</td>
<td>Varies with feeding pattern</td>
</tr>
<tr>
<td>3 months</td>
<td></td>
<td></td>
<td></td>
<td>Varies with feeding pattern</td>
</tr>
<tr>
<td>6 months</td>
<td>7.0kg</td>
<td>40.4cm</td>
<td>43.4cm</td>
<td>Through the night</td>
</tr>
<tr>
<td>1 year</td>
<td>10.5kg</td>
<td>80cm</td>
<td>48.9cm</td>
<td>Through the night</td>
</tr>
<tr>
<td>2 years</td>
<td>14-15kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3–5 years</td>
<td>18-20kg</td>
<td>90-100cm</td>
<td>48-50cm</td>
<td></td>
</tr>
<tr>
<td>6-8 years</td>
<td>20-25kg</td>
<td>50cm</td>
<td></td>
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</table>
## DEVELOPMENTAL MILESTONES

<table>
<thead>
<tr>
<th>Expected Age of Attainment</th>
<th>Milestones/Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>By 6 weeks</td>
<td>Meaningful smile</td>
</tr>
<tr>
<td>By 12 weeks</td>
<td>Holds up head in prone position</td>
</tr>
<tr>
<td>By 16 weeks</td>
<td>No head lag on pulling from supine to sitting</td>
</tr>
<tr>
<td>By 20 weeks</td>
<td>Reaches out and grasps objects</td>
</tr>
<tr>
<td>By 26 weeks</td>
<td>Teeth erupt: two</td>
</tr>
<tr>
<td>By 12 months</td>
<td>Says three or more words; teeth erupt: six (variable)</td>
</tr>
<tr>
<td>By 13 months</td>
<td>Walks unassisted</td>
</tr>
<tr>
<td>By 2 ½ years</td>
<td>Toilet trained, understands simple commands</td>
</tr>
<tr>
<td>By 4 years</td>
<td>Night dryness</td>
</tr>
<tr>
<td>By 5 years</td>
<td>Feeds self, expresses thoughts, needs and feelings</td>
</tr>
<tr>
<td>By 6 years</td>
<td>Bathes and dresses self, cleans teeth, uses toilet, helps around the house</td>
</tr>
</tbody>
</table>
## CHILD DEVELOPMENTAL MILESTONES (MEAN AND PERCENTILES)

<table>
<thead>
<tr>
<th>Milestones</th>
<th>Mean + S.D. (mths.)</th>
<th>50th percentile</th>
<th>75th percentile</th>
<th>90th percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td>10.1 + 2.7</td>
<td>10.0</td>
<td>12.0</td>
<td>13.0</td>
</tr>
<tr>
<td>Talking (first word)</td>
<td>10.7 + 4.3</td>
<td>10.0</td>
<td>12.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Phrases</td>
<td>14.5 + 4.9</td>
<td>13.0</td>
<td>17.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Toilet training</td>
<td>18.9 + 8.1</td>
<td>18.0</td>
<td>24.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Night dryness</td>
<td>19.3 + 15.9</td>
<td>18.0</td>
<td>30.0</td>
<td>46.0</td>
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</table>

## ACQUISITION OF DEVELOPMENTAL SKILLS

(Percentage of children who had acquired the skill)

<table>
<thead>
<tr>
<th>Developmental skill</th>
<th>Age in years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Feeds self</td>
<td>60</td>
</tr>
<tr>
<td>Washes self</td>
<td>4</td>
</tr>
<tr>
<td>Cleans teeth</td>
<td>2</td>
</tr>
<tr>
<td>Uses latrine</td>
<td>2</td>
</tr>
<tr>
<td>Dresses self</td>
<td>0</td>
</tr>
<tr>
<td>Understands others</td>
<td>100</td>
</tr>
<tr>
<td>Expresses thoughts,</td>
<td>98</td>
</tr>
<tr>
<td>Is understood</td>
<td>91</td>
</tr>
<tr>
<td>Moves round house</td>
<td>100</td>
</tr>
<tr>
<td>Goes to school</td>
<td>8</td>
</tr>
<tr>
<td>Takes part in family ac-</td>
<td></td>
</tr>
</tbody>
</table>
## SUMMARY OF PROCEDURES FOR CHILDREN OF EIGHT YEARS AND UNDER

<table>
<thead>
<tr>
<th>Procedures</th>
<th>0-2 wks</th>
<th>6 wks</th>
<th>6 mths</th>
<th>9 mths</th>
<th>12 mths</th>
<th>18 mths</th>
<th>24 mths</th>
<th>36 mths</th>
<th>48-72 mths</th>
<th>73-96 mths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Status</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Height/Length Weight</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete Physical examination</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General examination</td>
<td>X</td>
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<td>Assessment of developmental milestone</td>
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<td>DPT/DT/Hib/ Hepatitis B vaccine</td>
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<td>Vision screening</td>
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<td>Anaemia screening (If indicated)</td>
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<td>Screening for sickle cell</td>
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<td>AGE IN</td>
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<td>EDUCATION</td>
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</tbody>
</table>
| 1 ½    | General Health Appraisal.  
See Postnatal Procedures  
Commence primary series of vaccinations – First Polio/DPT/Hib/HepB and BCG if not given at birth.  
Assessment of milestones.  
Screening as indicated. | Immunization schedule, possible reactions and remedies.  
Breastfeeding (reinforce exclusive breastfeeding up to six months), cord care, milestones, early stimulation.  
Skin care.  
Parental concerns. |
| 3      | Weight and nutritional assessment.  
General Health Appraisal.  
Second Polio/DPT/Hib/HepB.  
Assessment of milestones.  
Screening as indicated. | Breastfeeding (reinforce exclusive breastfeeding up to six months); maternal reassurance.  
Safety in the home/accident prevention.  
Reinforce early stimulation.  
Immunization.  
Milestones.  
Skin care. |
| 6      | Weight and nutritional assessment.  
General Health Appraisal.  
Third Polio/DPT/Hib/HepB.  
Assessment of milestones.  
Screening as indicated. | Complementary feeding and the continuation of breastfeeding.  
Immunization.  
Safety in the home.  
Early stimulation.  
Milestones. |
| 9      | Weight and nutritional assessment.  
General Health Appraisal including teeth and gums.  
Assessment of milestones.  
Screening as indicated. | Nutritional needs of children.  
Multi-mixes from family pot.  
Growth and development of children.  
Dental Hygiene.  
Safety in the home.  
Early stimulation, milestones. |
| 12     | Weight and nutritional assessment.  
General Health Appraisal inclusive of physical signs of abuse.  
Assessment of milestones.  
MMR Vaccination.  
Screening as indicated. | Accident prevention.  
Dental hygiene.  
The value of play.  
Immunization. |
| 18     | Weight and nutritional assessment.  
General Health Appraisal inclusive of signs of abuse.  
Assessment of milestones.  
Booster vaccination – DPT and Polio.  
Screening as indicated. | Nutritional needs of children.  
The value of play.  
Toilet-training.  
Immunization.  
Dental hygiene.  
Accident prevention. |
| 24     | Weight and nutritional assessment.  
General Health Appraisal.  
Haemoglobin assessment.  
Screening as indicated.  
De-worming. | Dental hygiene.  
Parenting - coping with the “terrible twos”, sibling rivalry.  
Accident prevention.  
Psycho-social and cognitive development. |
### Laboratory and other procedures - as indicated

- Haemoglobin (done at 24 mths and 4-6 years)
### SCREENING PROCEDURES FOR MONITORING GROWTH AND DEVELOPMENT

#### VISION - Ophthalmic Screening for Infants and Preschool Children

<table>
<thead>
<tr>
<th>Age</th>
<th>Examination (what to look for)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Neonate (0-4 wks) | • Pupils react to light.  
• Lids close against intense light.  
• Eyes and head turn to diffuse light.  
• Consistently catches mother’s face when feeding from about three weeks.  
• Red reflex (reflection of retina - screens for cataract)  
• External eye exam – shape of globe etc.  
• Observe for any consistent eye deviations  
• All premature infants with birth weight <1500g should be referred to an ophthalmologist before discharge from the hospital.  
• Presence of a squint is not significant until after age 4 months  
• Infants with family history of ocular abnormalities should be referred to the ophthalmologist. |                                                                                                                                         |
| 1 - 3 months | • Scans surroundings when held upright and face in view                                                                                       | Refer to ophthalmologist if  
  o any suspected ocular alignment abnormalities  
  o preference of one eye over the other  
  o white reflex  
  o difference in pupil size                                                                 |
| 4 - 6 months | • Reaches for toys, grabs firmly and inspects items closely.  
• Child recognizes faces/objects  
• Observe for deviation of eye(s)  
• Observe for tearing / photophobia (intolerance of light)  
• Observe for any difference in size between eyes  
• White reflex (reflection of retina)  
• Observe hand-eye coordination  
• Assess for preference of one eye over the other (cover-uncover test)  |                                                                                                                                         |
| 7 - 12 months | • Picks up small objects with increasing skill                                                                                               |                                                                                                                                         |
| 1 - 2+ years | • Observe mobility of eyes by the use of a small toy or object                                                                               | Referral criteria as above                                                                                                                |
| 3 - 5+ years | • Check for abnormal head posturing, squinting or blepharospasm  
• Note any ocular deviation  
• Check for full range of extra-ocular movement (H test)  
• Visual acuity testing – Tumbling E chart, Snellen picture test  
• Ophthalmoscopy, if possible  | *Refer to Ophthalmologist if visual acuity < 20/40 in one or both eyes; difference of 2 or more lines between each eye. |
## Ophthalmic Screening for Infants and Preschool Children

<table>
<thead>
<tr>
<th>Age</th>
<th>Examination</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newborn</strong></td>
<td>Red reflex</td>
<td>All premature infants with birth weight &lt;1500g and those infants with family history of ocular abnormalities should be referred to an ophthalmologist.</td>
</tr>
<tr>
<td></td>
<td>External eye exam – shape of globe etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pupillary responses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Observe for any consistent eye deviations</td>
<td></td>
</tr>
<tr>
<td><strong>Six months</strong></td>
<td>As above, plus</td>
<td>Refer to ophthalmologist if any suspected ocular alignment abnormalities or preference of one eye over the other.</td>
</tr>
<tr>
<td></td>
<td>Does child recognize faces/objects?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do parents note deviation of eye(s)?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any tearing/photophobia?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal hand-eye coordination?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assess for preference of one eye over the other (cover-uncover test)</td>
<td></td>
</tr>
<tr>
<td><strong>3 - 4 years</strong></td>
<td>As above, plus</td>
<td>Refer to ophthalmologist if visual acuity &lt;20/40 in one or both eyes, difference of 2 or more lines between each eye.</td>
</tr>
<tr>
<td></td>
<td>Is there any abnormal head posturing, squinting or blepharospasm?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any ocular deviation?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visual acuity testing – Tumbling E chart, HOTV, Snellen picture test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ophthalmoscopy if possible</td>
<td></td>
</tr>
<tr>
<td><strong>6 years and over</strong></td>
<td>As above plus Visual acuity testing – Snellen letter chart +/- lapcard as necessary Ophthalmoscopy</td>
<td>Referral criteria as above</td>
</tr>
</tbody>
</table>

## Vision Screening Tools
- Snellen chart – letters, pictures
- Occluding eye patch
- Lapcard
- Colour vision chart
- Ophthalmoscope
### SCREENING PROCEDURES FOR MONITORING GROWTH AND DEVELOPMENT

#### HEARING AND SPEECH

<table>
<thead>
<tr>
<th>Age</th>
<th>Examination (what to look for)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Birth – 3 months | • Startle reflex  
                      • Turns head in direction of sound by 4 weeks  
                      • Coos (4 –6 weeks)  
                      • Chuckles (10-12 weeks)                                                                                                                                  | • Take a careful history from mother about child’s behaviour, illness during antenatal or postnatal period which are known to retard development, e.g. rubella in pregnancy, jaundice in the neonatal period, mumps, recurrent otitis media, meningitis and family history of deafness.  
• Always do a physical examination of the external auditory canal and advise parents about safe aural hygiene (cleaning outer ear with damp rag, no insertion of Q-tips cotton swabs, olive oil or anything else in the ear).  
• Early medical referral is advised for any abnormality detected. |
| 4-7 Months      | • Vocalization, loud and tuneful  
                      • Vocalizing response to voice or sound-making objects (rattle or tissue paper)                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                  |
| 8-12 months     | • Knows and responds to own name                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                  |
| 12-18 months    | • Obey simple instructions  
                      • Begins to say a few recognizable words in correct context                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                  |
| 18 months – 2 ½ years | • Use of words together in short sentences                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                  |
| >2 ½ years      | • Observe for speech impediments or cessation of speech                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                  |

### COUNSELLING AT CHILD HEALTH CLINICS

Group education followed by individual counselling must form an integral part of the Child Health Service at each contact visit.
The topics should include:

- Birth Registration
- Immunization
- Exclusive Breastfeeding & Complementary Feeding
- Early Childhood Development/ Early Stimulation
- General Hygiene
- The Value of Play
- Nutritional Needs of Children
- Parenting
- Safety In and Out of the Home/ Accident Prevention
- Dental Hygiene
- Prevention and Signs of Abuse
- Early Childhood Education
- Recognition of Danger Signs (e.g. failure to thrive, withdrawn or aggressive behaviour, delayed milestones, bruises, pallor)
- Home Management of Acute Illness

**WELL BABY CLINICS**

*See Table: Summary of Interventions and Procedures by Visit, pg.19*)

- Standardize the number of clinic visits for age bands.
- Perform developmental screening using the standard instruments.
- Do routine general physical examination at each visit and annually thereafter until primary school entrance.
- Do routine blood count at age 24 months and 4-6 years.
- Do dental assessment at ages specified.
- Do counselling about prevention of child abuse.
- Educate mothers about normal growth, psychomotor development and the need for stimulation and play
NURSERY/PRESCHOOL PREPARATION

- Do developmental screening
- Perform hearing assessment
- Educate mothers to recognize danger signs (failure to thrive, withdrawn or aggressive behaviour, delayed milestones, bruises, pallor)
- Educate mothers about home management of acute illness.

SCHOOL ENTRY PREPARATION

- Do behavioural screening when indicated
- Perform visual assessment
- Educate parents on early recognition of poor academic progress and refer early for psychomotor/behavioural assessment
- Provide information about the services provided by voluntary organizations across the island and coordinate these services.

TOOLS TO BE USED

- Instruments for measurement of growth—scales, length boards, tape measure, growth charts
- Instruments for screening of development and behaviour
- Take-home Child Health Records (passports).
## INTERMEDIATE LEVEL AND TERTIARY & DIAGNOSTIC AGENCIES THAT CONDUCT ASSESSMENTS

<table>
<thead>
<tr>
<th>SENSORY &amp; HEARING</th>
<th>MEDICAL</th>
<th>COGNITIVE</th>
<th>EDUCATIONAL</th>
<th>EMOTIONAL/BEHAVIOURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamaica Association for the Deaf (JAD)</td>
<td>Bustamante Hospital for Children (BHC)</td>
<td>3-D Projects (5 parishes)</td>
<td>School of Hope</td>
<td>University Hospital</td>
</tr>
<tr>
<td>Caribbean Hearing Centre for the Deaf</td>
<td>University Hospital</td>
<td>Jamaica Association for Children with Learning Disabilities (JACLD)</td>
<td>Ministry of Education</td>
<td>Family Health</td>
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<tr>
<td>Caribbean Christian School for the Deaf</td>
<td>Sir John Golding Rehab Centre</td>
<td>PVO Ltd. (6 parishes)</td>
<td>Jamaica Association for the Deaf (JAD)</td>
<td>Child Guidance Clinics</td>
</tr>
<tr>
<td>• St. James</td>
<td>Cornwall Regional Hospital (CRH)</td>
<td>Clarendon Group for the Disabled</td>
<td>Salvation Army School for the Blind</td>
<td>• Bustamante Hospital for Children</td>
</tr>
<tr>
<td>• Knockpatrick, Manchester</td>
<td>Spanish Town Hospital</td>
<td>Early Stimulation Project</td>
<td>Sir John Golding Rehab Centre – Hope Valley Experimental School</td>
<td>Child Guidance Clinic</td>
</tr>
<tr>
<td>• Cassia Park, Kingston</td>
<td>Paediatricians - Mandeville</td>
<td>University Hospital</td>
<td>National Children’s Home (NCH) – Carberry Court</td>
<td>• St. Jago Health Centre, Spanish</td>
</tr>
<tr>
<td></td>
<td>St. Ann’s Bay Health Centres</td>
<td>Bustamante Hospital for Children</td>
<td>Maranatha School for the Deaf</td>
<td>Town</td>
</tr>
<tr>
<td></td>
<td>Private Practitioners</td>
<td>Mico CARE Centre</td>
<td>Private Schools</td>
<td>• Cornwall Regional Hospital</td>
</tr>
<tr>
<td></td>
<td></td>
<td>School of Hope</td>
<td>Mico CARE Centre</td>
<td>Early Stimulation Project (ESP)</td>
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<tr>
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<td></td>
<td>Private Preschools, daycares centres</td>
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<td>PVO Ltd</td>
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<td></td>
<td>3-D Projects for the Disabled</td>
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<td></td>
<td>Mico Counseling Centre</td>
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<tr>
<td>VISION</td>
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<tr>
<td></td>
<td>Bustamante Hosp</td>
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<td></td>
<td>Kingston Public Hospital (KPH)</td>
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<td>St. Ann’s Bay Hospital</td>
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<td></td>
<td>FISH Clinic</td>
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<td>Lions’ Club</td>
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<td></td>
<td>Private Practitioners</td>
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<td>SPEECH</td>
<td>Mico Care Centre</td>
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<td></td>
<td>Speech and Language Centre</td>
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<tr>
<td></td>
<td>Tony Thwaites Wing</td>
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</tr>
</tbody>
</table>

- University Hospital
- Family Health
- Child Guidance Clinics
- St. Jago Health Centre, Spanish Town
- Cornwall Regional Hospital
- Early Stimulation Project (ESP)
- PVO Ltd
- 3-D Projects for the Disabled
- Mico Counseling Centre
- Private Practitioners
MANAGEMENT OF CHILDHOOD ILLNESSES

1. UNDERNUTRITION

The two extreme forms of undernutrition are Marasmus and Kwashiorkor, the clinical features of which are as follows:

<table>
<thead>
<tr>
<th>Marasmus</th>
<th>Kwashiorkor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe muscle wasting</td>
<td>Oedema</td>
</tr>
<tr>
<td>Loose skin</td>
<td>A “moon” face</td>
</tr>
<tr>
<td>An ‘old man’s face’</td>
<td>Enlarged liver and spleen</td>
</tr>
<tr>
<td>Distended abdomen</td>
<td>Presence of fat stores</td>
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<tr>
<td>Irritable behaviour</td>
<td>Skin and hair changes</td>
</tr>
<tr>
<td></td>
<td>Apathy / lethargy</td>
</tr>
</tbody>
</table>

Both forms may have associated diarrhoea and infection, and are caused by insufficient food intake.

The child with Kwashiorkor requires special attention, which should include hospitalization. Such a child must be under the management of a Nutrition Officer who will determine the frequency of visits until his nutritional status improves.

With severe underweight, if there is no evidence of swelling, the child may have Marasmus. As for the child with kwashiorkor, referral should be made to the hospital for admission.

Management on Discharge

On discharge from hospital, this child can be further managed in the field providing:

1. Close supervision by health personnel / nutrition officer
2. Parental education on:
   - The nature of the disease and the importance of proper feeding
   - Providing adequate amounts of food to the child.

These children should be weighed at least once monthly and given supplementary foods. A well-balanced diet given according to the recommended infant feeding pattern is essential. The energy content of the normal diet should be increased by the addition of oil and/or margarine and sugar. The detailed sequence of feeding in the rehabilitation of such a child will be determined by the Nutrition Officer.
2. **ACUTE GASTROENTERITIS (GE)/DIARRHOEA**

**Definition**
The passage of three or more loose/watery stools in a 24 hour period. It usually lasts for less than 14 days. It may or may not be accompanied by vomiting and fever. In the young child, diarrhoea causes dehydration and when food intake is reduced, it contributes to under-nutrition. Acute dehydration may lead to death if untreated.

**Policy**
Re: Use of anti-diarrhoeals and anti-emetics in children
- Anti-diarrhoeals must **NOT** be used in children under the age of 12 years who present with acute diarrhoea.
- Anti-emetics must **NOT** be used in children under 12 years who present with vomiting.
Both are rarely effective and can have serious and fatal side effects.

**Goal**
To decrease the incidence and prevalence of morbidity and mortality related to diarrhoeal diseases.

**Objectives**
- To prevent and control outbreaks of diarrhoeal diseases.
- To reduce hospital admissions for diarrhoeal diseases (<1% of childhood admissions)
- To reduce the case fatality rates for diarrhoeal diseases to less than 0.2% in children less than 5 years old.

**Strategies**
- On-going public education on methods to prevent GE and dehydration.
- Training of health care providers and care givers in both public and private sector in the management of GE.
- Maintenance of adequate supplies of ORS for appropriate management.
- On-going surveillance and outbreak control

**Surveillance**
Routine surveillance monitors changes in the incidence and distribution of cases as a guide to control activities. Stool samples should be taken from one in every ten
cases routinely, and samples from one in five cases in the event of an outbreak. Stool specimens should be collected as soon as possible after the onset of diarrhea and prior to the use of antibiotics. Stool specimens should be collected in a clean dry screw cap container and sent to the National Public Health Laboratory or Cornwall Regional Hospital laboratory, within 24 hours of collection.

For outbreak investigation, use the Gastroenteritis Case Investigation Form to collect relevant information and send to the Surveillance Unit. Deaths due to Gastroenteritis are treated as a Class 1 Notifiable Event, and an individual case investigation and report must be completed and submitted through the Medical Officer of Health to the National Surveillance Unit or the Family Health Unit.

### ASSESSMENT OF DEHYDRATION

<table>
<thead>
<tr>
<th>SIGNS OF DEHYDRATION</th>
<th>A Mild</th>
<th>B Moderate</th>
<th>C Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LOOK AT CONDITION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EYES</td>
<td>Well, alert</td>
<td>Restless, irritable</td>
<td>Lethargic or unconscious, floppy</td>
</tr>
<tr>
<td>TEARS</td>
<td>Normal</td>
<td>Sunken</td>
<td>Very sunken and dry</td>
</tr>
<tr>
<td>MOUTH/TONGUE</td>
<td>Present</td>
<td>Absent</td>
<td>Absent</td>
</tr>
<tr>
<td>THIRST</td>
<td>Moist</td>
<td>Dry</td>
<td>Very dry</td>
</tr>
<tr>
<td></td>
<td>Drinks normally, not thirsty</td>
<td>Thirsty, drinks eagerly</td>
<td>Drinks poorly or not able to drink</td>
</tr>
<tr>
<td>2. FEEL: SKIN PINCH</td>
<td>Goes back quickly</td>
<td>Goes back slowly</td>
<td>Goes back very slowly</td>
</tr>
<tr>
<td>3. DECIDE</td>
<td>The patient has NO SIGNS OF DEHYDRATION</td>
<td>If the patient has two or more signs above, there is SOME DEHYDRATION</td>
<td>If the patient has two or more of the signs above, there is SEVERE DEHYDRATION.</td>
</tr>
<tr>
<td>4. TREAT</td>
<td>Weigh the patient</td>
<td>Weigh the patient and use Treatment Plan B</td>
<td>Weigh the patient and use Treatment Plan C URGENTLY</td>
</tr>
</tbody>
</table>
The presence of the following signs will require additional investigations and treatment. Refer to Medical Officer/Nurse Practitioner/hospital as necessary:

- Severe dehydration
- Blood or mucus in stool
- Chronic diarrhoea
- High fever (101°F or 38.5°C)
- Confusion, seizures.

**Oral Rehydration Therapy**

Most patients with mild or moderate dehydration can be successfully rehydrated by mouth. The severely dehydrated child, who can drink should also be given oral re-hydration fluid, but will require IV fluids as well and must be referred to hospital for further management.

**TREATMENT PLAN**

<table>
<thead>
<tr>
<th>Plan A</th>
<th>Plan B</th>
<th>Plan C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give approx. 50mls /kg of fluids/ORF over 4 hours. Reassess as outlined below</td>
<td>Give approx 70ml/kg of ORF over 4 hours. Reassess as outlined below</td>
<td>Give IV fluids. However in a clinic setting, you may give ORF Plan B initially if patient can drink and start IV infusion and refer to hospital. Reassess as outlined below.</td>
</tr>
</tbody>
</table>

Oral Fluid Replacement can be done with most fluids that the child normally takes, however the most appropriate fluids to give are breast-milk, plain water, coconut water, diluted fruit juice, and oral rehydration fluids.

**Instructions:**

- Prepare mixture by adding one packet Oral Rehydration Salts (ORS) to one litre potable water.
- Initiate feeding and show mother how to feed using cup and spoon
- Give small amounts frequently (60 to 90 mls every 30 minutes) in a ratio of 2:1 with plain water
- Give Oral Rehydration Fluid as per “Guide to Rehydration Therapy”
- Continue breast feeding
- Discontinue infant formula for 6-12 hours, then restart with half-strength
milk feeds.

- DO NOT FORCE FEEDS (a dehydrated child will drink).
- Replace on-going losses. If child vomits, wait 15 minutes then continue Oral Rehydration Therapy.
- DO NOT use anti-diarrhoeal or anti-emetics
- Observe state of hydration between feeds.
- Observe child for 2-3 hours until rehydrated, and feeds are being tolerated.
- If signs and symptoms persist or worsen, refer child to hospital
- Give care-giver instructions to continue feeding at home:
  - Preparations of O.R.F at home
  - Recognition of danger signs of dehydration
  - How to feed infant after rehydration
- Give fluids intravenously if dehydration and vomiting is severe or child is not responding to oral therapy as per Guide to Rehydration Therapy.
- Education to parent/guardian

The mother/care-giver should be shown how to feed the child using a cup and spoon. Small amounts should be given frequently. Breastfeeding should be continued but infant formula discontinued for six to twelve hours, after which half-strength milk feeds can be started. Mothers should be discouraged from using bottles. **DO NOT LET CARE-GIVER FORCE-FEED WITH THE SPOON.**
GUIDE TO REHYDRATION THERAPY

<table>
<thead>
<tr>
<th>DEHYDRATION</th>
<th>KIND OF FLUID</th>
<th>HOW MUCH TO GIVE</th>
<th>HOW FAST TO GIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILD/</td>
<td>Glucose-electrolyte solution. Continue with breastfeeding. If not breastfeeding, give one feed of plain water to every two feeds of glucose-electrolyte solution (ORS) as indicated</td>
<td>Encourage patients to drink until refusal. DO NOT FORCE FEED. Give 50-70ml/kg of glucose-electrolyte solution (ORS).</td>
<td>Within 4-6 hours (given in the outpatient department / casualty or Health Centre)</td>
</tr>
<tr>
<td>MODERATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient who can drink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEVERE</td>
<td>Hartman’s Solution. In an emergency, use normal saline.</td>
<td>20ml/lb or 40ml/kg</td>
<td>Over 2 hours</td>
</tr>
<tr>
<td></td>
<td>Patient who needs intra-venous fluids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INITIAL STAGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERMEDIATE STAGE</td>
<td>4.3% Dextrose in 1/5 Normal Saline. Add 20% Potassium Chloride, 1 ml per 125 ml of solution (7.5ml/litre) after urine has been passed OR use oral hydration solution.</td>
<td>45ml/lb or 100ml/kg</td>
<td>Over 10 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAINTENANCE STAGE</td>
<td>4.3% Dextrose in 1/5 Normal Saline. Add 20% Potassium Chloride, 7.5 ml/litre after urine has been passed, OR use oral rehydration solution.</td>
<td>3-4 ml/kg/hour</td>
<td>Over 24 hours</td>
</tr>
<tr>
<td></td>
<td>After rehydration and during continued diarrhoea.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What Oral Rehydration Fluid (ORF) to Use

1. Oral Hydration Salts
   Add one packet of oral rehydration salts (ORS) to one litre of water. Make fresh solution daily. The solution contains:
   - Sodium Chloride (Table Salt) - 3.5grams
   - Sodium Bicarbonate (Baking soda) - 2.5grams
   - Potassium Chloride - 1.5grams
   - Glucose - 20.0grams

The packet of oral rehydration salts (ORS) should be sent home with the child to
continue therapy at home.

**Education To Parent/Guardian/Care-giver**

**Instructions to Care-Giver**

1. Do not use anti-diarrhoeals or anti-emetics.
2. Give child as much as he/she will drink, but do not force feed.
3. Prepare the glucose-electrolyte solution (oral rehydration fluid) – one packet of salts to be added to one litre of clean water. Make fresh solution each day.
4. Feed from cup and spoon. Give slowly if vomiting, e.g. 1 tsp every few minutes.
5. Continue breastfeeding – feed every hour. If not breastfeeding, restart half-strength milk feeds; 1-2 cups every one to two hours. Give one feed of ORF each time the child has a large watery stool. In addition, give drinks of coconut water, orange juice, mint tea or plain water.
6. Let child drink a lot – give small amounts very frequently.
7. Restart on full-strength milk feeds or regular food after 24-36 hours when stools are less frequent and pasty and there are no more signs of dehydration.
8. Restart the child on normal diet within 1-2 days.
9. Once diarrhoea has stopped, give 1 extra meal to the child each day.
10. Return to health facility with child if no signs of improvement, or child is getting worse – i.e. if signs of dehydration appears, or the child develops a fever.
11. Attend health centre for immunization and nutrition education, as scheduled.
12. **Practice hygiene in child care (proper disposal of faeces and especially hand-washing before preparing meals and after toilet use).**

**N.B.** This Guide does not apply to children with moderate or severe malnutrition. Fluid requirements must be modified in these children and volumes in excess of 150ml/kg day should not normally be prescribed. Such children should be managed in hospital.

**Contraindications**

Anti-diarrhoeals, though commonly used, have no clinical benefits and are never
indicated for treatment of acute diarrhoea in children.

A. **Anti-diarrhoeals** include:

1) **Absorbents** (e.g. Kaolin, smectite, attapulgite, cholestyramine, activated charcoal). These are used for binding and inactivating bacterial toxins and other substances which causes diarrhoea.

2) **Antimotility** drugs (e.g. loperamide hydrochloride, diphenoxylate with atropine, tincture of opium, paregoric, codeine). These drugs do not appreciably decrease the volume of stool in young children. More importantly, they can cause severe paralytic ileus, which can be fatal and they may prolong infection by delaying elimination of the causative organism. Sedation may occur at usual therapeutic doses and fatal nervous system toxicity has been reported for some agents. None of these agents should be given to infants or children with diarrhoea.

3) **Bismuth subsalicylate** - This is reported to decrease stool output in children with acute diarrhoea by about 30% when given every four hours. This treatment schedule is rarely practical.

4) **Combinations of drugs** - absorbents, antimicrobial, anti-motility drugs or other agents. These combinations are irrational and their cost and side effects are substantially higher than for individual drugs. They have no place in the management of diarrhoea in children.

B. **Anti-emetics** - These include drugs such as prochlorperazine, dimenhydrinate and chlorpromazine. These may cause sedation that interfere with Oral Rehydration Therapy. Other side effects include extra-pyramidal symptoms. These anti-emetics should never be given to children.
3. ACUTE RESPIRATORY INFECTIONS AND ASTHMA

Health care workers must pay special attention to the management and control of acute respiratory infections (ARI) and asthma, since they constitute a major burden on the health services at both the community and institutional level. Health care workers must be trained in the appropriate management of ARI and Asthma.

The education of patients and/or caregivers is also essential for effective management. The prevention and management of acute asthma should be given priority.

Goal
To reduce the incidence and prevalence of morbidity and mortality related to Asthma and ARI.

Objectives
To implement a programme for the management of ARI and Asthma, in order to reduce morbidity and mortality.

Strategies
- Effective use of protocols for the training of health care workers in both public and private sector, focusing on the linkages between ARI and Asthma
- On-going public education.
- Development of the capacity for the management of Asthma/ARI through specialized clinics at parish/regional level.
- Adequate equipment and supplies for appropriate management.

Definition
Asthma is a chronic inflammatory condition of the airway, associated with widespread but often reversible airway obstruction. The clinical presentation of asthma is not uniform. Many patient have episodic symptoms and known triggers.

There are certain conditions that frequently accompany asthma and also serve to worsen asthma symptoms. These co-morbid problems need to be recognized if the patient is to achieve proper control of his disease. Some of these conditions include:

- Allergic rhinitis
Sinusitis
Gastroesophageal reflux.

The established Protocol for the Management of Asthma discusses the differential diagnosis and other respiratory conditions. It also highlights the relationship with co-morbid conditions, malnutrition, chronic medical disorders, allergic and infectious conditions.

Asthma is classified in 4 stages/steps as shown in Table below.

<table>
<thead>
<tr>
<th>ASTHMA SEVERITY</th>
<th>SYMPTOMS</th>
<th>NIGHT-TIME SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 4 Severe persistent</td>
<td>Continuous limited physical activity</td>
<td>Frequent</td>
</tr>
<tr>
<td>Step 3 Moderate persistent</td>
<td>Daily use of β2-agonist. Daily attacks affect activities.</td>
<td>&gt;once/week</td>
</tr>
<tr>
<td>Step 2 Mild persistent</td>
<td>&gt;once/week but &lt;once/day</td>
<td>&gt;2 times/month</td>
</tr>
<tr>
<td>Step 1 Intermittent</td>
<td>&lt;once/week asymptomatic and normal lung function</td>
<td>&lt;2 times/month</td>
</tr>
</tbody>
</table>

### Diagnosis of Asthma
Consider the diagnosis of asthma in the following situations:

- History of any of the following:
  - Cough, worse particularly at night
  - Cough, sneeze or tight chest after exercise
  - Recurrent sneezing
  - Recurrent chest tightness
- Symptoms occur or worsen at nights, awaking patient
- Symptoms occur or worsen on exposure to:
  - Smoke
  - Viral infection
  - Pollen
Changes in temperature
  o Aerosol chemicals
  o Animals with fur
  o Domestic dust (in mattresses, pillows, upholstered furniture, carpets)
  o Strong emotional expression (laughing or crying)
  o Physical exercise

- Repeated bouts of cold “going to the chest” and taking more than 10 days to clear up, or improves when asthma medication is given.

DIFFERENTIAL DIAGNOSIS OF ASTHMA

<table>
<thead>
<tr>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Obstructive Pulmonary Disease (COPD)</td>
<td>Bronchitis/bronchiolitis</td>
</tr>
<tr>
<td>Bronchitis</td>
<td>Foreign bodies</td>
</tr>
<tr>
<td>Laryngeal dysfunction</td>
<td>Laryngomalacia and bronchomalacia</td>
</tr>
<tr>
<td>Localized obstruction</td>
<td>Functional laryngeal dysfunction</td>
</tr>
<tr>
<td>Extrinsic compression (tumors, aortic loops)</td>
<td>(psychogenic)</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>Heart failure</td>
</tr>
<tr>
<td>Allergic bronchopulmonary aspergilosis</td>
<td>Bronchopulmonary dysplasia</td>
</tr>
<tr>
<td>Vocal cord paralysis</td>
<td>Cystic fibrosis</td>
</tr>
</tbody>
</table>

Management Of Mild / Moderate Acute Exacerbation

In the community/primary care setting, mild/moderate episodes can be managed using the guidelines outlined in the Protocol available in all clinics. If unresponsive to treatment, then patient must be transferred appropriately to hospital according to guidelines.

Please Note: Patients with severe or life threatening Asthma, as well as those not responding to treatment should be managed in a hospital-based setting (e.g. casualty department / A&E) where support staff for close monitoring and resuscitation can be provided.
Patient / Care-giver Education
Patients and caregivers should be educated on:

- How to avoid possible triggers
- Early warning signs and symptoms
- How to use the asthma medicine plan (refer to Protocol)

Notes On Asthma Medicine

Quick-relief inhalers (fast-acting or rescue inhalers)
Quick-relief inhalers like albuterol work quickly to open the airways by relaxing the muscles around the airways. They do not treat the underlying inflammation or provide long-term protection against worsening asthma. People who need to use their quick-relief inhalers more than two times per week may not be as well controlled as they could be and should talk to their healthcare professional about long-term preventative medications to help prevent asthma symptoms from occurring in the first place.

Inhaled corticosteroids (inhaled steroids)
Inhaled steroids are used to prevent symptoms and control mild, moderate, and severe persistent asthma. Inhaled steroids are usually well tolerated (when taken at recommended doses) because the medicine goes right to your lungs where you need it. This reduces the amount of medicine you need and the chance of side effects.

Oral steroids
Oral steroids come in pill or liquid form and are used for short periods to quickly bring asthma under control. They are also used longer term to control the most severe asthma. Much larger doses are used, and the medicine is distributed throughout the body, not just the lungs. This may cause more side effects.

**SOURCE:** GlaxoSmithKline website: [http://www.asthmaactionamerica.org/](http://www.asthmaactionamerica.org/)
Patients with respiratory signs and symptoms who present with co-morbid conditions, malnutrition, other acute and chronic medical conditions should be referred to the Medical Officer /Family Nurse Practitioner or nearest hospital for further evaluation and treatment (see PROTOCOL).
## Asthma Medicine Plan

**Name:**

**Doctor:**

**Date:**

**Phone for doctor or clinic:**

**Phone for taxi or friend:**

---

### 1. Green - Go

Use preventive medicine.

<table>
<thead>
<tr>
<th>Medicine</th>
<th>How much to take</th>
<th>When to take it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Breathing is good*
*No cough or wheeze*
*Can work and play*

**Peak Flow Number**

---

### 2. Yellow - Caution

Take quick-relief medicine to keep an asthma attack from getting bad.

<table>
<thead>
<tr>
<th>Medicine</th>
<th>How much to take</th>
<th>When to take it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Cough*
*Wheeze*
*Tight chest*
*Wake up at night*

**Peak Flow Number**

---

### 3. Red - Stop - Danger

Get help from a doctor now!

Take these medicines until you talk with the doctor.

<table>
<thead>
<tr>
<th>Medicine</th>
<th>How much to take</th>
<th>When to take it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Medicine is not helping*
*Breathing is hard and fast*
*Nose opens wide*
*Can't walk*
*Ribs show*
*Can't talk well*

**Peak Flow Number**

---

---

You can use the colors of a traffic light to help learn about your asthma medicines.

1. **Green** means **Go**.
   Use preventive medicine.

2. **Yellow** means **Caution**.
   Use quick-relief medicine.

3. **Red** means **Stop**.
   Get help from a doctor.
4. RHEUMATIC FEVER

Rheumatic fever/rheumatic heart disease is still a public health problem in developing countries. It is the most common acquired cardiovascular disease in children and young adult. The 5-15 age group is most often affected, but the disease may occur in younger or older individuals as well.

Rheumatic fever/rheumatic heart disease require enormous resources for medical and surgical treatment. Ministry of Health guidelines for prevention, diagnosis and management of rheumatic fever/rheumatic heart disease are available in clinics.

This chapter serves to guide health care providers in the basics for prevention diagnosis and management. For further information please refer to the these guidelines.

Goal
To reduce the incidence and prevalence of preventable morbidity and mortality of rheumatic fever.

Objectives
- To increase primary prevention of rheumatic fever/rheumatic heart disease.
- To maintain and strengthen programme for the management of rheumatic fever/rheumatic heart disease.

Strategies
- On-going public education on primary and secondary prevention.
- Training of health care providers and care givers in both public and private sector in the management of primary and secondary prevention of rheumatic fever/rheumatic heart disease.
- Maintenance of adequate supplies for appropriate management.
- On-going surveillance and monitoring of coverage, compliance and defaulters of prophylaxis.
Primary Prevention
Management of Group A Streptococcal Upper Respiratory Tract Infection

Group A beta-haemolytic streptococcal infection of the upper respiratory, in particular the throat, are responsible for initial and recurrent attacks of rheumatic fever. An accurate clinical diagnosis of this condition may be difficult to make and may require the support of the laboratory investigation/throat swab. If unable to do cultures use clinical features outlined in the table below and treat accordingly. If in any doubt, treat as a strep throat.

### COMPARISON OF CLINICAL CHARACTERISTICS OF "STREP" AND NON-“STREP” THROAT

<table>
<thead>
<tr>
<th>Clinical Characteristics</th>
<th>“Strep” Throat</th>
<th>Non-“Strep” Throat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>5-15 Years (most common)</td>
<td>All ages</td>
</tr>
<tr>
<td>Mode of Onset</td>
<td>Sudden</td>
<td>More gradually</td>
</tr>
<tr>
<td>Initial Symptoms</td>
<td>Sore throat with pain while swallowing</td>
<td>Mild sore throat</td>
</tr>
<tr>
<td>Fever</td>
<td>High 38°C</td>
<td>Not so high</td>
</tr>
<tr>
<td>Appearance of the Throat</td>
<td>Redness, hyperemia, oedema and exudate (yellow flecks) of the pharynx Enlargement of the tonsils with exudate, Hyperemia, Oedema, punctuate haemorrhages in the soft palate</td>
<td>Redness of the pharynx</td>
</tr>
<tr>
<td>Other Signs</td>
<td>Tenderness of anterior lymph nodes. Scabby erosions on the edges of the nostrils Clinical picture of scarlet fever</td>
<td>Cough + Hoarseness + Watery nasal secretion + Conjunctivitis +</td>
</tr>
</tbody>
</table>
Antimicrobial Treatment for Group A Streptococcal Infection

Penicillin remains the treatment of choice for Group A Streptococcal upper respiratory tract infections and in fact has been demonstrated to prevent rheumatic fever. Cephalosporins are also effective but are more expensive than penicillin. Newer macrolides may also be used but they too are also expensive. For persons allergic to penicillin, the treatment of choice is oral erythromycin for 10 days. (See table below.) To ensure compliance, use IM Penicillin unless contraindicated.

TREATMENT OF GROUP A STREPTOCOCCAL PHARYNGITIS (PRIMARY PREVENTION OF RHEUMATIC FEVER)

<table>
<thead>
<tr>
<th>ANTIBIOTIC</th>
<th>ROUTE</th>
<th>DOSE</th>
<th>DURATION of Rx</th>
</tr>
</thead>
<tbody>
<tr>
<td>For non-penicillin allergic patients:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzathine benzylpenicillin</td>
<td>IM</td>
<td>&lt;30kg: 600,000 IU&lt;br&gt;≥30kg: 1,200,000 IU</td>
<td>A single dose</td>
</tr>
<tr>
<td>Phenoxymethylpenicillin</td>
<td>Oral</td>
<td>&lt;30kg: 250mg 2 or 3 times daily&lt;br&gt;≥30kg: 500mg 2 or 3 times daily</td>
<td>10 days</td>
</tr>
<tr>
<td>For penicillin-allergic patient:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erythromycin ethylsuccinate</td>
<td>Oral</td>
<td>40mg/kg/day(max: 1.5 g/day)&lt;br&gt;3 times daily</td>
<td>10 days</td>
</tr>
<tr>
<td>Erythromycin estolate</td>
<td>Oral</td>
<td>20-40mg/kg/day (max: 1.5 g/day)&lt;br&gt;3 times daily</td>
<td>10 days</td>
</tr>
</tbody>
</table>

Diagnosis of Rheumatic Fever

The clinical presentations of rheumatic fever are known as the Jones Criteria. These are divided in major and minor criteria.

The presence of 2 major criteria or 1 major and 2 minor criteria indicates a high probability of rheumatic fever if supported by evidence of a preceding beta- haemolytic Group A streptococcal infection.

Manifestations with a long latent period such as late onset carditis and chorea are exceptions to this requirement.
**THERE IS NO SINGLE LABORATORY TEST FOR THE DIAGNOSIS OF RHEUMATIC FEVER.**

*A positive Anti-Streptolysin O titre (ASTO/ASOT) only indicates a recent streptococcal infection.*

**WHO CRITERIA (JONES CRITERIA) FOR GUIDANCE AND THE DIAGNOSIS OF ACUTE RHEUMATIC FEVER**

<table>
<thead>
<tr>
<th>MAJOR MANIFESTATIONS</th>
<th>MINOR MANIFESTATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carditis</td>
<td>Clinical:</td>
</tr>
<tr>
<td>Polymyrthritis</td>
<td>History of Rheumatic Fever/RHD</td>
</tr>
<tr>
<td>Chorea</td>
<td>Arthralgia</td>
</tr>
<tr>
<td>Erythema marginatum</td>
<td>Fever</td>
</tr>
<tr>
<td>Subcutaneous nodules</td>
<td><strong>Laboratory:</strong></td>
</tr>
<tr>
<td></td>
<td>Increased ESR, C-Reactive Protein, WBC (leukocytosis)</td>
</tr>
<tr>
<td></td>
<td>Prolonged P-R interval</td>
</tr>
</tbody>
</table>

Supporting evidence of beta-haemolytic Group A Streptococcal infection:
- Increased Anti-streptolysin O antibodies.
- Positive throat swab.
- Scarlet fever.

The Jones Criteria have recently been modified by the American Heart Association to be used for the initial attack of acute rheumatic fever *(Refer to Guidelines).*

**Management of Rheumatic Fever**

**NB. All cases of suspected rheumatic fever must be referred to hospital for diagnosis and management.**

**Surveillance**

Rheumatic fever is a Class 1 Notifiable Disease and should be reported on suspicion to the parish health department within 24 hours.
**Investigation**

Once reported to the health department, the Medical Officer of Health is responsible for ensuring that the RF/RHD Investigation Form is completed, classified and submitted to the Ministry of Health National Surveillance Unit.

**Secondary Prevention**

For all individuals who have had an initial attack of rheumatic fever, whether or not they have Rheumatic Heart Disease, continued administration of antibiotic is a must to prevent re-infection of the upper respiratory tract by group A streptococcus. This has been proven to reduce the risk of recurrence of rheumatic fever and worsening morbidity and mortality.

**RECOMMENDED ANTIBIOTICS FOR SECONDARY PREVENTION AND PROPHYLAXIS**

<table>
<thead>
<tr>
<th>Antibiotics</th>
<th>Route</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzathine benzylpenicillin</td>
<td>IM</td>
<td>&lt; 30kg: 600,000IU every 3-4 week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 30kg: 1,200,000IU every 3-4 week</td>
</tr>
<tr>
<td>Phenoxyymethylpenicillin</td>
<td>Oral</td>
<td>250mg 2 times daily</td>
</tr>
<tr>
<td>Sulfonamide (e.g sulfadiazine, sulfadoxine or equivalent)</td>
<td>Oral</td>
<td>&lt; 30kg: 500mg daily</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 30kg: 1.0g daily</td>
</tr>
<tr>
<td>Erythromycin</td>
<td>Oral</td>
<td>250mg 2 times daily</td>
</tr>
</tbody>
</table>

The duration of secondary prophylaxis should be adapted to the individual patient according to the table following. Secondary prophylaxis should be continued during pregnancy. However, sulfonamides present a risk to the foetus and penicillin or erythromycin should be substituted. Special efforts should be made to ensure compliance especially among adolescents, as the risk of recurrence is greater during this period.
GENERAL PRINCIPLES FOR DURATION OF SECONDARY PROPHYLAXIS

<table>
<thead>
<tr>
<th>Patient</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Carditis /No RHD</td>
<td>To 18 years and at least five years after the last attack</td>
</tr>
<tr>
<td>Documented Carditis - healed (no evidence of RHD)</td>
<td>At least to 25 years and often longer, if warranted</td>
</tr>
<tr>
<td>Chronic RHD</td>
<td>For Life</td>
</tr>
<tr>
<td>With Artificial Valves</td>
<td>For Life</td>
</tr>
</tbody>
</table>

Anaphylaxis (see also page 105)

Anaphylactic reactions are an unavoidable aspect of the practice of medicine. Parental administration of medication usually produces more severe reaction than oral administration. Patients receiving medication parenterally should be observed for 20-30 minutes before leaving the health centre.

All health care workers should be trained in the diagnosis and management of anaphylaxis. This management should be rehearsed on a regular basis. The medical officer and nurse must ensure that the appropriate drugs and equipment for such management is in place, current and functional (refer to Guidelines).

Prevention Of Infective Endocarditis

Infective endocarditis is a major threat to the patient with Rheumatic Valvular Heart Disease. The patients and their relatives should be educated about this and the need for prevention with special antibiotic prophylaxis for certain procedures. These procedures include dental, oral or respiratory tract, gastrointestinal and genitourinary procedures. (For the recommended treatment, please see Guidelines).

Follow-up and Reporting

All cases of confirmed rheumatic fever and rheumatic heart disease should be placed in a register at the parish health department and at the selected site for secondary prophylaxis. Every effort should be made to locate defaulters and ensure continued prophylaxis.

Each parish should submit a monthly report to the Regional Health Authority office and the Ministry of Health using the Ministry of Health RF/RHD Form (see Guidelines).
Guideline: EARLY CHILDHOOD DEVELOPMENT (THE INFANT AND YOUNG CHILD)

Date Revised: Distribution to hospitals and health centres Index:

Approved by: Director, Family Health Services
2. NUTRITIONAL ASSESSMENT & COUNSELLING FOR THE FAMILY
(WITH SPECIAL EMPHASIS ON PREGNANCY AND EARLY CHILDHOOD)
2. NUTRITIONAL ASSESSMENT & COUNSELLING FOR THE FAMILY
(WITH SPECIAL EMPHASIS ON PREGNANCY AND EARLY CHILDHOOD)

POLICY
The proper management of an individual’s nutrition is a critical component in the achievement of a healthy lifestyle and the prevention of chronic diseases. As such, the promotion of good nutrition, appropriate to every stage of the life-cycle must be encouraged through counselling and supplementation where warranted.

GOAL
To ensure optimum nutrition of all clients in all stages of the life-cycle through adequate assessment, counselling and supplementation.

OBJECTIVES
- To achieve a reduction in the rate of anemia in pregnancy to less than 10%
- To educate and support pregnant and lactating women in order to achieve a 70% rate of exclusive breastfeeding in the first six months of life
- To screen for and adequately manage iron deficiency anemia in children
- To reduce the rate of severe malnutrition in children 0-59 months to less than 2%
- To reduce the rate of obesity in children 0-59 months to less than 3%
- To develop individualized nutrition plans for high-risk clients accessing public health services (for example, those with non-communicable chronic diseases including Diabetes Mellitus, Hypertension and Obesity, as well as HIV/AIDS and Cancer)

STRATEGIES
- Weight and height measurements
- Growth monitoring for children aged 0-59 months
Nutrition counselling and follow-up

Provision of supplements, as needed

Equipping of health care providers with the tools and skills necessary for monitoring nutritional status and growth

Promotion of exclusive breastfeeding in the first six months of life

Promotion of appropriate complementary feeding to ensure adequate provision of micronutrients and energy

Fortification of foods

Provision of replacement feeds for the HIV-affected infant

Adoption of the International Code of Marketing of Breastmilk Substitutes and the Baby-Friendly Hospital Initiative

Inter-sectoral collaboration to optimize early childhood nutrition in a cost-effective manner

Promotion of micronutrient supplementation for pregnant and lactating women

Nutrition surveillance for over and under nutrition

Empowerment of individuals to make high quality cost-effective nutrition choices through food demonstrations and encouragement of back-yard gardening.

NUTRITION IN PREGNANCY AND LACTATION

Pregnancy

The nutritional status and dietary habits of a pregnant woman, directly contribute to the outcome of the newborn, as well as her subsequent health and well being. The nutritional counselling of women with normal pregnancies will not require specialist nutrition intervention.

Guiding principles for the counselling of women with normal pregnancies include:

- Use of the six food groups to plan economical meals incorporating local foods, individual food preferences and meal patterns, as well as supplementation to provide the needed energy, protein, calcium and iron.

- Under normal circumstances, salt restriction is not necessary.

- Daily supplementation of 5 mg of folic acid should commence as early as possible in the pregnancy

- Daily supplementation with iron (60mg of elemental iron) should routinely be given in pregnancy
• Iron supplement is to be taken with animal protein, after meals with fruit/fruit juice for better absorption
• Iron and folic acid supplementation should continue up to six months post-partum
• Avoid taking iron with tea, coffee, antacids, or caffeinated soft drinks
• Counsel on the importance of breastfeeding including the advantages to both the mother and child
• Mothers should be informed of ways to maintain lactation if they must be separated from their infants e.g. resumption of work
• Nausea and vomiting are commonly experienced especially during the first trimester. This can be alleviated by the ingestion of small, frequent, bland meals and emotional support
• Avoid consumption of alcohol, tobacco or illicit drugs.

Certain conditions require specialist nutritional counseling and management. These conditions include:
• Diabetes mellitus, hypertension,
• The pregnant teenager under 16 years (her needs are greater than for the adult as she has to maintain her own growth as well as that of the foetus.)
• Women with Sickle Cell disease, or women with anemia (Haemoglobin less than 10mg/dL)
• Obese women
• Women with cardiac or renal impairment
• HIV-positive women
• Multiple pregnancies
• Women with a poor dietary history or inadequate weight gain

These patients should be referred to the Obstetrician/High Risk Clinic and the Nutritionist/Dietitian for joint management.

**Lactation**
During the lactation period, the mother must be assisted to establish breastfeeding by:
• Encouraging her to put the baby to breast as soon after birth as possible.
• Encouraging rooming-in. Mothers and infants should be kept together day and night and should not be separated for more than one hour at any time.

• Showing her how to put the baby to the breast i.e. chin to breast, chest to chest and aim nipple towards the roof of the mouth. Both nipple and areola should be in the baby’s mouth.

• Observing breastfeeding technique and if necessary counsel mother on proper positioning, latching on and attachment.

• Encouraging her to feed on demand.

• Encouraging cup-feeding if necessary.

• Showing her how to express milk from breast, and advising her on storage procedures.

• Helping her with problems such as engorged breast, cracked nipples, and breast abscess.

Special attention and support should be given to women who are breastfeeding for the first time or who have previously encountered challenges with breastfeeding.

If feeding problems are observed or reported, the infant should be referred to the health provider.
TEN STEPS TO SUCCESSFUL BREASTFEEDING

1. Health facilities should have a written breastfeeding policy that is routinely communicated to all health care providers.

2. Train all health care staff in skills necessary to implement this policy.

3. Inform all pregnant women about the benefits and management of breastfeeding.

4. Help mothers initiate breastfeeding within a half-hour of birth.

5. Show mothers how to breast-feed, and how to maintain lactation even if they should be separated from their infants.

6. Give new infants no food or drink other than breast-milk, unless medically indicated.

7. Practice rooming-in - allow mothers and infants to remain together 24 hours a day.

8. Encourage breastfeeding on demand.

9. Give no artificial teats or pacifier (also called dummies or soothers) to breastfeeding infants.

10. Foster the establishment of breastfeeding support group(s) and refer mothers to them on discharge from the hospital or clinic.
GUIDELINES FOR NUTRITIONAL CARE OF THE NEWBORN

Every effort must be made to encourage exclusive breastfeeding except when medically contraindicated.

The mother must be given complete support and encouragement in the early neonatal period. The baby should be put to the breast within the first half-hour of life provided mother and baby are well. This ensures:

- Further stimulation of the Prolactin reflex (milk production)
- Contraction of the uterus, expulsion of the placenta (if not already delivered) and reduced possibility of postpartum haemorrhage.
- Secretion of colostrum that contains antibodies and concentrated nutrients. This first milk is extremely important for the baby.
- Warmth and comfort for infant
- Proper maternal-infant relationship (bonding)

*NB: No pre-lacteal feeds including glucose-water or tea should be given.*

BREASTFEEDING - Birth to 6 months

- Exclusive breastfeeding (breast milk only) on demand; no limit should be placed on the number of feedings or the length of suckling – a minimum of 8 times in 24 hours.

- Babies of mothers who are positive for HIV or HTLV1 virus should be fed as guided. Exclusive breastfeeding for six months is the recommendation of WHO and UNICEF. However the greatest risk of transmission occurs with mixed feeding and this should be discouraged.

- Mothers of low birth weight and sick newborns should be helped to establish full lactation. If the infants are unable to suckle adequately, they should be given expressed breast milk (EBM) from their mothers by cup or tube feeding.

For the first six months of life, exclusive breastfeeding is recommended. However, if mother has to be separated from her infant for any reason, including re-employment, expressed breast milk should be given to the infant using a cup and spoon only. Discourage the use of artificial teats and pacifiers as this may interfere with the lactation process.
STORAGE OF BREAST MILK

<table>
<thead>
<tr>
<th>STORAGE SITE</th>
<th>MAXIMUM PERIOD FOR SAFE STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature</td>
<td>10 hours</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>3-5 days</td>
</tr>
<tr>
<td>Freezer</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Deep Freeze</td>
<td>6 months</td>
</tr>
</tbody>
</table>

Breast milk should not be boiled or put in the microwave oven, as this will destroy its nutritional components. Ideally frozen breast milk should be allowed to thaw unaided. If necessary, it may be placed in a container with warm water. Thawed breast milk may have the appearance of curdled milk due to the separation of solid and liquid components. This appearance is not an indication that the milk has deteriorated in quality and it should be gently agitated to restore its normal consistency.

INFANT FEEDING - 6 months and beyond

Continue breastfeeding and add appropriate complementary foods 1-2 times daily. Earlier introduction of complementary foods is not advisable because it reduces suckling and replaces breast milk.

6-8 months – Continue breastfeeding and give complementary foods 2-3 times daily.

9-11 months – Continue breastfeeding and give complementary foods 3-4 times daily.

12-24 months – Continue breastfeeding and give complementary foods 4-5 times daily.

Over 2 years – Feed 3 meals and 2 snacks daily and continue breastfeeding if mother and child so desires.

GUIDELINES FOR YOUNG CHILD FEEDING

Complementary foods should be introduced gradually, allowing the infant time to get used to the taste and texture of the new foods. Increase variety and adjust consistency as the infant gets older. Fats e.g. coconut oil can be added to help soften food and give extra energy.
Initially foods should be sieved, mashed or blended to a smooth consistency. By the time the infant is 1 year old, foods could be mashed with a fork or chopped into small pieces. Thereafter, the child’s diet should begin to resemble the adult’s diet but with more frequent feeds.

**At six (6) months**
Give about 4-6 tablespoons of fruit juice using a cup or spoon, or mashed soft fruits using a spoon, between feeds. Juices that are naturally sweet can be diluted with cooled boiled water. Add ¼ to ½ cup smooth, thick porridge after breast feeds, 1-2 times a day. Feed from a cup or bowl with a spoon. Choices include rice, oats, cornmeal, and wheat flour as well as other staple foods such as banana or plantain. Breast milk or whole milk should be added to the cooked porridge.

**After six (>6) months**
Gradually introduce a smooth, well-cooked nutritious “multimix” as suggested below:

**SUGGESTED AMOUNTS OF MULTIMIX TO FEED 6 MONTHS TO 1 YEAR**

<table>
<thead>
<tr>
<th>AGE</th>
<th>SUGGESTED QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months</td>
<td>2 Tablespoons</td>
</tr>
<tr>
<td>7 months</td>
<td>4 Tablespoons</td>
</tr>
<tr>
<td>8 months</td>
<td>6 Tablespoons</td>
</tr>
<tr>
<td>9-10 months</td>
<td>6 Tablespoons plus 2 additional tablespoons of staple</td>
</tr>
<tr>
<td>11-12 months</td>
<td>6 Tablespoons + 4 additional tablespoons of staple</td>
</tr>
</tbody>
</table>

**Recommended Ratios to Prepare Multimix**
4 parts staple: 1 part legume: 1 part vegetable: 1 part food from animal + 1 teaspoon vegetable fat.
Children with a family history of atopy e.g. asthma or atopic eczema, should be gradually introduced to a variety of allergenic foods e.g. citrus, eggs and should be closely monitored.

Advise mother on:

- Using ingredients of high nutritional value in relation to cost
- Using foodstuffs from home garden
- Using all the edible portion of meat, fish or peas/beans in preference to gravies, teas or broth.
- Maintaining the highest standards of hygiene while preparing foods.
- Using amounts to feed as a general guide and monitoring acceptance
- Feeding slowly and exercising patience

- **Feeding child more often with energy dense meals if the child is underweight.** A referral to the professional nutritionist or dietitian is highly recommended for such children
- Seeking medical advice if complications are present.

<table>
<thead>
<tr>
<th>MULTIMIX</th>
<th>SUGGESTED COMPONENTS</th>
</tr>
</thead>
</table>
| 2 Mix    | Staple (ground provision) e.g. yam + Food from Animal + (breast) milk  
OR  
Staple (cereal) e.g. rice + Legume + split peas |
| 3 Mix    | Staple e.g. potato + Vegetable e.g. callaloo + Foods from Animal e.g. chicken  
OR  
Staple e.g. rice + Vegetable e.g. pumpkin + Legume e.g. lentils  
OR  
Staple e.g. macaroni + Legume e.g. red peas + Food from Animals e.g. fish |
| 4 Mix    | Staple e.g. green banana + Vegetable e.g. Pak choy + Legume e.g. black eye peas + Food from Animals e.g. fish |
SCHEDULE FOR FEEDING OF INFANTS AND YOUNG CHILDREN

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Diet Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 6 months</td>
<td>Breast milk</td>
</tr>
<tr>
<td>6 - 12 months</td>
<td>Breast milk and thick porridge mixed with breast milk</td>
</tr>
<tr>
<td></td>
<td>Fruit juice, breast milk (at least in the morning and evening)</td>
</tr>
<tr>
<td></td>
<td>Thick porridge - at 10 months milk can be introduced in the preparation of porridge (except condensed milk).</td>
</tr>
<tr>
<td></td>
<td>Introduction of foods from the family pot (prior to the addition of spices etc.)</td>
</tr>
<tr>
<td>Over 12 months</td>
<td>The child’s diet should resemble the adult’s diet. It should however be noted that children need to eat more frequent meals.</td>
</tr>
</tbody>
</table>

PROCEDURES FOR NUTRITIONAL ASSESSMENT AT CHILD HEALTH CLINICS

- Check accuracy of scale before the clinic session by using standard weights
- Weigh and measure height and head circumference of every child at first visit and as per schedule in chart below
- Balance scale before weighing the child and balance intermittently after the weighing of 5 children
- Weigh child in only brief, panty or nappy (preferably not wet).
- Determine child’s birth weight
- Record weight, height and head circumference and plot on the appropriate charts. Refer for any abnormal readings.

WEIGHT, HEIGHT AND HEAD CIRCUMFERENCE MEASUREMENT SCHEDULE

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>On all visits</td>
</tr>
<tr>
<td>Height</td>
<td>On all visits:</td>
</tr>
<tr>
<td>Head Circumference</td>
<td>3 months, 6 months, 9 months, 1 year, 2 years</td>
</tr>
</tbody>
</table>
CRITERIA FOR DETERMINING NUTRITIONAL RISK

Normal
The weight curve of the child continues to follow the growth pattern established from birth within the normal range (WHO weight-for-age charts).

Medium Risk (Below Normal, below 1SD)
The weight of the child falls below one standard deviation of the norm, and his/her weight curve indicates he/she is growing normally in that range. This child should visit the clinic at least five times during the first year and twice yearly after, for appropriate nutritional counselling and follow-up. Such a child should have at least one consultation with the nutrition services and followed-up as indicated.

High Risk
The weight curve begins to deviate horizontally or downwards from previously established pattern of growth (regardless of the position on the chart) OR
If the weight falls below two standard deviations of the norm in the absence of any clinical signs and symptoms of severe malnutrition (e.g. skin changes), a check needs to be made to see if the infant was born prematurely. If so, the appropriate correction needs to be made on the growth chart.
If the child has any evidence of infection, this increases the risk to his/her nutritional status, especially if he/she is already undernourished. All cases of severe malnutrition should be referred to the Nurse Practitioner or Doctor for investigation and treatment of underlying infections. Note that a history of any recent acute illness such as Gastroenteritis is important as this may be a contributor to the change in nutritional status.

Demonstrate understanding and caring about patient’s problem. Show respect by:

- Providing privacy
- Stating that information will be kept between the patient and the provider
- Maintaining neutral response to behaviours that put the patient at risk
- Allowing time for questions
- Checking for understanding
- Requesting permission to examine

FOR ADDITIONAL READING REFER TO NUTRITION MANUAL B Chapter 3:9.
GUIDELINES FOR MANAGEMENT ACCORDING TO NUTRITIONAL GRADE

<table>
<thead>
<tr>
<th>Above Normal</th>
<th>Refer to Nutrition Officer for appropriate counselling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Give age-appropriate nutrition counselling</td>
</tr>
<tr>
<td>Mild Malnutrition</td>
<td>Give age-appropriate nutrition counselling</td>
</tr>
<tr>
<td></td>
<td>Give appointment to return to child health clinic in four weeks and refer to Nutrition Officer for appropriate nutritional assessment and diet counselling</td>
</tr>
<tr>
<td></td>
<td>Supplementary foods and vitamin and mineral supplements</td>
</tr>
<tr>
<td></td>
<td>Ensure up-to-date immunization</td>
</tr>
<tr>
<td></td>
<td>Care-giver education re: prevention of infections such as gastroenteritis</td>
</tr>
<tr>
<td></td>
<td>Refer Community Health Aide for follow-up home visiting.</td>
</tr>
<tr>
<td></td>
<td>Refer to Social Safety Net agencies</td>
</tr>
<tr>
<td>Severe Malnutrition</td>
<td>Urgent assessment by Medical Officer with referral to secondary care services for assessment and management by the Pediatrician</td>
</tr>
<tr>
<td></td>
<td>Give age-appropriate nutrition counselling</td>
</tr>
<tr>
<td></td>
<td>Supplementary foods and vitamin and mineral supplements</td>
</tr>
<tr>
<td></td>
<td>Subsequent referral for further management by Nutrition Officer.</td>
</tr>
<tr>
<td></td>
<td>Refer to Social Safety Net agencies</td>
</tr>
<tr>
<td></td>
<td>Home visiting by Community Nurse/ Registered Midwife and Community Health Aide</td>
</tr>
</tbody>
</table>

DETECTION AND MANAGEMENT OF ANAEMIA

- During pregnancy, all women should have their haemoglobin level assessed at the first antenatal visit. Those with levels less than 8 mg/dL should be referred to the High-Risk Clinic for further evaluation and management.

- Pregnant women with severe anaemia (Hb <7 mg/dL) should be referred to hospital, especially if they are beyond 28 weeks gestation or show any signs of respiratory distress or cardiac abnormalities.

- All pregnant women should have repeat haemoglobin assessment at 36 weeks of gestation in order to ensure adequate iron stores for labour and delivery.

- Women who had low haemoglobin levels (<10 mg/dL) during the antenatal period and those who had a history of postpartum haemorrhage should also have their haemoglobin level assessed at the 6-week postnatal visit.
- Menstruating women who give a history of menorrhagia should have their haemoglobin levels assessed if indicated by the history and examination.

- All children should have a haemoglobin assessment done at age 4 years, prior to school entry.

- Iron supplementation and dietary modification (increase in dark green leafy vegetables, sardines, red meat, legumes etc.) is recommended for persons with anemia following further evaluation by the medical officer. Taking iron supplements with a fruit or fruit juice will enhance the absorption.

- Anemic persons may also be referred to the Nutrition Officer for further management and follow-up.

**ADOLESCENT NUTRITION**

Adequate food intake and the maintenance of healthy eating habits are essential to improve nutritional well-being in adolescents, especially males. Nutritional assessments and counselling should be integrated within components of adolescent health services and should include the following:

- Medical and social history, including environmental factors, substance use, entertainment and sport activities and reproductive health history etc.

- Anthropometric measurements: height, weight for the assessment of Body Mass Index (BMI)

- Biochemical evaluation particularly of iron status and lipid profile.

- Assessment of the need for iron/folate supplementation

- Assessment of eating behaviour to improve diet quality and ensure adequate micronutrient intake and bioavailability. Special attention should be paid to signs of Anorexia Nervosa and Bulimia.

- Counselling for achieving/maintaining healthy weight and adoption of healthy eating practices should include limiting intake of “fast foods” and carbonated beverages.

**NUTRITION IN ADULTHOOD: CHRONIC DISEASES** (see Nutrition Manual)

**NUTRITION IN THE ELDERLY**

Routine nutrition screening and comprehensive nutritional assessments should be included in services offered to older persons as nutritional well-being is essential to healthy ageing. Efforts should be made to motivate and support older persons to adopt dietary and lifestyle practices that minimize further risk of ill-health and increase prospects for healthy ageing.
Nutritional assessments of older persons with poor nutritional status and those at nutritional risk should be based on anthropometric measurements, biochemical, clinical, dietary, psychosocial, economic, functional, mental health and oral health status. Nutritional screening and assessment should include the following procedures:

- Measurement of weight and height for the assessment of BMI. Also measurement of waist circumference and information on weight loss/gain patterns.
- Biochemical evaluation particularly of iron status and lipid profile.
- Assessment of dietary practices and intakes to evaluate diet quality and the need for micronutrient supplementation
- Assessment of functional status and physical activity patterns
- Assessment or oral health status and dentition
- Presence/management of acute and chronic illnesses.

PRACTICAL GUIDELINES FOR OPTIMIZING NUTRITION IN THE ELDERLY

- Utilize the “rainbow diet” principle; by ensuring that a variety of colours is present in a meal, the caregiver can be confident that a balanced diet is being achieved
- As the sense of taste is often diminished in the elderly person efforts should be made to make meals attractive in taste, texture and appearance.
- Impairment in the sense of smell may result in the unintentional ingestion of unwholesome food and caregivers must be made aware of this.
- Smaller, more frequent meal offerings are often more effective in maintaining adequate nutrition
- The elderly with dementia may forget to eat and they require closer supervision.
- The elderly person who lives alone, (especially those who may have visual impairment) or has physical disability are at risk of poor nutrition as they are unlikely to be able to prepare a nutritious meal.
- Poor dentition and or poorly fitting dentures are an often overlooked correctable cause of poor nutrition.
- Change in dietary habits particularly a decrease in appetite should not be discounted as ‘ageing’; these changes may in fact signify serious underlying disease such as malignancies of the gastrointestinal tract.
Guideline: NUTRITIONAL ASSESSMENT AND COUNSELLING FOR THE FAMILY (with special emphasis on Pregnancy and Early Childhood)

<table>
<thead>
<tr>
<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
<th>Index:</th>
</tr>
</thead>
</table>

Approved by: Director, Family Health Services
3. EXPANDED PROGRAMME ON IMMUNIZATION (E.P.I.)
3. EXPANDED PROGRAMME ON IMMUNIZATION (E.P.I.)

POLICY
In keeping with the Immunization Regulations of 1986, all children under the age of 7 years must be adequately immunized for age prior to entering school (daycare, nursery, primary school). The primary vaccination schedule should be completed by age 1 year and exemptions may be granted only for medical contraindications. Immunizations will be provided free of charge to children in the public health service in accordance with the established Ministry of Health’s schedule of vaccines.

GOAL
To prevent childhood mortality and morbidity from vaccine preventable diseases through an effective programme of Immunization.

OBJECTIVES
- To immunize at least 95% of infants 0-11 months against Tuberculosis, Diphtheria, Pertussis, Tetanus, Poliomyelitis, Hepatitis B and Haemophilus influenzae type b.
- To immunize at least 95% of children 12-23 months against Measles, Mumps and Rubella.
- To maintain a zero incidence of neonatal tetanus through the vaccination of at least 85% of antenatal women with the Diphtheria-Tetanus toxoid.
- To ensure vaccine safety and efficacy through the provision, correct utilization and monitoring of cold chain equipment.
- To conduct on-going (daily) surveillance for vaccine preventable diseases with special emphasis on Poliomyelitis, Measles and Rubella.
- To ensure Immunization safety through the on-going documentation and investigation of Events Supposedly Attributable to Vaccines and Immunizations (ESAVI).
- To monitor the progress of the Immunization Programme through the collection and analysis of coverage data on a monthly basis.
- To conduct periodic evaluations of the Expanded Programme on Immunization.
To prevent the re-introduction of Yellow Fever into Jamaica through the vaccination of travelers to endemic areas.

To facilitate the smooth transition from child to family immunization.

STRATEGIES

- BCG vaccination in hospitals and in postnatal clinics
- Daily immunization in health centres/clinics (Types 3 and up)
- Weekly or monthly immunization in Types 2 and 1 clinics and satellites respectively
- Provision of vaccination services at no cost
- Use of tracking registers to identify defaulters
- Outreach sessions including home visits in hard to reach areas
- Periodic vaccination campaigns
- Public education and social mobilization using all forms of media
- Partnership with the private sector (supply of vaccines and collection of coverage data)
- Inter-sectoral collaboration (Ministry of Education, Youth and Culture; Ministry of Social Security)
- Monthly monitoring of vaccination coverage by facility, health district, parish, region and national levels
- Introduction of new vaccines
- Procurement and maintenance of cold chain equipment
- Monitoring of the cold chain to ensure efficacy of vaccines
- Surveillance for Vaccine-Preventable Diseases and ESAVIs
- Regular and consistent supply of quality vaccines and syringes/needles
- Capacity building of health care providers both in the public and private sector.
- Family immunization

IMMUNIZATION SCHEDULE

The aim of the Expanded Programme on Immunization (EPI) is to reduce morbidity and mortality from specific diseases through an efficient and cost-effective schedule of visits with the health services.
Vaccines are given throughout the life cycle to ensure protection of the family. Children under one year of age are the main target group because they are the ones at highest risk of contracting the EPI diseases. Pregnant women can receive tetanus and diphtheria toxoid from the first trimester of pregnancy. Adolescents and adults may also be vaccinated to ensure continued protection.

The Immunization Schedule is designed to have all infants comprehensively immunized against the ten targeted diseases:

1. Tuberculosis
2. Diphtheria
3. Pertussis
4. Tetanus
5. Poliomyelitis
6. Measles
7. Rubella
8. Mumps
9. *Haemophilus influenzae* type B infection
10. Hepatitis B

by their first birthday, followed by booster doses of MMR, DPT, and TOPV vaccines at school entry age (4-6 years). After the age of 7-10 years, adult Td is given instead of DPT or DT (paediatric).

The immunization schedule is therefore a guideline and is flexible. The immunization schedule for children is given in the Table following.

**ADMINISTRATION OF VACCINES**

All EPI vaccines are safe and effective when given at the same time.

Individuals can be immunized against several diseases in a single visit especially if it is suspected that the child may not be brought back for subsequent doses. Scientific studies have shown that when given together vaccines are as effective as when given separately, and there is no increased risk of reactions or complications.

These vaccines should be given at different sites on the body when given simultaneously.

When vaccines are not given simultaneously a **minimum interval of one-month** (four weeks) is recommended before another vaccine is administered to the same individual.
**THE ROUTINE IMMUNIZATION SCHEDULE**

<table>
<thead>
<tr>
<th>AGE</th>
<th>IMMUNIZATION TO BE GIVEN AGAINST</th>
<th>VACCINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth - 6 weeks</td>
<td>Tuberculosis</td>
<td>Bacillus Calmette – Guerin (BCG)</td>
</tr>
<tr>
<td>6 Weeks</td>
<td>Diphtheria, Tetanus and Pertussis (Whooping Cough)</td>
<td>First dose of: Diphtheria and Tetanus toxoids combined with pertussis vaccine (DPT) Attenuated trivalent oral Poliomyelitis vaccine (OPV)* HepB Hib</td>
</tr>
<tr>
<td>Three (3) months</td>
<td>Diphtheria, Tetanus and Pertussis</td>
<td>Second dose of: - DPT - OPV - HepB - Hib</td>
</tr>
<tr>
<td>Six (6) months</td>
<td>Diphtheria, Tetanus and Pertussis</td>
<td>Third dose of: - DPT - OPV - HepB - Hib</td>
</tr>
<tr>
<td>Twelve (12) months</td>
<td>Measles, Mumps, Rubella</td>
<td>Combined Measles, Mumps, Rubella Vaccine (MMR)</td>
</tr>
<tr>
<td>Eighteen (18) months</td>
<td>Diphtheria, Tetanus and Pertussis</td>
<td>Booster doses of: DPT OPV</td>
</tr>
<tr>
<td>Four (4) to six (6) years</td>
<td>Diphtheria, Tetanus and Pertussis</td>
<td>Booster doses of: DPT OPV MMR</td>
</tr>
<tr>
<td>Reproductive-aged females</td>
<td>Rubella</td>
<td>Rubella/MMR</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>Tetanus</td>
<td>Diphtheria/Tetanus [DT(A)]</td>
</tr>
</tbody>
</table>

*While oral polio vaccine is recommended, inactivated polio vaccine is indicated in special circumstances

All children under the age of 7 years must be adequately immunized prior to admission to school.
## RECOMMENDED PRIMARY IMMUNIZATION SCHEDULE

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>DOSE</th>
<th>ADMINISTRATION</th>
<th>AGE</th>
<th>METHOD</th>
<th>SITE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>0.05ml</td>
<td></td>
<td>Infants less than 3 mths</td>
<td>Intradermal</td>
<td>Mid-upper right arm</td>
<td>Keep vaccine on ice up to six hours only after reconstitution.</td>
</tr>
<tr>
<td></td>
<td>0.1 ml</td>
<td></td>
<td>All others over 3 mths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPT or Paed. DT</td>
<td>0.5 ml</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose – 6 wks</td>
<td>Intra-muscular</td>
<td>Antero-lateral thigh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose - 3 mths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; dose – 6 mths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trivalent OPV</td>
<td>2 drops</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose – 6 wks</td>
<td>Oral</td>
<td>Mouth</td>
<td>Keep on ice while using</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose - 3 mths</td>
<td>Oral</td>
<td>Mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; dose – 6 mths</td>
<td>Oral</td>
<td>Mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inactivated</td>
<td>0.5 ml</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose – 6 wks</td>
<td>Subcutaneous</td>
<td>Antero-lateral thigh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose - 3 mths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; dose – 6 mths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPT/Hib / HepB (Penta-valent)</td>
<td>0.5 ml</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose – 6 wks</td>
<td>Intramuscular</td>
<td>Antero-lateral thigh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose - 3 mths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; dose – 6 mths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMR</td>
<td>0.5ml</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose – 12 mths</td>
<td>Subcutaneous or intramuscular injection</td>
<td>Arm</td>
<td>Keep vaccine on ice not more than six hours after reconstitution.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; dose - 4 to 6 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A child who did not receive BCG at birth should be given BCG along with the other vaccines at 6 weeks of age.

### FAMILY IMMUNIZATION

All individuals along the life cycle should be assessed for their immunity to disease and advised accordingly. Special attention should be paid to adolescents, the elderly and the disabled. Vaccines for consideration should include those in the routine schedule as well as influenza, meningococcus, pneumococcus, HPV, HIV, DTaP and others, as deemed necessary.
**BOOSTER SCHEDULE**

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>DOSE</th>
<th>AGE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paed. DT/ DPT &amp; TOPV</td>
<td>0.5 ml 2 drops</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; booster -18 months 2&lt;sup&gt;nd&lt;/sup&gt; booster - 4-6 years</td>
<td>School entry age</td>
</tr>
<tr>
<td>Td or Adult DT</td>
<td>0.5ml</td>
<td>Children 10-11 years</td>
<td>High school entry (– given in private sector) Also for children &gt; 7 years who need boosters</td>
</tr>
<tr>
<td>Td or Adult DT</td>
<td>0.5ml</td>
<td>Pregnant women, if not appropriately vaccinated (5 doses previously)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; dose at 1&lt;sup&gt;st&lt;/sup&gt; antenatal visit 2&lt;sup&gt;nd&lt;/sup&gt; dose at least 4 weeks after 1&lt;sup&gt;st&lt;/sup&gt; dose 3&lt;sup&gt;rd&lt;/sup&gt; dose at least 6 months after 2&lt;sup&gt;nd&lt;/sup&gt; dose 4&lt;sup&gt;th&lt;/sup&gt; dose at least 1 year after 3&lt;sup&gt;rd&lt;/sup&gt; dose 5&lt;sup&gt;th&lt;/sup&gt; dose at least 1 year after 4&lt;sup&gt;th&lt;/sup&gt; dose For subsequent pregnancies boosters are not necessary</td>
</tr>
</tbody>
</table>

**NOTE:**
Protect all vaccines against sunlight and heat. Vaccines when not administered simultaneously should be given with a minimum interval of four weeks apart.

**E.P.I. COLD CHAIN**

Vaccines are sensitive to heat and must be kept cold from the time they are manufactured until they are used. Great care must be taken in storing and reconstituting the vaccines.

**The Cold Chain** is a system for storing and transporting vaccines in a potent state from the manufacturer to the child/person being immunized. A cold chain includes 3 main elements:

- Personnel who use and maintain the equipment and provide the health service
- Equipment for safe storage and transport of vaccines, and
- Procedures to manage the programme and control the distribution and use of vaccines
The essential components of the cold chain are:
1. The dedicated refrigerator
2. The cold box
3. The vaccine carrier
4. The vaccine thermometer
5. Ice packs

**Note:**
There should be one person in each health facility who has the main responsibility for the refrigerator. This person should ideally be the public health nurse. Their responsibilities should include:
- storing vaccines, diluents, and ice-packs
- checking and recording the temperature twice daily
- maintaining the facility's cold chain equipment.

All health workers in a health facility, however, should know how to monitor the cold chain and what action to take if the temperature is too high or too low or in the event of a power outage.
RECOMMENDED VACCINE STORAGE TIME AND TEMPERATURE FOR DIFFERENT LEVELS OF HEALTH FACILITY

* Optimal long-term storage is at -25°C or less. Diluents should be kept separately and should not be frozen.

**KEEP DILUENT AT 2°C to +8°C. NEVER FREEZE DPT, DT, Td, Hepatitis B, or Hib.**

**MMR vaccines should be stored at 2°C to +8°C. Always read the accompanying literature.**

<table>
<thead>
<tr>
<th>TYPE OF VACCINE</th>
<th>CENTRAL LEVEL HCL</th>
<th>TRANSPORT TO PARISH</th>
<th>PARISH LEVEL</th>
<th>TRANSPORT TO HC</th>
<th>HC LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG*</td>
<td>1 Year 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>DPT</td>
<td>3-7 Years 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>Hep B and Hib</td>
<td>2 Years 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>Measles/MMR *</td>
<td>2 Years 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>TOPV *</td>
<td>6-12 Months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>Td</td>
<td>4 years 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>Yellow Fever *</td>
<td>2-3 Years 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
<tr>
<td>IPV</td>
<td>1 year 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>3 months 2°C to +8°C</td>
<td>2°C to +8°C</td>
<td>1 month 2°C to +8°C</td>
</tr>
</tbody>
</table>

VACCINE REFRIGERATORS

The refrigerator used to store vaccines is an indispensable requirement of the EPI. It must be in good operating condition and well maintained for the success of the EPI Programme.

Refrigerators have different capacities for storing vaccines and for freezing and storing ice-packs. A refrigerator in a health facility should be able to hold:
• a one-month supply of vaccines and diluents in the refrigerator compartment

• a one- to two-week reserve stock of vaccines and diluents (an additional 25% to 50% of the one-month supply)

• frozen ice-packs in the freezer compartment, and

• bottles of water or unfrozen ice packs in the refrigerator compartment (to act as a buffer to temperature changes, especially if there is a power failure).

Half the total space in the refrigerator should be left empty to allow air to circulate around the vaccines and diluents to keep them cool.

Storing other supplies in a vaccine refrigerator raises its temperature because of frequent opening of the refrigerator. This should be discouraged.

The vaccine refrigerator should:

• be placed in the shade, away from any heat source

• be perfectly level

• have a tight seal on the door

• be at least six inches away from any wall.

• should have a surge protector (fridge guard) to protect from the power fluctuation.

• have ice packs in the freezer to help maintain low temperature (-10°C to -30°C)

• have water bottles on the lower shelf of the refrigerator for the same purpose.

• have the vaccines arranged in the refrigerator to allow air to circulate freely.

• have a thermometer to monitor the temperature

• be defrosted when 1/4 inch or 5/8 centimeter of ice has formed on the internal sides of the freezer compartment.

• should not be opened during power outages.

Vaccine refrigerators have two sections:

1. A main section for storing vaccines and diluents, in which the temperature should be kept between 2°C and +8°C. Thermostats in this section are used to adjust the temperature.

2. A freezer for freezing ice packs and vaccines (that can be frozen) may be placed there if necessary. This section should be kept below 0°C.
Put vaccines and diluents on the top and middle shelves of the main section.

DO NOT put vaccines on door shelves: the temperature is not low enough
- OPV and MMR vaccine on the top shelf
- BCG, DPT, TT, Hepatitis B and Yellow Fever vaccines on the middle shelves
- Diluents next to the vaccines with which they were supplied.

Arrange the boxes of vaccine in stacks between which the air can move.
DO NOT keep expired vaccines in the refrigerator. Discard according to drug policy.

DO NOT keep any food, drink, or drugs in a vaccine refrigerator.

MONITORING THE TEMPERATURE OF THE REFRIGERATOR
A thermometer must be kept in the central interior (not in the freezer) of the vaccine refrigerator so that the temperature can be read, monitored and recorded in the morning and afternoon of each working day.

To monitor the temperature of the main section of a refrigerator the following are needed:

- a thermometer, and
- a temperature chart, which should be taped to the outside of the door.

To monitor the temperature, proceed as follows:

- Set the refrigerator thermostat during the coldest part of the day to around +2°C to +4°C.
- Monitor temperatures first thing in the morning and before leaving in the afternoon. If the temperature is between +2°C to +8°C, do not adjust the thermostat.
- Continue to monitor the temperature first thing in the morning and in the afternoon.
- Record the temperature twice daily on the refrigerator temperature chart.
- At the end of the month when a chart has been completed, replace it with a new one. Keep the completed charts in a folder for future reference.
- Action should be taken when the temperature goes out of range.

HOW TO ADJUST THE TEMPERATURE OF VACCINE REFRIGERATORS
If the temperature is too LOW (below +2°C):

- Turn the thermostat knob so that the arrow points to a lower number. This will make the refrigerator warmer.
- Check whether the door of the freezer closes properly. The seal may be broken.
- Check freeze-sensitive vaccines (DPT, DT, dT, Hep B, DPT-Hep B, liquid Hib and DTP+HepB+Hib [i.e. pentavalent] vaccines) to see whether they have been damaged by freezing by using the shake test.
If the temperature is too HIGH (above +8°C):

- Make sure that the refrigerator is working. If not, check if power supply is present.
- Check whether the door of the refrigerator or the freezing compartment closes properly. The seal may be broken.
- Check whether frost is preventing cold air in the freezing compartment from entering the refrigerator compartment. Defrost if necessary.
- Turn the thermostat knob so that the arrow points to a higher number. This will make the refrigerator cooler.
- If the temperature cannot be maintained between 2°C and 8°C, store vaccines in another place until the refrigerator is repaired.

**Warning!**

Do not adjust thermostat to a higher (cooler) setting after a power cut. This could freeze the vaccines.

Do not adjust thermostat to a higher setting when vaccines arrive. This could freeze the vaccines.

**VACCINE CARRIERS**

Vaccine carriers are insulated containers that, when lined with frozen ice-packs, keep vaccines and diluents cold during transportation and/or temporary storage. They are smaller than cold boxes and are easier to carry if walking. But they do not stay cold as long as a cold box — maximum for 48 hours with the lid closed.

Vaccine carriers are used to transport vaccines and diluents to outreach sites and for temporary storage during health facility immunization sessions. In small health facilities they are used to bring monthly vaccine supplies from the district store. Vaccine carriers are also used to store vaccines when the refrigerator is out of order or is being defrosted.
The type of vaccine carrier a particular health facility needs depends on:

- the type of vaccines and diluents to be transported;
- the number of vaccines and diluent vials, and ice-packs to be carried;
- the cold life required;
- ice-packs compatible with the size of vaccine carrier;
- the means of transport to be used.

**ICE PACKS**

- Ice-packs are flat, square plastic bottles that are filled with water and frozen.
- Ice-packs are used to keep vaccines cool inside the vaccine carrier or cold box.
- The number of ice-packs required for a vaccine carrier varies. It is recommended to condition ice-packs before using them in a vaccine carrier.
- Ice packs should not be used for placement of vaccines during an immunization session.

Every health facility should have minimum two sets of ice-packs for each of vaccine carriers:

- one in the process of being frozen

*Ice melts quickly and vials may become contaminated if they float in water from melted ice and labels may fall off the vials. You can avoid this by putting the vials in a sealed plastic bag. Consider open vials that have been under melted water to be contaminated and discard them.*
COLD CHAIN MONITORING EQUIPMENT

The purpose of cold chain monitoring equipment is to keep track of the temperature to which vaccines and diluents are exposed during transportation and storage.

Vaccine vial monitors

A vaccine vial monitor (VVM) is a label that changes colour when the vaccine vial has been exposed to heat over a period of time. Before opening a vial, the status of the VVM must be checked to see whether the vaccine has been damaged by heat.

Manufacturers attach VVMs to vials of most vaccines. The VVM is printed on the vial label or cap. It looks like a square inside a circle. As the vaccine vial is exposed to more heat, the square becomes darker.

Use only vials with inner squares that are lighter in colour than the outside circle.

Vials with VVMs in which the inner square has begun to darken but is still lighter than the outer circle should be used before the vials with a lighter inner square.

### HOW TO READ A VACCINE VIAL MONITOR

- **Inner square lighter than outer circle.** *If the expiry date has not been passed, USE the vaccine.*

- **At a later time, inner square still lighter than outer circle.** *If the expiry date has not been passed, USE the vaccine.*

- **Discard point:** Inner square matches colour of outer circle. *DO NOT use the vaccine. Inform your supervisor.*

- **Beyond the discard point:** Inner square darker than outer circle. *DO NOT use the vaccine. Inform your supervisor.*
Important note:
VVMs do not measure exposure to freezing temperatures (for freeze-sensitive vaccines).

A VVM not at “discard-point” does not exclude the possibility that the vaccine was frozen. Before use, make sure that the freeze-sensitive vaccine with good VVM has not been frozen.

Vaccine cold chain monitor card

A vaccine cold chain monitor is a card with an indicator strip that changes colour when vaccines are exposed to temperatures that are too high. The vaccine cold chain card is used to estimate the length of time that vaccine has been exposed to high temperatures.

Keep the Cold Chain Monitor with your vaccine.

When the Monitor arrives.....
- complete the top part of the card
  - fill in the date
  - fill in the index (A, B, C, and/or D)
  - fill in the location

When the Monitor leaves.....
- complete the top part of the card
  - fill in the date
  - fill in the index (A, B, C, and/or D)

If windows A, B, C, and/or D are all white use vaccines normally.

If windows A to C are completely blue, but window D is still white, it means that the vaccine has been exposed to temperature above 10°C but below 34°C for the following number of days:

<table>
<thead>
<tr>
<th>INDEX</th>
<th>A</th>
<th>AB</th>
<th>ABC</th>
</tr>
</thead>
<tbody>
<tr>
<td>At a temperature of 12°C</td>
<td>3 days</td>
<td>8 days</td>
<td>14 days</td>
</tr>
<tr>
<td>At a temperature of 21°C</td>
<td>2 days</td>
<td>6 days</td>
<td>11 days</td>
</tr>
</tbody>
</table>

If window D is blue it means there has been a break in the cold chain of a temperature higher than 34°C for a period of at least two hours. Check the cold chain.

The instruction "use within three months" should not be followed if either the expiry date or any local cold chain policy requires a shorter period before use or disposal of the vaccine.
Thermometers
Health facility staff should use dial or stem thermometers to monitor the temperature of refrigerators.

On a dial thermometer, the needle moves around the scale, pointing to plus (+) numbers when it is warmer and to minus (-) numbers when it is colder.

On a stem or bulb thermometer, coloured fluid in the bulb moves up the scale as it becomes warmer, and down the scale as it becomes colder.

Dial thermometers tend to lose their accuracy over time.

**DIAL AND STEM THERMOMETERS**

![Dial Thermometer](image1)

![Stem Thermometer](image2)

**GUIDELINES FOR STORING VACCINES DURING POWER CUTS**

If you experience a power cuts in your health facilities do the following:

<table>
<thead>
<tr>
<th>DURATION OF POWER CUT</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4 hours</td>
<td>Keep the vaccine in the refrigerator</td>
</tr>
<tr>
<td>4-8 hours</td>
<td>*Transfer the vaccines to vaccine carriers (IGLOOS) with ice-packs</td>
</tr>
<tr>
<td>&gt; 8 hours</td>
<td>*Transfer the vaccines to another health facility or health department with electricity</td>
</tr>
</tbody>
</table>

*Note: When electricity returns to your facility transfer the vaccines back to the refrigerator*
Exposure to excessive heat or cold may affect the potency of vaccines. Vials of vaccines should be examined for the possibility of this by the use of the shake test for freezing. Before field staff discards any vaccine, consultation should occur with the parish Immunization Coordinator, the Medical Officer of Health or the Director, Family Health Services.

**VACCINE SUSCEPTIBILITY TO TEMPERATURE**

<table>
<thead>
<tr>
<th>EPI Vaccines damaged by freezing</th>
<th>EPI Vaccines not affected by freezing</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPT - DT/Td/TT</td>
<td>OPV</td>
</tr>
<tr>
<td>Hepatitis B/ Hepatitis A</td>
<td>Measles</td>
</tr>
<tr>
<td>Haemophilus Influenza Type B (Hib)</td>
<td>Mumps</td>
</tr>
<tr>
<td>Rabies</td>
<td>Rubella</td>
</tr>
<tr>
<td>Influenza</td>
<td>Yellow Fever</td>
</tr>
<tr>
<td>Pneumococcal Polysaccharide Vaccine</td>
<td>MMR</td>
</tr>
<tr>
<td>Meningococcal</td>
<td></td>
</tr>
<tr>
<td>All combinations of these vaccines</td>
<td></td>
</tr>
<tr>
<td>Vaccine diluents</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>&lt;2°C</th>
<th>&gt;8°C TO ROOM TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Polio</td>
<td>Use</td>
<td>&lt;24 hours : use within 3 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;24 hours : discard</td>
</tr>
<tr>
<td>MMR</td>
<td>Use</td>
<td>&lt; 24 hours : use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24-72 hours : use within 3 months</td>
</tr>
<tr>
<td>BCG</td>
<td>Use</td>
<td>&lt; 3 days : use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-5 days : use within 3 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5 days : discard</td>
</tr>
<tr>
<td>DPT- Hib</td>
<td>Discard</td>
<td>&lt; 3 days : use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-5 days : use within 3 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5 days : discard</td>
</tr>
<tr>
<td>DT, dT, Hib and Hepatitis B</td>
<td>Discard</td>
<td>&lt; 5 days : use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 5 days : discard</td>
</tr>
</tbody>
</table>
SHAKE TEST

- Gives an idea whether adsorbed vaccines (DPT, DT, Td, TT or Hepatitis B) have been subjected to freezing temperatures likely to have damaged them. After freezing, the vaccine no longer has the appearance of an homogenous cloudy liquid, but tends to form flakes which settle at the bottom of the vial after shaking. Sedimentation is faster in a vial which has been frozen than in a vial, from the same manufacturer, which has not been frozen.

- The test should be conducted for all vials suspected to have been exposed to freezing temperatures.

Procedure

Step 1 — Prepare a frozen control sample: Take a vial of vaccine of the same type and batch number as the vaccine you want to test, and from the same manufacturer. Freeze the vial until the contents are solid (at least 10 hours at -10°C) and then let it thaw. This vial is the control sample. Mark the vial clearly so that it is easily identifiable and will not be used by mistake.

Step 2 — Choose a test sample: Take a vial of vaccine from the batch(es) that you suspect has been frozen. This is the test sample.

Step 3 — Shake the control and test samples: Hold the control sample and the test sample together in one hand and shake vigorously for 10–15 seconds.

Step 4 — Allow to rest: Leave both vials to rest by placing the vials on a table and not moving them further.

Step 5 — Compare the vials: View both vials against the light to compare the sedimentation rate. If the test sample shows a much slower sedimentation rate than the control sample, the test sample has most probably not been frozen and can be used. If the sedimentation rate is similar, the vial has probably been damaged by freezing and should not be used.

Note that some vials have large labels which conceal the vial contents. This makes it difficult to see the sedimentation process. In such cases, turn the control and test vials upside down and observe sedimentation taking place in the neck of the vial.

If the shake test procedure indicates that the test sample has been damaged by freezing, the supervisor should be notified immediately.

Identify and separate all vaccines that may have been frozen and ensure that none are distributed or used.

Note

Frozen samples can be used for shake tests only when testing the same vaccine from the same manufacturer and the same lot number. A new sample is needed for each manufacturer and lot number.
THE SHAKE TEST

Compare the deliberately frozen vial next to the suspect vial

<table>
<thead>
<tr>
<th>Deliberately frozen vial</th>
<th>Suspect vials</th>
</tr>
</thead>
<tbody>
<tr>
<td>almost clear</td>
<td>USE THIS VACCINE</td>
</tr>
<tr>
<td>thick sediment</td>
<td>DO NOT USE THIS VACCINE</td>
</tr>
</tbody>
</table>

USE THIS VACCINE
If the sediments in the suspect vial settle more slowly, the suspect vaccine may be used.

DO NOT USE THIS VACCINE
If the sediments in the suspect vial settle at the same rate, the suspect vaccine may NOT be used.

OPEN VIAL POLICY

In the past, all vaccine vials that had been opened for an immunization session were discarded at the end of the session, regardless of the type of vaccine or the number of doses left in the vials. Recent research has shown that this is not necessary for all vaccines. The following represents the new guidelines.

OPV, DPT, TT, DT and Hepatitis B Vaccines

Opened vials of these vaccines MAY BE used in subsequent sessions, IF the following conditions are met:

- The expiry date has not passed
- The vaccines have been continuously stored at a temperature between 2°C and 8°C
- The vaccines have not been taken out of the health center for outreach activities, national immunization days, or other purposes. (When opened vials have been taken out of health center they must be discarded at the end of the day)
• The vaccine vial septum has not been submerged in water
• Aseptic technique has been used to withdraw all doses

**Measles/Mumps/Rubella, Yellow Fever and BCG Vaccines**
• These are reconstituted vaccines. Reconstituted vaccines MUST BE DISCARDED at the end of each session. They cannot be kept for longer than six hours.

**All vaccines**
An opened vial of any vaccine MUST BE DISCARDED immediately if:
• Sterile procedures have not been followed **OR**
• The presence of floating particles or a change in the appearance of the vaccine shows that it has been contaminated **OR**
• It is suspected that the vaccine has been contaminated **OR**
• The vaccine in the vial has been exposed to unacceptably high temperatures or has been frozen.

Any opened vials that the decision has been made to keep, should be put in a box marked “RETURNED” in the refrigerator and used before any others during the next session.

### ALLOWABLE PRESERVATION TIME FOR OPENED VIALS

<table>
<thead>
<tr>
<th>BIOLOGICAL</th>
<th>PRESERVATION TEMPERATURE</th>
<th>PRESERVATION TIME OF THE OPENED VIALS</th>
<th>FORMULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPV</td>
<td>+ 2 C to + 8 C</td>
<td>Four weeks maximum</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>BCG</td>
<td>+ 2 C to + 8 C</td>
<td>Six hours</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>DPT</td>
<td>+ 2 C to + 8 C</td>
<td>Four weeks maximum</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>+ 2 C to + 8 C</td>
<td>Four weeks maximum</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Tetravalent</td>
<td>+ 2 C to + 8 C</td>
<td>Four weeks maximum</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Pentavalent</td>
<td>+ 2 C to + 8 C</td>
<td>Immediate use</td>
<td>Single-dose vial</td>
</tr>
<tr>
<td>Pediatric DT</td>
<td>+ 2 C to + 8 C</td>
<td>Four weeks maximum</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Adult DT</td>
<td>+ 2 C to + 8 C</td>
<td>Four weeks maximum</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Yellow Fever</td>
<td>+ 2 C to + 8 C</td>
<td>Six hours</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Measles immunoglobulin</td>
<td>+ 2 C to + 8 C</td>
<td>Six hours</td>
<td>Multiple-dose vial</td>
</tr>
<tr>
<td>Triple viral (MMR)</td>
<td>+ 2 C to + 8 C</td>
<td>Six hours</td>
<td>Multiple-dose vial</td>
</tr>
</tbody>
</table>
Remember

- If the vaccine vial monitor on a vial shows that the vaccine inside has been exposed to unacceptably high temperatures, dispose of the vaccine.
- Dispose of BCG, MMR and yellow fever vaccines if they have not been used within six hours of reconstitution.
- Dispose of DPT vaccine, Hepatitis B vaccine and Tetanus Toxoid, DT, Hib if they have been frozen.

If vaccines have been exposed to temperatures higher than 2-8°C for any length of time:

- Put these vaccines in a box and keep in the usual section of the refrigerator.
- Inform the EPI Coordinator/SPHN/MO(H)
- Call the Family Health Unit
- Write a formal report to the Health Department outlining the circumstances which led to the exposure and the details of the vaccine losses.

Guidelines for use exist but the decision will be taken by the Family Health Services Unit.

Do not discard the vaccines before notifying the Family Health Unit!!

Site for Vaccine Administration

For vaccines to be efficacious, they have to be administered at the recommended age, at the preferred site and with the most effective technique. The preferred site for intramuscular injection in infants and children is the antero-lateral aspect of the upper thigh since it provides the largest muscular mass.

Vastus Lateralis Muscle

The vastus lateralis is a thick, well developed muscle located on the anterolateral aspect of the thigh. The injection site is the lateral thigh at the junction between the middle and upper third. (See Diagrams overleaf).
In older children and adults, the deltoid has achieved sufficient size to offer a convenient site for intramuscular injection (The deltoid muscle is located in the lateral aspect of the upper arm) (See Diagram below).

Each vaccine should be administered using a sterile, disposable syringe and needle!


Subcutaneous (SC) injection: a subcutaneous injection should be given into healthy tissue, which is away from bony prominences and free of large blood vessels or nerves. The most commonly used site is the upper arm.

POSITIONING AND RESTRAINT

It is important that infants do not move during the injection so they must be adequately restrained. Positions that reduce strain on the limb minimize discomfort.

The health workers feel that the "cuddle position" on the caregiver’s lap affords support for both the child and caregiver. Smaller infants may be restrained by cupping the knee in the palm of the vaccinator’s hand (see Figure).

The most convenient position when giving injections in the deltoid muscle or subcutaneously in the upper arm is for the caregiver to hold the infant sideways on their lap. The injection arm is secured close to the infant's body with the other arm tucked behind the caregiver’s back (see Figure). This position may also be used for a thigh injection.

The diagram below demonstrates the position of the needle in administering vaccines intradermally, subcutaneously, and intramuscularly:

**NEEDLE POSITIONS FOR DIFFERENT INJECTION SITES**
For intramuscular injections, if the needle is $\geq 1$ inch, inject at an angle to the muscle. If needle length is $<1$ inch, inject perpendicular to the muscle i.e. go straight down.

In cleaning the skin before an injection, use cotton wool and a small amount of alcohol (except when giving live vaccines e.g. MMR, Yellow Fever and BCG). If you do not have alcohol, use soap and water, or water only. Do not use antiseptics.

If cleaning of the skin is necessary before the injection and alcohol is used, allow it to dry before administering the injection.
# VACCINE ADMINISTRATION: DOSE, ROUTE, APPLICATION AREA AND SYRINGE

<table>
<thead>
<tr>
<th>TYPE OF IMMUNOLOGICAL</th>
<th>DOSE NUMBER</th>
<th>DOSE/ADMINISTRATION ROUTE AND AREA</th>
<th>SYRINGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BCG</strong></td>
<td>Single dose</td>
<td>0.1 ml intradermal in the right arm’s upper third deltoid region</td>
<td>1cc c/a 26 x 3/8</td>
</tr>
<tr>
<td><strong>OPV</strong> <em>(oral vaccine against Poliomyelitis - SABIN)</em></td>
<td>3</td>
<td>2 drops orally</td>
<td></td>
</tr>
<tr>
<td><strong>HepB</strong> <em>(Vaccine against viral Hepatitis B)</em></td>
<td>3</td>
<td>0.5 ml deep intramuscular in the thigh’s external anterolateral middle third.</td>
<td>1cc c/a 23 x 1</td>
</tr>
<tr>
<td><strong>PENTAVALENT</strong> <em>(DPT + HepB + Hib)</em> <em>(Diphtheria, whooping cough, Tetanus, Hepatitis B, Meningitis and Pneumonia caused by Haemophilus influenzae type b.)</em></td>
<td>3</td>
<td>0.5 ml deep intramuscular in the thigh’s external anterolateral middle third.</td>
<td>1cc c/a 23 x 1</td>
</tr>
<tr>
<td><strong>TETRAVALENT</strong> <em>(DPT + Hib)</em> <em>(Diphtheria, Whooping cough, Tetanus, Meningitis and Pneumonia caused by Haemophilus influenzae type b.)</em></td>
<td>Regime-based</td>
<td>0.5 ml deep intramuscular in the thigh’s external anterolateral middle third.</td>
<td>1cc c/a 23 x 1</td>
</tr>
<tr>
<td><strong>Yellow Fever</strong></td>
<td>Single dose</td>
<td>0.5 ml subcutaneous in the deltoid muscle area of the right or left arm.</td>
<td>1cc c/a 25 x 5/8</td>
</tr>
<tr>
<td><strong>MMR</strong> <em>(Measles, Mumps and Rubella)</em></td>
<td>Single dose</td>
<td>0.5 ml subcutaneous in the deltoid muscle area of the right or left arm.</td>
<td>1cc c/a 25 x 5/8</td>
</tr>
<tr>
<td><strong>Adult dT</strong> <em>(Tetanus and Diphtheria Toxoid)</em></td>
<td>At least 3 doses</td>
<td>0.5 ml intramuscular in the deltoid muscle area of the right or left arm.</td>
<td>1cc c/a 22 x 1 1/2</td>
</tr>
<tr>
<td><strong>MR</strong> <em>(Measles, Rubella)</em></td>
<td>Single dose</td>
<td>0.5 ml subcutaneous in the deltoid muscle area of the right or left arm.</td>
<td>1cc c/a 25 x 5/8</td>
</tr>
<tr>
<td><strong>Paediatric DT</strong> <em>(Tetanus and Diphtheria Toxoid)</em></td>
<td>2</td>
<td>0.5 ml intramuscular in the deltoid muscle area of the right or left arm.</td>
<td>1cc c/a 23 x 1</td>
</tr>
</tbody>
</table>
# ADMINISTERING VACCINE FOR INFANTS

<table>
<thead>
<tr>
<th>Name of vaccine</th>
<th>BCG</th>
<th>DTP or DTP+HepB, HepB</th>
<th>Measles/ Yellow Fever</th>
<th>OPV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Where given</strong></td>
<td>Outer upper left arm or shoulder</td>
<td>Outer mid-thigh in infants/outer upper arm if older</td>
<td>Outer mid-thigh/upper arm depending on the age</td>
<td>Oral</td>
</tr>
<tr>
<td><strong>How given</strong></td>
<td>Intradermal injection</td>
<td>Intramuscular injection</td>
<td>Subcutaneous injection</td>
<td>Oral dropper</td>
</tr>
<tr>
<td><strong>Dose</strong></td>
<td>0.05 ml</td>
<td>0.5 ml</td>
<td>0.5 ml</td>
<td>2 drops</td>
</tr>
<tr>
<td><strong>Needle size</strong></td>
<td>10mm, 26 gauge</td>
<td>25mm, 23 gauge</td>
<td>25mm, 23 gauge</td>
<td></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Powder + Diluent</td>
<td>Ready-to-use</td>
<td>Powder + Diluent</td>
<td>Vial with oral dropper</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>White, cloudy liquid with sediment that suspends when shaken (see shake test)</td>
<td>White, cloudy liquid with sediment that suspends when shaken (see shake test)</td>
<td>Clear, slightly yellow liquid</td>
<td>Clear, pink or orange liquid</td>
</tr>
</tbody>
</table>
CONTRAINDICATIONS TO VACCINATION

- There are few absolute contraindications to the EPI vaccines. All vaccines should be given on schedule, even when a child has a low-grade fever, a mild cold, diarrhoea or other mild illness.

- Infants born prematurely regardless of birth weight should be vaccinated at the same chronological age and according to the same schedule and precautions as full-term infants and children.

- Neither killed nor live vaccines affect the safety of breastfeeding for mothers or infants.

- Generally, live vaccines should not be given to individuals with immune deficiency diseases or to individuals who are immuno-suppressed due to malignant disease, treatment with immuno-suppressive agents, HIV/AIDS or irradiation. However, MMR and oral poliomyelitis vaccines can be given to persons with HIV/AIDS. However, inactivated polio vaccine is preferred for the client with HIV/AIDS.

- Children with symptomatic HIV infection should not be immunized with BCG and yellow fever vaccines.

- A severe adverse event following a dose of vaccine (anaphylaxis, encephalitis/encephalopathy, or non-febrile convulsions) is a true contraindication to immunization.

- Vaccines containing the whole-cell pertussis component should not be given to children with an evolving neurological disease, (for example, uncontrolled epilepsy or progressive encephalopathy).

- Persons with a history of anaphylactic reaction following egg ingestion should not receive vaccine prepared on hen’s egg tissues, (for example, yellow fever vaccine and influenza vaccine). Vaccine viruses propagated in chicken fibroblast cells, e.g. (Measles or MMR vaccines) can usually be given to such individuals.

- Pregnant women should not be given live vaccines.

SOME CONDITIONS WHICH ARE NOT CONTRAINDICATIONS TO IMMUNIZATION include:

- Minor illness such as upper respiratory tract infections or diarrhoea, with fever less than 38.5°C.

- Allergy, asthma, or other atopic manifestations, hay fever or snuffles.

- Prematurity, small-for-date infants

- Malnutrition
• Child being breastfed
• Family history of convulsions
• Treatment with antibiotics, low-dose corticosteroids, or locally-acting (example, topical or inhaled) steroids
• Dermatoses, eczema, or localized skin infection
• Chronic diseases of the heart, lung kidney or liver
• Stable neurological conditions such as cerebral palsy and Down’s Syndrome
• History of jaundice after birth

**SPECIAL RISK GROUPS FOR IMMUNIZATION**

There are some conditions that increase the risk from infectious diseases, and children with such conditions should be immunized as a matter of priority. Special care is required when administering live vaccines, e.g. OPV and BCG.

Inactivated Polio Vaccine (IPV) and MMR should be offered to household contacts of immuno-suppressed children and adults.

**Pre-term infants**

• Pre-term and small-for-dates infants are at higher risk from infectious diseases.
• Pre-term infants should be immunized at the usual chronological age provided they are well and have no medical contraindications.
• If an infant is still in hospital when immunizations are due, DPT, Hib and Hepatitis B vaccine should be given at the scheduled time.
• OPV should be given on discharge from hospital (at the appropriate age) to avoid circulation of vaccine virus in hospital because of the risk to relatively immuno-suppressed neonates.
• Pre-term infants who develop chronic respiratory disease can be given influenza vaccine at age 6 months. This is dependent on the advice of the paediatrician.
• Pre-term babies have adequate antibody responses and do not have a higher incidence of adverse events.

**Bleeding Disorders**

• A history of bleeding disorder is not an absolute contra-indication to the use of vaccines requiring intramuscular (IM) injection.
In general, for persons with thrombyocytopenia, haemophilia, or other bleeding disorders, consider the use of alternate vaccines that are recommended for administration by non-intramuscular route.

When an intramuscular (IM) vaccine is indicated for a person with a bleeding disorder, it can be administered intramuscularly if the physician who is knowledgeable about the person's risk thinks that this route is safe.

If the patient receives a blood product infusion or other similar therapy, IM vaccination should be administered shortly after such treatment.

A fine needle (23 gauge or smaller) should be used for the injection, with direct pressure applied (without rubbing) to the site for at least five minutes.

The patient or family should receive instructions regarding the risk of haematoma from the injection and what to do in case of an emergency.

**Hodgkins disease**

- Patients aged >24 months suffering from Hodgkins disease (including adults) should be immunized with pneumococcal vaccines
- Meningococcal vaccine should also be considered. The antibody response is best if immunization is undertaken 10-14 days prior to the initiation of any chemotherapy. If chemotherapy has already commenced, immunization can be carried out three months after chemotherapy ceases.

**Children and adults receiving chemotherapy or immunosuppressive therapy**

- Live virus vaccines are generally contra-indicated because of the risk of serious adverse effects.
- Inactivated vaccines may be used where appropriate but the immune response is likely to be sub-optimal and passive immunization with immunoglobulin (IG) is likely to be more appropriate.
- After cessation of immunosuppressive therapy, live virus vaccines are generally withheld for an interval of not less than 3 months.
- Patients with leukemia in remission, whose chemotherapy has been terminated for at least 3 months may receive both inactivated and some live virus vaccines.

**IPV should preferably be given instead of OPV.**

- Varicella vaccine should be considered in serologically negative children with acute lymphoblastic leukemia using guidelines indicated by the manufacturer.
HIV infection

- HIV-positive children, whether symptomatic or asymptomatic, should follow the routine immunization schedule with one exception - that for BCG. Because of the theoretical risk of OPV's neurotropic effect on immune compromised persons, IPV is preferred for all HIV-positive individuals and their household contacts. OPV has been given to HIV-positive children without adverse effect, but faecal excretion may be prolonged. If OPV is given, family or household contacts should take extra care with hand washing after changing the nappies of a vaccinated child or providing toilet care.

- The efficacy of any vaccine may be reduced in HIV-positive individuals. Additional doses may be required.

- Immunoglobulin (IG) should be considered in HIV-positive individuals exposed to measles, even if they have received measles immunization.

- Zoster immunoglobulin (ZIG) should be offered to HIV-positive individuals who have been infected with clinical chickenpox or who can be shown to be non-immune following exposure to chickenpox or shingles. ZIG should be given within 72 hours of exposure but may still have some protective effects if administered up to seven days later.

Refer to chart on page 95.

Asplenic children

- All asplenic individuals are at increased risk of fulminant bacteraemia, which is associated with a high mortality rate.

- The organisms, which most commonly cause fulminant sepsis in these individuals, are *Streptococcus pneumoniae* (most frequent), *Neisseria meningitidis*, *Haemophilus influenzae* type b, and *Escherichia coli*.

- The following additional vaccines are recommended:
  - Polyvalent (23) pneumococcal vaccine for all asplenic children aged 2 years or older
  - Quadrivalent meningococcal vaccine for all asplenic children aged 2 years or older

There is no known contraindication to the administration of these vaccines at the same time in separate syringes at different sites.
VACCINATION SCHEME FOR PATIENTS WITH SYMPTOMATIC AND ASYMPTOMATIC HIV

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>ASYMPTOMATIC</th>
<th>SYMPTOMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>DPT/Hib</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>OPV</td>
<td>No (IPV preferred)</td>
<td>No (IPV preferred)</td>
</tr>
<tr>
<td>MMR</td>
<td>Yes</td>
<td>Yes, depending on degree of immuno-suppression</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Yellow Fever</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chicken Pox</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Pneumococcus</td>
<td>Yes (&gt;2 years)</td>
<td>Yes (&gt;2 years)</td>
</tr>
<tr>
<td>Influenza</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Meningococcal</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Children with Sickle Cell Anemia
- Children with homozygous SS disease should be vaccinated as in the infant schedule.
- Pneumococcal vaccine should also be incorporated into the management schedule.

VACCINE SAFETY
Vaccine safety is of paramount importance to an immunization programme. All vaccines are extensively tested by their manufacturers to ensure safety and efficacy. However, it should be remembered that vaccines are drugs and therefore may be associated with adverse events.

EVENTS SUPPOSEDLY ATTRIBUTABLE TO VACCINES AND IMMUNIZATIONS (ESAVIs)
ESAVIs should be treated in the same manner as a Class 1 Notifiable Disease. All suspected cases should be recorded in the Adverse Events Register at the health centre as well as in the patient’s medical record.
Each suspected case should be investigated and reported to the Parish Medical Officer of Health and the Director, Family Health Services. The standard form for investigating ESAVIs should be used.

The investigation should be conducted systematically and include the following:

- a search for other possible similar cases in recipients of the same batch of vaccines
- an observation of vaccination technique at the health centre from which the report originated
- a review of the cold chain at the health centre from which the report originated (checking of refrigerator temperature charts, vaccine storage during the vaccination session)
- an observation of vaccination safety practices (pre-loading of syringes with the vaccine, open vial practices)

*Remember that the first priority should be to institute the medical management of the patient according to the guidelines detailed previously.*

---

**Diagram:**

- SUSPECTED ESAVI
  - INSTITUTE APPROPRIATE MEDICAL MANAGEMENT AS WARRANTED
    - RECORD IN ADVERSE EVENTS REGISTER
    - RECORD IN THE PATIENT’S HEALTH RECORD
    - REPORT TO THE PARISH MEDICAL OFFICER (HEALTH)
  - CONDUCT INVESTIGATION
    - SEARCH FOR OTHER POSSIBLE SIMILAR CASES
    - OBSERVATION OF VACCINATION TECHNIQUE
    - REVIEW COLD CHAIN MANAGEMENT
    - OBSERVE VACCINATION SAFETY PRACTICES
**PROGRAMMATIC ERRORS AND THEIR CONSEQUENCES**

<table>
<thead>
<tr>
<th>Operational error of the program</th>
<th>Predicted event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-sterile injection:</strong>&lt;br&gt;Reuse of a disposable syringe or needle.&lt;br&gt;Use of syringes that do not ensure adequate sterility.&lt;br&gt;Use of contaminated vaccines or diluents.&lt;br&gt;Use of freeze-dried vaccines for a period longer than indicated.</td>
<td>Infection such as abscess localized on the injection area, sepsis, toxic shock syndrome or death. Blood-borne infections, such as hepatitis or HIV.</td>
</tr>
<tr>
<td><strong>Reconstitution error:</strong>&lt;br&gt;Reconstitution with the wrong diluent.&lt;br&gt;Replacement of the vaccine or diluent with another drug or vaccine.</td>
<td>Local abscess by improper agitation.&lt;br&gt;Adverse effect of a drug; for example, insulin.&lt;br&gt;Death.&lt;br&gt;Ineffective vaccine.</td>
</tr>
<tr>
<td><strong>Injection in the wrong area:</strong>&lt;br&gt;BCG applied subcutaneously.&lt;br&gt;Very superficial administration of the DPT/DT/TT vaccine.&lt;br&gt;Injection in the buttock.</td>
<td>Local reaction or abscess.&lt;br&gt;Local reaction or abscess.&lt;br&gt;Potential damage to the sciatic nerve in breastfed babies.</td>
</tr>
<tr>
<td><strong>Incorrect transport/storage of vaccines.</strong></td>
<td>Local reaction by frozen vaccine.&lt;br&gt;Ineffective vaccine.</td>
</tr>
<tr>
<td><strong>Take no notice of contraindications.</strong></td>
<td>Severe preventable reaction.</td>
</tr>
</tbody>
</table>
MINOR ADVERSE EVENTS DUE TO VACCINATION

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>LOCAL REACTION (PAIN, SWELLING, REDNESS)</th>
<th>FEVER</th>
<th>IRRITABILITY, MALAISE AND NON-SPECIFIC SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>5-15%</td>
<td>2-10%</td>
<td>-</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Up to 30% in adults</td>
<td>1-6%</td>
<td>Up to 20%</td>
</tr>
<tr>
<td></td>
<td>Up to 9% in children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles/MMR</td>
<td>Up to 10%</td>
<td>up to 5%</td>
<td>up to 5%</td>
</tr>
<tr>
<td>Oral poliomyelitis (OPV)</td>
<td>None</td>
<td>less than 1%</td>
<td>less than 1% (includes diarrhea, headache, muscle pains)</td>
</tr>
<tr>
<td>TT/DT</td>
<td>Up to 10%</td>
<td>up to 10%</td>
<td>up to 25%</td>
</tr>
<tr>
<td></td>
<td>For Boosters: 50-85%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPT</td>
<td>Up to 50%</td>
<td>Up to 50%</td>
<td>up to 60%</td>
</tr>
<tr>
<td>BCG</td>
<td>90-95%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
SEVERE AND LESS FREQUENT ADVERSE EVENTS

Serious reactions are much rarer and may require treatment as outlined below. They produce few long-term problems. Anaphylaxis, though it can be fatal, produces no long-term complications if treated in time. The frequency and timing of the uncommon and severe adverse events associated with vaccination are detailed below.

SEVERE ADVERSE EVENTS ATTRIBUTED TO VACCINATION OR IMMUNIZATION, ONSET INTERVAL AND RATES

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>EVENT</th>
<th>ONSET INTERVAL</th>
<th>Rates per 1,000,000 doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>Suppurative lymphadenitis</td>
<td>2-6 months</td>
<td>100-1000</td>
</tr>
<tr>
<td></td>
<td>BCG osteitis</td>
<td>1-12 months</td>
<td>1-700</td>
</tr>
<tr>
<td></td>
<td>Disseminated BCG</td>
<td>1-12 months</td>
<td>2</td>
</tr>
<tr>
<td>Hib</td>
<td>Nil known</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Anaphylaxis</td>
<td>0-1 hour</td>
<td>1-2</td>
</tr>
<tr>
<td></td>
<td>Guillan-Barré syndrome (vaccine obtained from plasma)*</td>
<td>0-6 weeks</td>
<td>5</td>
</tr>
<tr>
<td>MMR</td>
<td>Febrile seizures</td>
<td>5-12 days</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>Thrombocytopenia (low platelet count)</td>
<td>15-35 days</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Anaphylaxis</td>
<td>0-1 hour</td>
<td>1-50</td>
</tr>
<tr>
<td></td>
<td>Timedependent events</td>
<td>2-1000 days</td>
<td>1-20</td>
</tr>
<tr>
<td>Oral polio (OPV)</td>
<td>Vaccine-associated paralytic poliomyelitis (VAPP)</td>
<td>4-30 days</td>
<td>Less than 1</td>
</tr>
<tr>
<td>TT/DT</td>
<td>Brachial neuritis</td>
<td>2-28 days</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>Anaphylaxis</td>
<td>0-1 hour</td>
<td>1-6</td>
</tr>
<tr>
<td></td>
<td>Sterile abscess</td>
<td>1-6 weeks</td>
<td>6-10</td>
</tr>
<tr>
<td>DPT</td>
<td>Persistent screaming lasting for more than 3 hours.</td>
<td>0-24 hours days</td>
<td>1,000-60,000</td>
</tr>
<tr>
<td></td>
<td>Seizures</td>
<td>0-24 hours days</td>
<td>570</td>
</tr>
<tr>
<td></td>
<td>Hypotonic hypotensive episode (HHE)</td>
<td>0-24 hours days</td>
<td>570</td>
</tr>
<tr>
<td></td>
<td>Anaphylaxis</td>
<td>0-1 hour</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Encephalopathy</td>
<td>0-3 days</td>
<td>0-1</td>
</tr>
<tr>
<td>Yellow fever</td>
<td>Post vaccination encephalitis</td>
<td>7-21 days</td>
<td>500-4,000 in infants under 6 months</td>
</tr>
<tr>
<td></td>
<td>Allergic reaction/anaphylaxis</td>
<td>0-1 hour</td>
<td>5-20</td>
</tr>
</tbody>
</table>
Faced with a suspected case of an adverse event, the following steps should always be considered:

- Treatment of the patient.
- Subsequent conduct: indicate or contraindicate subsequent doses of the vaccine.
- Investigation and notification (if necessary) and monitoring.
All vaccine-related adverse events, including the minor reactions above, must be recorded in the Adverse Events Register and reported to the MO(H) using the Adverse Events Reporting Form. Large increases in certain local reactions may be associated with errors in technique or a given lot of vaccine.
# MANAGEMENT OF SERIOUS VACCINE-RELATED ADVERSE EVENTS

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>CLINICAL FEATURES</th>
<th>MANAGEMENT</th>
<th>CONTRA-INDICATIONS FOR FURTHER DOSES</th>
<th>REMARKS</th>
</tr>
</thead>
</table>
| **BCG Lymphadenitis** | **Case definition:** At least 1 lymph node >1.5 cm in size OR a draining sinus over a lymph node  
- Usually occurs in the armpit within 2-6 months of BCG vaccination  
- Occurs on the same side of the body as the vaccination | - Heals spontaneously over months  
- Refer to pediatrician for observation and management  
- Fistula requires surgical opinion  
- Systemic treatment is ineffective | None |                                                                  |
| **Persistent Screaming** | Continuous inconsolable crying may last from >3, and sometimes up to 48 hours, post-vaccination (usually with DPT) and is accompanied by screaming. It is thought to be associated with pain at the injection site. It stops spontaneously. | - Observe and verify the intensity of the local reaction  
- If there is an intense local reaction give Paracetamol  
- The child should be taken to a hospital for evaluation and to rule out other causes of the crying | Inconsolable crying which lasts >3 hours after DPT vaccination is a contra-indication to further doses. DT should be given in the future. | |
| **Mild Allergic reactions** | Skin changes (urticaria, macular, papular, maculo-papular exanthema) – may appear hours or days after vaccination. | Locally acting steroid creams  
Antihistamines  
Do fever and rash investigation | None | Frequently the result of antigen-antibody reactions with no serious pathological implications. May be due to other causes |

CONTINUED OVERLEAF
## MANAGEMENT OF SERIOUS VACCINE-RELATED ADVERSE EVENTS

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>CLINICAL FEATURES</th>
<th>MANAGEMENT</th>
</tr>
</thead>
</table>
| **Seizures**                       | Involuntary movements associated with an effect on consciousness.  
  May be generalized (convulsions/fits) or localized.  
  May be tonic and/or clonic.  
  Can occur up to 72 hours after application of DPT or 5 to 7 days after application of the measles vaccine.  
  Often accompanied by fever | Lie the patient on his/her side  
  - DO NOT place anything in his/her mouth  
  Physicians can give Diazepam. Phenobarbital can also be used as an alternative first-line drug or as adjunctive treatment  
  Suction and oxygen as necessary  
  Antipyretics  
  Observe in hospital x 24 hours | None for MMR vaccine.  
  Yes for DPT vaccine - give DT instead | Prognosis is good and no short or long-term complications have been shown.  
  Usually results from fevers; risk higher in children >4 months. |

| **Shock type syndrome** (hypotonic hypotensive episode: HHE) | Sudden loss of color, loss of muscular tone, loss of response to stimuli, occurring in the first 48 hours (usually less than 12 hours) after vaccination.  
  Temporary and disappears spontaneously without sequelae.  
  May be accompanied by respiratory depression, cyanosis, prolonged sleep or loss of consciousness. | Keep under close observation until the signs and symptoms have disappeared completely.  
  Take appropriate measures when hypotension, cyanosis or respiratory depression are present.  
  **Refer to Paediatrician/ hospital for further management** | As advised, following paediatric assessment | Sometimes confused with anaphylaxis. Urticaria or angioedema, particularly in the larynx, indicates anaphylaxis.  
  Prognosis is good; generally temporary and self-limiting. No neurological sequelae in the short or long term. |

*CONTINUED OVERLEAF*
MANAGEMENT OF SERIOUS VACCINE-RELATED ADVERSE EVENTS

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>CLINICAL FEATURES</th>
<th>MANAGEMENT</th>
<th>CONTRA-INDICATIONS FOR FURTHER DOSES</th>
<th>REMARKS</th>
</tr>
</thead>
</table>
| **Encephalopathy** | Convulsive crisis  
- Severe alteration of consciousness lasting a day or longer.  
- Behavioural disorder lasting a day or more.  
May occur in the seven days following vaccination | As for seizures - in hospital | Yes | If resulting from DPT, give DT instead |
| **Encephalitis** | Characterized by the signs and symptoms described for encephalopathy; caused by cerebral inflammation; pleocytosis of the CSF may be observed.  
Generally occurs within the first 48 hours or up to 7 days after a DPT vaccine (encephalopathy), and 7 to 12 days after a measles/MMR or yellow fever vaccination (encephalitis). | As for seizures - in hospital | Yes for MMR | Most cases following Hib Vaccine clear up. |

CONTINUED OVERLEAF
MANAGEMENT OF SERIOUS VACCINE-RELATED ADVERSE EVENTS

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>CLINICAL FEATURES</th>
<th>MANAGEMENT</th>
<th>CONTRA-INDICATIONS FOR FURTHER DOSES</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrombocytopenia purpura</td>
<td>Hemorrhagic-type skin lesions (petechia and ecchymosis) caused by a reduction in the number of platelets; blood may also be found in mucous membranes and internal organs. May occur in the first two months after vaccination; frequency varies from one case in 30,000 to 40,000 vaccinees with the measles vaccine and is infrequent with the Hib vaccine.</td>
<td>Specialist care in hospital</td>
<td>Yes for MMR</td>
<td>Most cases following Hib Vaccine clear up.</td>
</tr>
</tbody>
</table>

MANAGEMENT OF ANAPHYLAXIS

Anaphylaxis

Anaphylactic reactions are very rare, unexpected, and can be fatal. All health workers must therefore be able to distinguish anaphylaxis from convulsion and fainting. Fainting while relatively common after immunization of adults and adolescents, is very rare in young children in whom sudden loss of consciousness should be presumed to be an anaphylactic reaction.

There is no place for conservative management of anaphylaxis. Early administration of adrenaline is essential.

Emergency Kits

Each vaccinator should have adrenaline available as adrenaline 1:1,000. Hydrocortisone and an injectable antihistamine for intravenous administration should be included in the emergency kit.
Events happen without warning. Appropriate emergency equipment must be immediately at hand whenever immunizations are given. All health workers must be familiar with the practical steps necessary to save a life following an anaphylactic reaction.

The mainstay of the treatment of anaphylactic reactions is adrenaline; it should be used early at the first suspicion of anaphylaxis. It is safe and effective.

**Symptoms and Signs of Anaphylaxis**

Anaphylaxis is a severe adverse event of rapid onset usually with circulatory collapse. The signs and symptoms are:

<table>
<thead>
<tr>
<th>Early</th>
<th>Progressive</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pallor, limpness</td>
<td>Erythematos or urticarial rash</td>
<td>Bronchospasm (wheezing)</td>
</tr>
<tr>
<td>Sensation of warmth, itching</td>
<td>Oedema of face, neck, soft tissues</td>
<td>Laryngeal oedema (hoarseness, dyspnœa, stridor, aphonía, drooling), hypotension (shock)</td>
</tr>
<tr>
<td>Feelings of anxiety or panic</td>
<td></td>
<td>Limpness and pallor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Arrhythmias (tachycardia, bradycardia)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cardiac arrest</td>
</tr>
</tbody>
</table>

Circulatory failure with alterations in consciousness, arterial hypotension, peripheral pulse weak or absent, extremities cold as a result of reduced peripheral circulation, face red and hyperpnea with or without bronchospasm or laryngospasm leading to difficulty in breathing; occurring immediately after immunization.

These are reactions that occur less than 2 hours after application of the vaccine; generally in the first half hour. Their association with vaccines is extremely rare.

Anaphylactic shock is characterized by:

- Changes in muscle tone
- Partial or complete paralysis
- Lack of color
- Cyanosis
- Diminished or zero response to stimuli
• reduction or loss of consciousness
• cardiovascular changes with hypotension or shock
• changes in respiration and
• sometimes, heart failure.
The manifestations may be:
• Dermatological (pruritus, angioedema, generalized urticaria and/or erythema);
• Cardio-circulatory (hypotension, arrhythmia, shock, etc);
  ◊ Respiratory (edema of the larynx, stridor, breathing difficulties, cough, dyspnea, whistling).
  ◊ Neurological (syncope, convulsion, changes in consciousness, etc.)

Treatment
All vaccination units must have resuscitation equipment permanently available. Medical and nursing personnel must be trained to recognize and treat anaphylactic shock - rapid treatment is vital.

• Keep airways clear.
• Adrenaline 1:1000, dosage - 0.01 mg/kg solution subcutaneously.
• Hydrocortisone 10 mg/kg IV as initial dose, followed by similar doses every 6 hours until recovery from the shock.
• Oxygen through mask, Ambu-bag or intubation.
• Transfer to hospital once stabilized

Is there Contraindication for subsequent doses of Vaccine?
Yes, for following doses of the vaccine suspected to have caused the anaphylaxis.

VACCINE-ASSOCIATED PARALYTIC POLIOMYELITIS
The risk of VAPP is higher for the first dose (1 in 1,400,000–3,400,000 doses) than for subsequent doses and contacts, 1 in 5,900,000 and 1 in 6,700,000 doses respectively.

Paralytic poliomyelitis associated with the OPV vaccine is characterized by the appearance of acute flaccid paralysis between 4 and 30 days after receiving the vaccine or between 4 and 75 days after contact with a vaccinee, and residual paralysis compatible with poliomyelitis 60 days after the onset of the paralysis.

Differential diagnosis is with the Guillan-Barré syndrome (GBS): Acute symmetrical flaccid paralysis without fever but with loss of feeling. Differential diagnosis is
established with cerebrospinal fluid (CSF) which shows the dissociation between cell count and protein content. GBS syndrome appearing within 30 days after vaccination should be reported.

Vaccine-associated paralytic poliomyelitis (VAPP) is very rare after vaccination or contact. It is characterized by acute febrile symptoms with flaccid paralysis of variable degrees, generally asymmetric, and tending to affect the lower limbs but it may also affect the respiratory muscles.

There is no change in sensation but spontaneous pains can occur. The acute symptoms disappear after a few days, motor deficit improves and atrophy sets in, with hypotonia and a reduction or disappearance of reflexes.

There are two situations in which cases of VAPP can occur:

- Poliomyelitis associated with the vaccine: acute flaccid paralysis commencing between 4 to 40 days after receiving OPV, giving a neurological sequel compatible with poliomyelitis 60 days after the commencement of motor deficit.

- Poliomyelitis associated with contact with vaccinees: acute flaccid paralysis arising after contact with a child who has received OPV. Paralysis occurs 4 to 85 days after being in contact with the vaccinee and gives a neurological sequel compatible with poliomyelitis 60 days after the commencement of motor deficit.

Management

a) Treatment

All suspected cases should be referred to hospital for management by the specialist. Treatment is mainly symptomatic and supportive, with the aim of reducing sequelae.

b) Notification and Investigation

Notify and investigate all cases. The isolation of polio vaccine virus in faeces is necessary for the case to be considered as associated with the vaccine. Two stool samples must therefore be obtained as early as possible, in the first 15 days after onset of the paralysis with a minimum interval of 24 hours, to cultivate and isolate the virus.

c) Contraindication for subsequent doses

Other OPV doses are contraindicated.

DISSEMINATED BCG

A disseminated infection occurring within the first 12 months after vaccination with BCG and confirmed through isolation of the stock of Mycobacterium bovis of the BCG vaccine.
Generalized infection caused by the BCG vaccine has been reported and is sometimes fatal. Generalized or disseminated “BCG-itis” is a rare or unknown consequence of this vaccine and has been observed in children with serious immune deficiency (HIV, combined serious immune deficiency syndrome, chronic granulomatous illness, Di George’s Syndrome and others). The notified frequency is less than one case per million doses.

**Management**

**a) Treatment**
Cases should be referred for assessment by a pulmonologist. Anti-tuberculosis treatment according to the standards of the national program is usually given.

**b) Notification and Investigation**
All suspected cases should be notified and investigated like a Class 1 disease.

**c) Contraindications for subsequent doses**
Successive doses are contraindicated. Evaluate the use of other attenuated vaccines.

**OSTEITIS, BCG OSTEOMYELITIS**
Infection of bones with *Mycobacterium bovis* in the BCG vaccine.

**Management**

**a) Treatment**
Anti-tuberculosis treatment according to the standards of the national program.

**b) Notification and investigation**
Notify and investigate the case.

**c) Contraindications for subsequent doses**
Subsequent doses are contraindicated.

**TOXIC SHOCK**
Sudden appearance of fever, vomiting and watery stool a few hours after vaccination, often leading to death within 24 to 48 hours

**SEPTICAEMIA**
Acute generalized illness caused by bacterial infection, confirmed by positive blood cultures.
Management of Toxic Shock & Septicaemis

a) Treatment
These are emergencies and the patient must be first stabilized then taken to hospital for adequate treatment (intravenous fluids, antibiotics, oxygen therapy, and other intensive care measures).

b) Notification and investigation
Notify and investigate the case immediately.

c) Contraindications for subsequent doses
The managing physician should determine if other doses of the vaccine can be given.

PERIPHERAL NEURITIS (BRACHIAL OR SCIATIC)
This is an inflammation of the peripheral nerve at the site of the vaccination. It presents with pain in the affected area and limb (shoulder, arm, buttock or thigh) followed by weakness and wasting of the muscles; loss of sensation is not usually common. It occurs 2 to 28 days after vaccination and may be the manifestation of an infiltration by immune complexes or direct damage to a nerve when applying the vaccination.

Management

a) Treatment
Treatment is symptomatic; give analgesics and refer the patient for evaluation by a specialist.

b) Notification and investigation
Notify and investigate the case immediately.

c) Contraindications for subsequent doses
None

SURVEILLANCE AND REPORTING FOR THE IMMUNIZATION PROGRAMME
The following is the list of vaccine-preventable diseases which are Class 1 Notifiable Diseases:

- Measles
- Rubella/Congenital Rubella Syndrome (CRS)
- Poliomyelitis/ Acute Flaccid Paralysis (AFP)
- Diphtheria
- Tetanus / Neonatal Tetanus
- Pertussis
- Hepatitis B
- Haemophilus influenzae type b meningitis
- Meningococcal meningitis
- Tuberculosis
- Yellow Fever.

Any suspected case of the above diseases should be notified on suspicion, within 24 hours using a Class 1 Notification Form. These should be forwarded to the Parish Health Department and / or the National Surveillance Unit, Ministry of Health.

Investigation of these cases should be initiated within 24 hours using the standard investigation forms, copies of which are to be sent to the National Surveillance Unit.

For Measles and Rubella, the First Contact strategy should be used for the investigation. This means that the investigation form for Fever and Rash must be completed for all suspected cases, whilst they are being seen in the health facility and the blood sample must be collected at the same time.

For Acute Flaccid Paralysis or suspected cases of Poliomyelitis, the investigation and collection of the stool sample must be completed within 48 hours of the patient being seen. (For the details, please refer to the Surveillance Manual).

**E.P.I. DISEASES SLATED FOR ERADICATION OR ELIMINATION**

**Poliomyelitis:** Internationally, poliomyelitis is the next disease slated for eradication. The Region of the Americas has been certified polio-free since 1994. The active surveillance for AFP must be conducted vigilantly and cases should be reported at the rate of 1 case per 100,000 population under 15 years.

**Measles:** The Region of the Americas has slated Measles for elimination. However, the English-speaking Caribbean has eliminated Measles since 1991. All countries are currently implementing the PAHO Measles Elimination Strategies - catch up, keep up, follow up campaigns and surveillance for fever and rash illnesses.

**Rubella:** The English-speaking Caribbean countries have slated rubella for elimination. All CARICOM Member Countries are currently implementing the PAHO Rubella Elimination Strategies of catch up campaigns and surveillance for fever and rash illnesses and congenital rubella syndrome.
STANDARD VACCINATION PROCEDURES

The following vaccination procedure is recommended:

1. The resuscitation equipment, drugs and protocol necessary for the management of anaphylaxis must be available and checked prior to each vaccination session.

2. The vaccine refrigerator, and other ‘cold chain’ components, must be maintained and monitored according to current recommendations.

3. Appropriate information about the risks and benefits of vaccination, and the risks of vaccine-preventable diseases, must be provided to, and discussed with, the person to be vaccinated, or that person’s parent or guardian.

4. A pre-vaccination assessment, to determine the vaccinee’s medical fitness for vaccination, must be undertaken. Any concern about the person’s eligibility for vaccination must be discussed with a Medical Officer (Health).

5. The schedule, dose, route and technique of administration of the vaccines must be in accordance with the guidelines of the Ministry of Health.

6. Administer the vaccine(s). Note the vaccine given, manufacturer, and batch/lot number as well as the site of administration of the vaccine in child’s health record and on the vaccination card. Sign the card.

7. Also check the vaccination status of other family members and offer ‘catch-up’ vaccination where appropriate.

8. Needles, syringes, and vaccine vials must be disposed of in biohazard containers kept out of reach of patients. Final disposal of these should be by incineration.

9. The parent or guardian of a child who has just been vaccinated must be advised on the management of the common adverse events that may occur after vaccination. Ask the patient to wait for at least 30 minutes after vaccination to ensure appropriate monitoring.

10. Prior to departure, the person or the person’s parent or guardian should be informed of additional doses needed, if any, and given an appointment date for the next scheduled vaccination.

11. The details of the vaccination must be documented (i) on a record to be retained by the person, or the parent or guardian of the person; (ii) in the client’s health record and (iii) in the Immunization Tracking Register.

12. All tallying of vaccine doses given must be collated at the end of each vaccination session.
Special points for consideration

- Persons administering vaccines should observe standard occupational health and safety guidelines in order to minimise the risk of needlestick injury.
- Vaccines must not be mixed/combined in one syringe.
- A new, sterile, disposable syringe and needle should be used for each injection.
- If multi-dose vials are used, a needle should not be kept in the rubber bung of the vial.
- All persons injecting vaccines should be familiar with the Infection Control Guidelines.

OCCUPATIONAL SAFETY AND POST-EXPOSURE PROPHYLAXIS

- Take care to prevent injuries when:
  - using needles to give immunizations
  - handling needles after giving immunizations
  - disposing of used needles
- Health workers with recent grazes or skin defects should cover them with an impermeable dressing prior to patient contact.
- Do not recap used needles, do not remove used needles from syringes.
- Place used syringes and needles in puncture-proof containers for disposal. Keep a container as close as possible to the place where you give injections.
- If accidental exposure occurs, immediately and thoroughly wash hands and other skin surfaces that have been contaminated with blood or other body fluids.
- Wipe blood splashes on work surfaces with 0.5% hypochlorite (ordinary household bleach diluted 1 to 9 parts water)
- Contaminated linen should be adequately treated in keeping with the infection control guidelines.

MANAGEMENT OF NEEDLE STICK INJURIES

Refer to the Ministry of Health’s Guidelines for Occupational Exposure to Blood and Body Fluids for the details of the procedure to be followed in the management of needle stick injuries.
Special attention should be placed on the following:

- Bleeding and washing the area thoroughly
- Baseline HIV, Hepatitis B and C serology
- Hepatitis B immune globulin therapy
- Counselling of health worker
- Provision of anti-retroviral therapy (post-exposure prophylaxis)
- Notification to the Parish Health Department and the Surveillance Unit using the standard form
- Client monitoring and follow-up blood tests for HIV.

**PROCEDURES FOR DISPOSING OF INJECTION EQUIPMENT**

- Place syringes and needles in a disposal box
- When the box is two-thirds full, dispose of it by incineration
- Bury the remaining debris in a safe location.

**HEALTH EDUCATION**

Health education is a process which enables individuals, families and communities to take responsibility for their own ‘health behaviour’ through change in knowledge, attitudes and practices. It is recognized to be one of the most important strategies of well-established immunization programmes.

There are **five primary** messages that should be highlighted in the immunization programme:

1. The importance of timely completion of the vaccinations in the schedule.
2. Immunization protects against several dangerous diseases.
3. Immunization is a requirement under the Laws of Jamaica.
4. Immunizations are generally safe.
5. Women of child-bearing age (15 - 44 years) should be fully immunized against Tetanus and Rubella.

**The Three Essential Take Home Messages** that parents or recipients of vaccines must receive before leaving the health facility are:

1. The date, time and place of the next immunization
2. The number of visits/doses of vaccines needed to complete the schedule
3. Possible side-effects from vaccination and how to manage them.
MONITORING AND EVALUATION OF THE EPI PROGRAMME

On-going monitoring and evaluation of the Immunization Programme is a critical component to aid the success of the programme. All categories of staff have an active role to play in monitoring the programme. The following are the recommendations for effective monitoring:

- Supervisory visits to all health facilities at least once per year. The visit should include assessment of 1) adherence to safe injection practices 2) cold chain maintenance 3) data management.

- Twice daily monitoring of the refrigerator temperature at each health centre using the standard charts.

- Collation of the vaccine doses given, immediately at the end of each vaccination session.

- On-going update of the Immunization Tracking Register.

- Weekly monitoring of the Tracking Register to identify and locate vaccination drop-outs.

- Monthly collation and analysis of vaccination coverage.

- Monthly plotting of the cumulative vaccine coverage by antigen and age group at all health centres using the standard graphs.

- Monthly analysis of coverage gaps and identification and implementation of strategies to improve the coverage.

- A display map or listing of communities within the catchment area and highlighting the low coverage or high-risk communities

- Monthly monitoring of the supplies needed for the Immunization Programme.

- Use of designated tools/checklists for supervision and cold chain monitoring.

The Immunization programme is one of the flag-ship programmes of Primary Health Care and the success of the programme has great implications for the health status of the country and national development.

The goal of ensuring the health and well-being of children through the prevention of diseases is the responsibility of all health care workers and the family.
Guideline: EXPANDED PROGRAMME ON IMMUNIZATION (E.P.I.)

<table>
<thead>
<tr>
<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
<th>Index:</th>
</tr>
</thead>
</table>

Approved by: **Director, Family Health Services**
4. FAMILY PLANNING
Maximizing people’s access to quality family planning services is perhaps the most important element in improving the reproductive health of men and women. "Good reproductive health care implies that people have a satisfying and safe sex life, that they have the capability to reproduce and the freedom to decide if, when and how often to do so" (International Conference on Population and Development 1994). Implicit in this are the rights of men and women to be informed and to have access to a range of safe, effective, affordable and acceptable contraceptive methods. Informed clients are better able to make sound decisions regarding their health.

POLICY
All individuals should have access to reproductive health services, which are gender-sensitive of high quality and cost-effective. Special emphasis is to be placed on adolescents and men. No one should be denied services and minors (<16 years), should be counselled and offered non-surgical methods, such as low-dose contraceptive pills or condoms. All providers should receive initial, and continuing education to update skills and improve attitudes in Family Planning issues in order to deliver quality services to the population.

GOAL
To reduce total fertility rate to 2.0 and decrease the incidence of unplanned pregnancy through the provision of technical information, education, and counselling to couples in order to facilitate informed and voluntary decisions about fertility.

OBJECTIVES
- To expand the method mix especially for persons who want to limit (limiters) or space their families (spacers).
- To reduce the teen-age fertility rate
- To achieve a contraceptive prevalence rate of 70%
- To achieve 25% dual method use
STRATEGIES

- Target the parishes with the highest fertility rates with special emphasis on age groups with the lowest contraceptive prevalence and other high risk groups.
- Expand access to family planning services by establishing flexible clinic schedules which include evenings and weekend hours.
- Improve contraceptive method mix and efficacy of method use
- Promote long-term methods (Postpartum IUCD, Depo Provera, Norplant and male and female sterilization).
- Promote dual method for contraception and control of STI/HIV/AIDS.
- Promote and provide emergency contraception for victims of rape and incest as well as for use after unprotected intercourse if pregnancy is not planned or desired.
- Provide counselling and services for women with hereditary (e.g. Sickle Cell Disease) and serious chronic disorders (e.g. rheumatic heart disease)
- Promotion of abstinence particularly for adolescents who are not sexually active, while promoting delayed pregnancy for those already sexually involved.
- Provide voluntary counselling and testing (VCT), screening for STI/HIV/AIDS and treatment facilities for STIs (not including HIV/AIDS) within the family planning service.
- Expand reproductive health information and services to adolescents.
- Expand reproductive health information and services to the male population.
- Provide family planning information and services to post-abortion patients (including the males involved).
- Promote facilities that ensure privacy and confidentiality.
- Ensure user-friendly services with reduced waiting time and satisfied clients.
- Strengthen the capacity and competencies of all health workers through basic training and re-training and continuing education programmes.

COMPONENTS OF FAMILY PLANNING SERVICES

The components of family planning services include:

Counselling: Service providers should be trained to provide counselling about all available methods of family planning. In addition, counseling should be provided for special groups (for example, persons with medical conditions and STI/HIV/AIDS).
Provision of Contraceptives: Contraceptives should be provided to clients in accordance with approved method-specific guidelines and policies, and by service providers who have been trained in the provision of that method. Abstinence, safer sex and/or dual method use as well as longer term method use and permanent method should be encouraged.

Follow-up and Referral System: All clients who choose a family planning method should be informed of the appropriate follow-up requirements and encouraged to return to the service provider should they have any concerns. Service providers should follow the established referral system when making client referrals.

Record Keeping: All family planning service providers should maintain adequate records to identify each client, the type of contraception provided and any special circumstances associated with its provision.

Supervision: Supervision is an essential component of program evaluation. It helps ensure that the needs of clients are being met and service delivery guidelines are being followed.

Logistics: Maintenance of an effective logistic and supply system using the “Top-up” method which determines supplies disbursed/used and that needed, helps health centers to prevent being under-stocked or over-stocked. In order to maintain quality services, health center staff should adhere to procedure for proper storage and handling of contraceptive commodities as well as other supplies.

FAMILY PLANNING AND THE ADOLESCENT

The Access to Contraceptives Guidelines enable health care providers to counsel and prescribe medical contraceptives for sexually active girls under 16 years who cannot be persuaded to become abstinent or to involve an adult caregiver, and who are deemed mature enough to understand the implications of sexual activity. Surgical contraception, such as Norplant or sterilization, would still require the consent of a parent or guardian. The guidelines also recommend that nurses, doctors, and other health providers who are uncomfortable with making such decisions on moral or legal grounds, are to refer these cases to other health care workers who have no such difficulty.

The Insertion of the IUCD in the Post-Partum Adolescent

The postpartum insertion of IUCDs has a number of advantages, including ease of insertion, availability of skilled personnel and appropriate facilities, and convenience for the woman. Practitioners have been concerned about the possibility of higher expulsion, infection and perforation rates. Postpartum women who choose to breastfeed their infants have an additional concern about the effect of the IUCD on breastfeeding and the effect of breastfeeding on the expulsion of the IUCD.
After birth, as the uterus returns to normal size (involution), uterine contractions expel retained placenta and blood clots and may have a similar effect on any foreign body introduced into the uterus. IUCDs inserted within 10 minutes (immediate) of placenta expulsion have a much lower expulsion risk than those inserted later in the postpartum period (>48 hours to <4 weeks), although the expulsion is still higher than for interval insertions (about 42 days or more after childbirth).

Because uterine contractions are stronger and more frequent in breastfeeding women, uterine involution after delivery is believed to be faster. This could possibly produce either higher expulsion rates (if IUCDs were pushed out) or lower expulsion rates (if IUCDs were held in). However, results from an Family Health International pooled dataset of 1,800 immediate postpartum insertions indicate that breastfeeding does not increase the risk of expulsion.

Clinical hospital staff will require special training in order to efficiently insert the IUCD in the postpartum adolescent.

A multicenter trial of more than 6,000 postpartum insertions of standard and modified Lippes Loop D’s and TCu 220C’s, conducted by Family Health International (FHI), produced the following conclusions:

**Immediate postpartum insertion.** The timing of postpartum IUCD insertion is important. FHI studies show that for best results devices should be inserted within 10 minutes of placenta expulsion rather than at any other time before discharge from the hospital.

**Fundal placement.** The way the IUCD is inserted is more important than the design of the device. Differences in IUCD expulsion rates between centers participating in the trials were generally greater than expulsion rates for different IUCDs; the expulsion rates at different study sites ranged from 6 to 37 per 100 women at six months. FHI data show that emphasis needs to be given to the fundal placement of the device. The provider should be able to feel the device through the abdominal and uterine walls at the time of insertion. Retraining is necessary for those individuals who report high expulsion rates.

**Type of IUCD.** The TCu 220C did as well as any other device tested with respect to expulsion rates. The cumulative expulsion rate was 11% at six months post-insertion. FHI modification of the TCu 220C by adding biodegradable sutures to the device did not reduce expulsions. The arms of the T device may normally embed in the endometrium and submucosal layer for a few millimeters, thus enhancing the retention of the device. It is expected that the TCu 380 will do equally well; it was not available at the time of these studies. Modification of the Lippes Loop D with sutures had a greater effect; 6-month expulsion rates were 21.5% for the Lippes’ Loop D and 15.7% for the postpartum modification.
CLIENT ASSESSMENT

Policy
All clients irrespective of age or gender who request family planning services must be registered and seen by a health provider.

Objective
The primary objectives of assessing clients prior to providing family planning services are to determine:

- That the client is not pregnant (See Jamaica Family Planning Service Delivery Guidelines)
- Whether any conditions requiring precaution exist for a particular method.
- Whether there are any special problems that require further assessment, treatment or follow-up.

In the case of unmarried adolescents, abstinence should be explored as an option.

Procedures
1. Greet the client by introducing yourself and welcoming her/him to the clinic.
2. Obtain basic demographic information – name, age etc.
3. Complete information as required on the client record.
4. Ask the client about her reproductive goal and possible need for protection against STIs.
5. Ask her if she wants to space or limit births.
6. Provide information about all contraceptive choices available and the risks and benefits of each.
7. Explain the difference between reversible and permanent contraception.
8. Explore any attitudes or cultural/religious beliefs that either favour or eliminate one or more methods.
9. Help the client to choose an appropriate method.
   - Once she chooses a method make sure there is no medical condition that would make her not eligible to use the method.
   - Provide information on:
     - How to use the method.
     - What to do if she experiences any side effects.
     - Warning signs for medical problems for which she must return to the clinic immediately.
10. Encourage attendance of partners to Family Planning Clinics.
FIRST VISIT
Ensure that the patient is comfortable and at ease. Provide as much privacy at facilities to allow for confidentiality. The facility should have a room with walls all the way to the ceiling and a door that can be closed.

<table>
<thead>
<tr>
<th>Registration</th>
<th>Name, age, other identification data.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical History</td>
<td>Past surgical operations on breast, or pelvic organs. Hypertension, Diabetes, Headaches - migraine Thrombo-embolic disorders (blood clots) Ischaemic heart disease Valvular heart disease with complications Varicose veins Jaundice or liver disease Sickle cell anaemia, Blood abnormalities Other vascular disorders Smoking Abnormal vaginal bleeding Cancers of the breast, uterus or cervix Current or recent STIs Post-abortion sepsis Breastfeeding for less than six weeks.</td>
</tr>
<tr>
<td>Family History</td>
<td>Breast Cancer Cancer of uterus or cervix Hypertension Diabetes</td>
</tr>
<tr>
<td>Reproductive History</td>
<td>Last menstrual period Length of menstrual period / abnormal vaginal bleeding Past treatment for infection in pelvis – when? Number of pregnancies Number of children alive When and what was the outcome of last pregnancy Previous contraceptives used Number of past partners and present one</td>
</tr>
<tr>
<td>Methods</td>
<td>Provide information on advantages and disadvantages of all available methods</td>
</tr>
<tr>
<td>Physical Examination</td>
<td>General examination Specific examination of breast, external genitalia, vagina and pelvis</td>
</tr>
</tbody>
</table>
**Laboratory Procedures**

- Papanicoloau Smear – as indicated
  - Routine pap smear every three years for women age 25-54 years.
  - All postpartum women - do pap smear if it is not done in the past three years.
  - For women under 25 years, if risk factors exist, do pap smear.
  - Repeat smears as indicated.

**Other Tests**

- As indicated

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**A GUIDE TO CONTRACEPTIVES**

**Who should not use Intra-Uterine Devices (IUD/IUCDs)?**

- Women who are pregnant (known or suspected)
- Women with unexplained abnormal vaginal bleeding
- Women with cervical, endometrial, or ovarian cancer
- Women with active genital tract infections (vagintis, cervicitis, PID)
- Women who are at risk of STIs including HIV/AIDS
- Women with pelvic tuberculosis
- Women with distorted uterine cavity
- Women with severe cervical stenosis
- Women with benign, malignant trophoblastic disease
- Women with history of septic abortion

**Who Should Not Use Combined Oral Contraceptives (COCs)?**

- Women who are pregnant, who are breastfeeding and less than 6-8 weeks postpartum
- Women with unexplained vaginal bleeding
- Women with active liver disease
- Women with a history of valvular or ischaemic heart disease, stroke or high blood pressure
- Women with breast cancer
- Women with a history or risk of blood clotting problems, diabetes >20 years or with vascular disease
- Women with migraines and focal neurologic symptoms
- Women over age 35 who smoke
- Women who cannot remember to take the pill every day
- Women on rifampicin, griseofulvin or anticonvulsants
- Women who are breastfeeding <6 months
- Women who are <21 days postpartum

**INTRA-UTERINE (IUD/IUCDs)**

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-Uterine Devices (IUDs)</td>
<td>Reduces the ability of sperm to fertilize an egg by preventing sperm and egg from meeting. The IUD makes it hard for sperm to move through the woman’s reproductive tract, and it also prevents egg from implanting in wall of uterus</td>
<td>◦ Effective immediately following insertion ◦ Immediate return to fertility after removal. ◦ Long-term method (5-10 years) ◦ No interference with sex ◦ No hormonal side effects ◦ Reversible ◦ No effect on breast feeding ◦ Can be inserted immediately after childbirth/abortion ◦ Can be used through menopause up to 1 year after LMP ◦ No interactions with any medicines ◦ Inexpensive ◦ No supplies needed by client</td>
<td>◦ Menstrual periods longer, heavier and with more cramps - just for 3 months ◦ Bleeding/spotting between period ◦ Not a good method for a woman at high risk of getting STIs. ◦ Medical procedure, including pelvic exam, needed to insert IUD ◦ Client cannot stop IUD use on her own ◦ May be spontaneously expelled.</td>
<td>Tcu-380A IUD Highly effective 0.5-1 pregnancies /100 women during first year of use</td>
</tr>
</tbody>
</table>
### COMBINED ORAL CONTRACEPTIVES (COCs)

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Combined Oral Contraceptives (COCs)</strong></td>
<td></td>
<td></td>
<td></td>
<td>Very effective when used correctly and consistently (0.1-8 pregnancies/100 women in first year of use).</td>
</tr>
<tr>
<td>Description:</td>
<td></td>
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<tr>
<td>Pills packets of 21 hormonal pills +/- 7 non-hormonal</td>
<td>Stops ovulation</td>
<td>◊ Effective immediately, if initiated within first 7 days of menstrual cycle</td>
<td>◊ Should be taken every day (user dependent)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thickens cervical mucus, preventing sperm penetration</td>
<td>◊ Reversible method</td>
<td>◊ New packet of pills must be at hand every 28 days</td>
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<tr>
<td></td>
<td>Changes endometrium, making implantation less likely</td>
<td>◊ Monthly periods are regular, lighter and fewer days of bleeding, milder and fewer cramps</td>
<td>◊ Side effects: irregular vaginal bleeding in first 3 months of use, missed periods, upset stomach, nausea, mild headaches, breast tenderness, slight weight gain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce sperm transport in upper genital tract</td>
<td>◊ Fertility usually returns immediately after stopping</td>
<td>◊ Effectiveness may be lowered when certain drugs for epilepsy (phenytoin and barbiturates) or TB (rifampin) are taken</td>
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<tr>
<td></td>
<td></td>
<td>◊ Safe for almost all women</td>
<td>◊ Not recommended as first choice method for breastfeeding women under six months post-partum; can reduce milk supply</td>
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<tr>
<td></td>
<td></td>
<td>◊ Can be used by women of any age</td>
<td>◊ In few women, may cause mood changes including depression, less interested in sex</td>
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<tr>
<td></td>
<td></td>
<td>◊ Can be started any time it is reasonably certain a woman is not pregnant</td>
<td>◊ Serious side effects (e.g. cause heart attack, stroke, blood clots in lung, brain, or deep veins of the legs, or liver tumors) - very rare</td>
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<td></td>
<td></td>
<td>◊ Protects against certain cancers, anaemia, and other conditions</td>
<td>◊ Some women may experience a delayed return to fertility</td>
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<tr>
<td></td>
<td></td>
<td>◊ Can be used for emergency contraception after unprotected sex.</td>
<td>◊ Do not protect against STIs</td>
<td></td>
</tr>
</tbody>
</table>

### Who Should Not Use Progestin-only Pills (POPs)?

- Women with current or past thrombo-embolic disorder
- Women with unexplained vaginal bleeding
Women with current or past history of breast cancer
Women with active viral hepatitis, severe cirrhosis or benign or malignant liver tumours
Women with schistosomiasis with severe fibrosis of the liver
Women taking the antibiotics rifampin (rifampicin) or griseofulvin
Women taking anticonvulsants for epilepsy
Women who are breastfeeding less than 6 weeks after childbirth.

Who Should Not Use Progestin-only Injectable Contraceptives (PICs)?

- Women with high blood pressure: Systolic ≥160 mmHg or diastolic ≥100 mmHg
- Women with diabetes, with vascular disease or diabetes for more than 20 years
- Women with multiple cardiovascular risk - current or past thromboembolic disorder including stroke
- Women with current or past ischaemic heart disease
- Women with unexplained vaginal bleeding
- Women who cannot tolerate any changes in their menstrual bleeding
- Women with current or past history of breast cancer
- Women with active viral hepatitis – severe cirrhosis of the liver
- Women with benign and malignant liver tumours
- Women with schistosomiasis and severe fibrosis of the liver
- Women who are breastfeeding less than 6 weeks after childbirth
# Progestin-Only Oral Contraceptives / Progestin-Only Pills (POPs)

<table>
<thead>
<tr>
<th>Method/Description</th>
<th>Mode of Action</th>
<th>Advantage</th>
<th>Disadvantage</th>
<th>Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progestin-only Oral Contraceptives Or Progestin-only Pills (POPs)</td>
<td>Thickens cervical mucus, making it difficult for sperm to penetrate</td>
<td>Effective when taken at the same time every day</td>
<td>Cause changes in menstrual bleeding pattern (irregular bleeding/spotting initially) in most women</td>
<td>Effective when taken at about the same time every day (0.5-10 pregnancies per 100 women during the first year of use).</td>
</tr>
<tr>
<td></td>
<td>Suppresses ovulation</td>
<td>Immediately effective (&lt;24 hours)</td>
<td>Some weight gain or loss may occur</td>
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<tr>
<td></td>
<td>Changes endometrium making implantation difficult</td>
<td>Pelvic examination not required prior to use but recommended as part of integrated reproductive health care</td>
<td>User-dependent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduces sperm transport in Fallopian tubes</td>
<td>Not coitally-dependent</td>
<td>Must be taken at the same time every day</td>
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<tr>
<td></td>
<td></td>
<td>Does not affect breastfeeding</td>
<td>Forgetfulness increases failure</td>
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<td></td>
<td></td>
<td>Immediate return of fertility when stopped</td>
<td>Resupply must be available</td>
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<tr>
<td></td>
<td></td>
<td>Few side effects</td>
<td>Effectiveness may be lowered when certain drugs for epilepsy or tuberculosis are taken</td>
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<td></td>
<td></td>
<td>Convenient and easy to use</td>
<td>Does not protect against STIs, including Hepatitis B and HIV/AIDS</td>
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<tr>
<td></td>
<td></td>
<td>No oestrogen side effects</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Client can stop use</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can be used for emergency contraception after unprotected sex</td>
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<tr>
<td></td>
<td></td>
<td>Decrease benign breast disease, decrease ectopic pregnancy, protect against endometrial and ovarian cancer, and pelvic inflammatory disease (PID)</td>
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</tr>
</tbody>
</table>
PROGESTIN-ONLY INJECTABLE CONTRACEPTIVES (PICs)

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progestin-only Injectable Contraceptives (PICs)</td>
<td>Thicken cervical mucus, preventing sperm penetration Changes endometrium, making implantation less likely Reduces sperm transport in upper genital tract Suppresses ovulation</td>
<td>◊ Rapidly effective ◊ Pelvic examination not required prior to use ◊ Does not interfere with intercourse ◊ Does not affect breastfeeding ◊ Few side effects ◊ No supplies needed by client ◊ Contains no oestrogen ◊ May decrease menstrual cramps and bleeding ◊ Decreases benign breast disease, ectopic pregnancy, and sickle cell crises ◊ Protects against some causes of PID</td>
<td>◊ Changes in menstrual bleeding pattern (irregular bleeding/spotting initially) in most women. ◊ User-dependent (must return for injection every 2 or 3 months) ◊ Weight gain (with DMPA) ◊ Delay of return of fertility (DMPA only) ◊ Resupply must be available ◊ Excessive vaginal bleeding in rare instances ◊ Does not protect against STIs including Hepatitis B and HIV/AIDS.</td>
<td>Highly effective (0.3–1 pregnancies per 100 women during the first year of use)</td>
</tr>
</tbody>
</table>

Who Should Not Use a Diaphragm?

- Women whose age, parity or health problems make pregnancy high risk
- Women with repeated urinary tract infections
- Women with physical disabilities or who don’t like to touch their genitals
- Women with uterine prolapse or with severe cystocele or rectocele
- Women with genital anomalies e.g. vaginal stenosis
- Couples allergic to latex, need a highly effective method or not willing to use method correctly
- Women with past toxic shock syndrome
### BARRIER METHODS

**Who Should Not Use Spermicides?**
- Women whose age, parity or health problems make pregnancy a high risk, whose partner will not cooperate (abstain) during certain times
- Women with physical disabilities or who find it unpleasant to touch the external genitalia
- Women with genital abnormalities

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
</table>
| **Barrier Methods** | Prevents sperm from gaining access to upper reproductive tract (uterus and fallopian tubes) and serves as a holder of spermicide | ◇ Effective immediately  
◇ Does not affect breastfeeding  
◇ Does not interfere with intercourse (may be inserted up to 6 hours before)  
◇ No method-related health risks  
◇ No systemic side effects  
◇ Some protection against STIs especially when used with spermicide  
◇ Contains menstrual flow when used during menses | ◇ Moderately effective  
◇ Effectiveness as contraceptive depends on willingness to follow instructions  
◇ User-dependent (requires continued motivation and use with each act of intercourse)  
◇ Pelvic examination by trained service provider required for initial fitting and postpartum refitting  
◇ Associated with urinary tract infections in some users  
◇ Must be left in place for at least 6 hours after intercourse  
◇ Supplies must be readily available before intercourse occurs  
◇ Resupply must be available (spermicide required with each use) | Moderately effective (6-18 pregnancies per 100 women during the first year when used with spermicide) |

**Description:**
- **Diaphragms:** A dome-shaped latex (rubber) cup which is inserted into the vagina before intercourse and covers the cervix

**Types:**
- Flat spring
- Coil spring
- Arching spring

Should be used with spermicides which are carried in:

- Aerosols (foam)
- Vaginal tablets, suppositories, dissolvable films
- Creams
## SPERMICIDES

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
</table>
| Spermicides | Causes the sperm cell membrane to break, which decreases the sperm movement (motility and mobility) and their ability to fertilize the egg | ◊ Effective immediately  
◊ Does not affect breastfeeding  
◊ Can be used as back-up to other methods  
◊ No method-related health risks  
◊ No systemic side effects  
◊ Easy to use  
◊ Increases lubrication during intercourse  
◊ No prescription or medical assessment necessary  
◊ Some protection against STIs including Hepatitis B and HIV/AIDS | ◊ Moderately effective  
◊ Effectiveness as contraceptive depends on willingness to follow instructions  
◊ User-dependent (requires continued motivation and use with each act of intercourse)  
◊ User must wait 10-15 minutes after application before intercourse  
◊ Each application effective for only 1-2 hours  
◊ Supplies must be readily available before intercourse occurs  
◊ Resupply must be available | Moderately effective (3-21 pregnancies per 100 women during the first year) |

Spermicides are chemicals that inactivate or kill sperm. They are carried in:
- Aerosols (foam)
- Vaginal tablets, suppositories, dissolvable films
- Creams

Moderately effective (3-21 pregnancies per 100 women during the first year)
**METHOD** | **MODE OF ACTION** | **ADVANTAGE** | **DISADVANTAGE** | **EFFICACY**
---|---|---|---|---
**Condoms** | Prevents sperm from gaining access to female reproductive tract | ◇ Effective immediately | ◇ Moderately effective. | Moderately effective (2-12 pregnancies per 100 women during the first year for male condom; 5-21 pregnancies for Reality female condom) | **Prevents microorganisms (STIs, including Hepatitis B and HIV/AIDS) from passing from one partner to another (latex and vinyl condoms only)** | ◇ Does not affect breastfeeding | ◇ Effectiveness as a contraceptive depends on willingness to follow instructions | **Types:** | ◇ Should be used in conjunction with other methods | ◇ User-dependent. | **Female Condom:** A soft, loose fitting polyurethane sheath with two flexible polyurethane rings which fit over the cervix and the vulva | ◇ No systematic side effects. | ◇ May reduce sensitivity of penis, making maintenance of erection more difficult | **Effective immediately** | ◇ No method-related health risks | ◇ Disposal of used condoms may be a problem | **Wide availability** | ◇ Inexpensive | ◇ Adequate storage must be available at the client’s home and point of use | **Latex (rubber)** | ◇ Promotes male involvement in family planning | ◇ Supplies must be readily available before intercourse begins | **Plastic (vinyl)** | ◇ Only family planning method that provides protection against STIs (latex rubber and vinyl condoms only)** | ◇ Resupply must be available | **Natural (animal products)** | ◇ May prolong erection and time to ejaculation | **Condoms**
Who Should Not Use Condoms for Pregnancy Protection?

- Couples who are allergic to the materials from which condoms are made.
- Couples in which pregnancy would pose a serious health risk to the woman
- Couples who need a highly effective or long-term method or a method not related to intercourse
- Couples not willing to use the method correctly

NATURAL FAMILY PLANNING (NFP)

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Family Planning (NFP)</td>
<td>Increased awareness of fertility which allows change in sexual behaviour during fertile days</td>
<td>◇ Can be used to avoid pregnancy ◇ No contraceptive method-related health risks ◇ No systemic side effects ◇ Inexpensive ◇ Promotes male involvement in family planning ◇ Improves knowledge of reproductive system by both men and women ◇ Possible closer relationship for couple through improved communication</td>
<td>◇ Moderately effective as a contraceptive ◇ Effectiveness depends on willingness to follow instructions ◇ Considerable training required to use the most effective types of NFP correctly ◇ Requires abstinence during fertile phase to avoid conception ◇ Requires daily record keeping ◇ Vaginal infections make cervical mucous difficult to interpret ◇ Thermometer needed for some methods ◇ Does not protect against STIs including Hepatitis B and HIV/AIDS</td>
<td>Moderately effective as a contraceptive. Rates vary for each method (1-20 pregnancies per 100 women during the first year of use)</td>
</tr>
</tbody>
</table>
Who Should Not Use Natural Family Planning (NFP)?

- Women whose age, parity or health problems make pregnancy a high risk, whose partner will not cooperate (abstain) during certain times
- Women without established menstrual cycles (breastfeeding, immediately post-abortion), with irregular cycles (calendar method only)
- Women who dislike touching their genitals

**FEMALE STERILIZATION**

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
</table>
| Female Sterilization | Works by blocking the fallopian tubes (tying and cutting, or with rings); sperm are prevented from reaching ova and causing fertilization. | ◊ Effective immediately  
◊ Permanent  
◊ Does not affect breast milk  
◊ Is not coitally dependent  
◊ Good for client if pregnancy would pose a serious health risk  
◊ Simple surgery, usually done under local anesthesia.  
◊ No long-term side effects  
◊ No change in sexual function (no effect on hormone production by ovaries)  
◊ Decreased risk of ovarian cancer | ◊ Non-reversible  
◊ Client may regret later  
◊ Small risk of complications (increased if general anesthesia is used)  
◊ Short-term discomfort/pain following procedure  
◊ Requires trained physician (gynecologist or surgeon required for laparoscopy)  
◊ Does not protect against STIs including Hepatitis B and HIV/AIDS | Highly effective (0.2-4 pregnancies per 100 women during the first year of use) |

**Tubal Occlusion**

A voluntary surgical procedure for permanently terminating a woman’s fertility

Approaches:

- Mini-laparatomy
- Laparoscopy

Who Should Not Use Tubal Occlusion?

- Women who are pregnant (known or suspected), who cannot withstand the surgery, who are uncertain of their desire for future fertility
- Women with unexplained vaginal bleeding (until evaluated), with acute pelvic or systemic infections (until resolved or controlled)
- Women for whom written consent is not available
- Women with cervical, endometrial or ovarian cancer awaiting treatment
- Women with pelvic tuberculosis or endometriosis
- Women with anaemia or severe liver disease
- Women with history of or at risk of thrombo-embolic disorders due to prolonged immobilization of legs.

**VASECTOMY**

<table>
<thead>
<tr>
<th>Method</th>
<th>Mode of Action</th>
<th>Advantage</th>
<th>Disadvantage</th>
<th>Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasectomy</td>
<td>Voluntary surgical procedure for blocking release of sperm</td>
<td>◊ Permanent</td>
<td>◊ Non-reversible</td>
<td>Highly effective (0.1–0.15 pregnancies per 100 women during the first year of use)</td>
</tr>
<tr>
<td></td>
<td><em>Types:</em> Standard method (one or two incisions) or the no-scalpel technique (preferred method)</td>
<td>◊ Does not interfere with intercourse</td>
<td>◊ May be regretted later</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blocks the vas deferens (ejaculatory duct) so sperm are not present in the ejaculate.</td>
<td>◊ Good for client if pregnancy would pose a serious health risk to the woman</td>
<td>◊ Delayed effectiveness (requires up to 3 months or 20 ejaculations. Requires condoms or other method for 3 months)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ Simple surgery, usually done under local anesthesia.</td>
<td>◊ Risks and side effects of minor surgery, especially if general anesthesia is used</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ No long-term side effects</td>
<td>◊ Short-term discomfort/pain following procedure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ No change in sexual function (no effect on hormone production by the testes)</td>
<td>◊ Requires trained physician</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>◊ Does not protect against STIs including Hepatitis B and HIV/AIDS</td>
<td></td>
</tr>
</tbody>
</table>

**Who Should Not Use Vasectomy?**
- Clients who are uncertain of their desire for future fertility
- Clients who do not give voluntary, informed consent
- Men with current STIs including AIDS
- Men with history of coagulation disorders
### LACTATION AMENORRHEA METHOD (LAM)

Who Should Not Use Lactational Amenorrhea Method (LAM)?
- Women whose menses have returned
- Women who are not exclusively breastfeeding
- Women whose babies are more than 6 months old
- Women on drugs secreted in breastmilk and harmful to baby e.g. anti-depressants or anti-psychotics

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactational Amenorrhea Method (LAM)</td>
<td>Suppression of ovulation based on the physiologic effect of suckling</td>
<td>◊ Effective immediately</td>
<td>◊ User-dependent</td>
<td>Highly effective (1-2 pregnancies per 100 women during first 6 months of use)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ Does not interfere with intercourse</td>
<td>◊ Requires exclusive breastfeeding including night-time feeds</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ No systemic side effects</td>
<td>◊ May be difficult to practice due to social circumstances</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ No medical supervision necessary</td>
<td>◊ Highly effective only until menses return or up to 6 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ No supplies required</td>
<td>◊ Does not protect against STIs including Hepatitis B and HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ No cost involved</td>
<td>◊ Not recommended for HIV+ mothers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ Provides passive immunization and best source of nutrition for baby</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>◊ Decrease postpartum bleeding</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The use of breastfeeding as a temporary family planning method
### EMERGENCY CONTRACEPTION

**Who Should Not Use Emergency Contraception?**
- Women who are pregnant or suspected of being pregnant

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Contraception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Types: Combined Oral Contraceptives (COCs)</td>
<td>Prevents ovulation or fertilization of the ovum by sperm</td>
<td>◊ Easily available ◊ Requires only 2 doses 12 hours apart (for pills)</td>
<td>◊ COCs are effective only if used within 72 hours of unprotected intercourse. ◊ COCs may cause nausea, vomiting or breast tenderness. ◊ POPs are best if used within 48 hours but cause much less nausea and breast tenderness than COCs. ◊ IUDs are effective only if inserted within 5 days of unprotected intercourse. ◊ IUD insertion requires minor procedure performed by a trained service provider and should not be done in woman at risk for STIs.</td>
<td>All are very effective (1-2% of women become pregnant with use of emergency contraceptive)</td>
</tr>
<tr>
<td>Progestin-only Pills (POPs)</td>
<td>IUD/IUCD prevents implantation</td>
<td>◊ IUDs also provides long-term contraception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrauterine Device (IUD/ IUCD) (Copper-releasing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WITHDRAWAL (COITUS INTERRUPTUS)

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdrawal (Coitus Interruptus)</td>
<td>A traditional family planning method in which the man completely removes his penis from the woman’s vagina before he ejaculates (so that the sperm does not enter the vagina and fertilization is prevented).</td>
<td>◊ Effective immediately&lt;br&gt;◊ Does not affect breastfeeding&lt;br&gt;◊ Can be used as a backup to other methods&lt;br&gt;◊ No method-related side effects&lt;br&gt;◊ Always available&lt;br&gt;◊ No cost involved&lt;br&gt;◊ Promotes male involvement in family planning&lt;br&gt;◊ Possible closer relationship for couple</td>
<td>◊ Effectiveness depends on willingness of couples to use withdrawal with every act of intercourse&lt;br&gt;◊ Effectiveness may be further decreased by sperm from a recent (&lt;24 hours) ejaculation remaining in the penis (urethra)&lt;br&gt;◊ May diminish sexual pleasure&lt;br&gt;◊ Does not protect against STIs including Hepatitis B and HIV/AIDS</td>
<td>Moderate efficacy (4-18 pregnancies per 100 women during the first year of use)</td>
</tr>
</tbody>
</table>

Who Should Not Use Withdrawal?

- Men who experience premature ejaculation, who have difficulty withdrawing the penis from the vagina prior to ejaculation, who have other physical or psychological conditions that may affect timely withdrawal
- Couples in which pregnancy would pose a serious health risk to the woman, who need a highly effective method of contraception, who want a long-term contraceptive method, who want a method not related to intercourse, not willing to use withdrawal with every act of intercourse.
PROGESTIN-ONLY IMPLANTS

<table>
<thead>
<tr>
<th>METHOD</th>
<th>MODE OF ACTION</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
<th>EFFICACY</th>
</tr>
</thead>
</table>
| Progestin-only Implants (Norplant) | Six thin flexible capsules filled with levonorgestrel (LNG) which are inserted just under the skin of a woman’s upper arm | ● Rapidly effective (<24 hours)  
● Long term method; up to 5 years protection  
● Pelvic examination not required prior to use  
● Does not affect breastfeeding  
● Immediate return of fertility on removal  
● Few side effects  
● Client needs to return to clinic only if problems  
● No supplies needed by client  
● Contains no estrogen  
● May decrease menstrual cramps and bleeding  
● Protects against endometrial cancer  
● Decreases benign breast disease and ectopic pregnancy  
● Protects against some causes of PID | ● Cause changes in menstrual bleeding pattern (irregular bleeding/spotting initially) in most women  
● Some weight gain or loss may occur  
● Requires trained provider for insertion and removal  
● Woman must return to health care provider for removal  
● Women cannot stop whenever she wants (provider-dependent)  
● Effectiveness may be lowered when certain drugs for epilepsy (phenytoin and barbiturates) or tuberculosis (rifampin) are taken  
● Cost-effectiveness depend on length of use  
● Does not protect against STIs including HIV/AIDS | Highly effective. (0.2-1 pregnancies per 100 women during the first year of use) |

Who Should Not Use Progestin-only Implants (Norplant)?

- Women who are pregnant (known or suspected)
- Women with unexplained vaginal bleeding (until evaluated)
- Women who cannot tolerate any changes in their menstrual bleeding pattern
- Women with current or past history of breast cancer
**ADOLESCENTS AND CONTRACEPTION**

Adolescents need access to family planning regardless of their marital status, and services for teens should avoid unnecessary clinical procedures that may discourage teens from using them (e.g. pelvic examinations for teens requesting COCs). Furthermore, because teens frequently have unplanned, unprotected intercourse, it is important that they have access to emergency contraceptive services. **Progestin-only methods should not be a first choice method for adolescents in order to prevent future osteoporosis.**

Factors relevant to the use of specific contraceptive methods by adolescents:

<table>
<thead>
<tr>
<th>Method</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Contraceptive: Combined Oral Contraceptives (COCs) and Progestin-Only Pills (POPs)</td>
<td>• Popular among teens; forgetfulness increases failure, and conditions requiring precautions are rare in teens</td>
</tr>
<tr>
<td>Combined Injectable Contraceptives (CICs) and Progestin-only Injectable Contraceptives (PICs)</td>
<td>• Side effects such as irregular bleeding/spotting, acne and weight gain may be particularly bothersome to teens. <strong>Thor-ough counselling is essential.</strong></td>
</tr>
<tr>
<td></td>
<td>• Lack of need for supplies and non-visibility make these methods attractive to teens.</td>
</tr>
<tr>
<td></td>
<td>• For teens who require intermediate-duration contraception (second choice).</td>
</tr>
<tr>
<td>Implants (Norplant)</td>
<td>• Side effects such as irregular bleeding/spotting, acne and weight gain may be particularly bothersome to teens. <strong>Thor-ough counselling is essential</strong></td>
</tr>
<tr>
<td></td>
<td>• Implants will be in place for periods of time when teen is temporarily not sexual active.</td>
</tr>
<tr>
<td></td>
<td>• Highly recommended for teen who want long-term contraception, especially is they had trouble using another method.</td>
</tr>
<tr>
<td>Condoms</td>
<td>• Provide immediate protection but require planning (coitus-related).</td>
</tr>
<tr>
<td></td>
<td>• Most popular among teens in Jamaica</td>
</tr>
<tr>
<td></td>
<td>• Should be easily available as teens are likely to have unplanned intercourse.</td>
</tr>
<tr>
<td></td>
<td>• Only method that protects against STIs including Hepatitis B and HIV/AIDS.</td>
</tr>
<tr>
<td>Withdrawal (Coitus Interruptus) and Abstinence</td>
<td>• Withdrawal may be the only method available to many teens. Be sure they are fully informed about technique.</td>
</tr>
<tr>
<td></td>
<td>• Abstinence should be encouraged</td>
</tr>
</tbody>
</table>
Women Over 35 Years and Contraception

Women over the age of 35 years are in need of safe and effective contraception because they are at increased health risk (morbidity and mortality) should they become pregnant. Women over 35 years can continue to use most contraceptive methods, including COCs and the newly developed CICs.

(For Factors relevant to the use of specific contraceptives by women over 35 years, see Jamaica Family Planning Service Delivery Guidelines).

Breastfeeding Women

Breastfeeding women do not need contraception for at least 6 weeks postpartum - up to 6 months if they are using Lactational Amenorrhea Method (LAM). If a breastfeeding woman decides to use contraception other than LAM, she should be counselled about the potential effect of some contraceptives on breastfeeding and the health of the infant. For example, COCs, and CICs are considered to be the methods of last choice for any women who are breastfeeding (they decrease breast milk production, and may affect the normal growth of a baby during the first 6 to 8 weeks postpartum). Waiting at least 8 to 12 weeks postpartum before starting COCs or CICs has the advantage of permitting breastfeeding to be better established.
RECOMMENDED TIME TO START FOR BREASTFEEDING WOMEN

<table>
<thead>
<tr>
<th>Family Planning Methods</th>
<th>Delivery</th>
<th>6 Weeks</th>
<th>6 Months</th>
<th>Menopause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactation Amenorrhea Method</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IUD (copper-releasing)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Voluntary Sterilization</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Condoms and Spermicides</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Progestin-Only Contraceptives</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Natural Family Planning (NFP)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Combined (E/P) Contraceptives</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Intrauterine Device (IUD):** If delivery is in a hospital or other health care facility, immediate post-placental or postpartum (<48 hours) IUD insertion is appropriate under certain circumstances (i.e. with adequate counselling and a specially trained service provider).

**Voluntary Sterilization:** can be performed at any time.

**Natural Family Planning (NFP):** may be harder for breastfeeding women to use because reduced ovarian function makes fertility signs (e.g. mucus changes, basal body temperature) more difficult to interpret. As a result, NFP can require prolonged periods of abstinence during breastfeeding.

**Combined Oral Contraceptives (COCs) and Combined Injectable Contraceptives (CICs):** may affect the quantity of breast milk and healthy growth of the infant during the first six months. If a mother is breastfeeding but not using LAM, she may start COCs or CICs as soon as 6 weeks postpartum if other methods are not available or acceptable.

**Non-breastfeeding Women**

Although most non-breastfeeding women will resume menstrual cycles within 4 to 6 weeks after delivery, only about one-third of first cycles will be ovulatory and even fewer will result in pregnancy. If a couple wishes to avoid all risk of pregnancy, however, contraception should be started at the time of, (barriers, spermicides, withdrawal) or before (hormonals, IUDs) the first sexual intercourse. Because the pregnancy-induced risk of blood clotting problems (elevated coagulation factors) is still present until 2 to 3 weeks postpartum, COCs and CICs should not be started before that time. By contrast, POCs can be started immediately postpartum because they do not increase the risk of blood clotting problems.
Intrauterine Device (IUD): if delivery is in a hospital or other health care facility, immediate post-placental expulsion or postpartum (<48 hours) IUD insertion is appropriate under certain circumstances (i.e. with adequate counselling and a specially trained service provider).

Voluntary Sterilization: can be performed at any time.

Natural Family Planning (NFP): NFP may be harder for breastfeeding women to use compared to non-breastfeeding women, because reduced ovarian function during exclusive breastfeeding makes fertility signs (e.g., mucus change, basal body temperature) more difficult to interpret. As a result, NFP can require prolonged periods of abstinence during breastfeeding.

COCs and CICs: during the first 6 months, postpartum, COCs and CICs may affect the quantity of breastmilk and the healthy growth of the infant. If a mother is breastfeeding but not using LAM, she may start COCs or CICs as soon as 6 weeks postpartum if other methods are not available or acceptable.

POST-ABORTION CONTRACEPTION

Throughout the developing world, many women are trapped in a dangerous cycle of repeat unwanted pregnancy and unsafe, often illegal abortion. Although the importance of linking post-abortion care and Family Planning service seems obvious, these two types of care rarely are offered together. Typically, emergency treatment services for post-abortion complications do not include provision of or referral to Family Planning counselling and method delivery. As a consequence, women are denied access to the means of preventing future unwanted pregnancies as well as being exposed to the risk of additional unsafe abortion, both of which contribute to the poor overall health status of women in many countries.

Linking post-abortion care to Family Planning: provision of emergency post-abortion care may be one of the few occasions when a woman and her partner come into contact with the health care system. Therefore, it represents an important opportunity for providing contraceptive information and services.
Post-abortion family planning should include the following components:
- Counselling about contraceptive needs in terms of the client’s reproductive goals
- Information and counselling about all available methods, their characteristics, effectiveness and side effects
- Choices among methods (e.g., short and long-term, hormonal and non-hormonal)
- Assurance of the contraceptive resupply
- Access to follow-up care
- Information about the need for protection against STIs

Post-abortion family planning should be based on an individual assessment of each woman’s situation:
- her personal characteristics,
- clinical condition, and
- the service delivery capabilities in the community where she lives.

(For When to Start, Which Methods can be Used, Details of Methods, Counselling outline and Guidelines for Contraceptive Use by Clinical Conditions see Jamaica Family Planning Service Delivery Guidelines)
### NEW FEMALE CONTRACEPTIVE TECHNOLOGY

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>Agent</th>
<th>How it works</th>
<th>General Use</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>New methods for hormonal preparations</td>
<td>“Jadelle” – 2 rod progestin (levonorgestrel) implant</td>
<td>Slow release of hormone over 3-5 years. Prevents sperm penetration and implantation. Suppresses ovulation. Biodegradable so does not require removal</td>
<td>As for Norplant</td>
<td>Jadelle Registered in USA, Implanon available in Europe</td>
</tr>
<tr>
<td></td>
<td>“Implanon” – 1 rod (keto-desogestrel)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“Ortho EVRA” patch</td>
<td>Transdermal delivery of combined oestrogen and progestin. Lasts for 1 month</td>
<td>As for COCs</td>
<td>Registered in USA</td>
</tr>
<tr>
<td></td>
<td>“Yasmin” progestin (drospirenone) pill</td>
<td>Anti-mineralocorticoid. Causes less water retention and associated side effects of breast tenderness, bloated feeling etc.</td>
<td>As for POCs</td>
<td>Available in Jamaica</td>
</tr>
<tr>
<td></td>
<td>“Mircette”</td>
<td>New pill with a 3 days extension of low dose oestrogen into the traditional 7 days pill free cycle. Reduces effect of oestrogen withdrawal</td>
<td>As for COCs</td>
<td>Registered in USA, FDA approved</td>
</tr>
<tr>
<td></td>
<td>“Seasonale”</td>
<td>Quadricycle pill. Continuous hormonal pills for 84 days before a break in the pill cycle</td>
<td>As for COCs</td>
<td>Registered in USA, FDA approved</td>
</tr>
<tr>
<td></td>
<td>“Ciclessa and Tri-cyclen-Lo”</td>
<td>Triphasic COC</td>
<td>As for COCs</td>
<td>Registered in USA, FDA approved</td>
</tr>
<tr>
<td></td>
<td>Vaginal ring “Nuva Ring”</td>
<td>Contains combined oestrogen and progestin for slow release over 1 month</td>
<td>As for COCs</td>
<td>Registered in USA, FDA approved</td>
</tr>
<tr>
<td></td>
<td>“Lunelle and Mesigyna”</td>
<td>Injectables with oestrogen and progestin. Lasts 1 month</td>
<td>As for COCs</td>
<td>Lunelle FDA approved, Mesigyna available in Jamaica</td>
</tr>
<tr>
<td></td>
<td>“Mirena”</td>
<td>T shaped IUCD releasing levonorgestrel. Lasts 5 years</td>
<td>As for Norplant</td>
<td>Available in Jamaica</td>
</tr>
</tbody>
</table>
Future options include yearly injectables, frameless IUCDs, biodegradable implants, biodegradable injectable microspheres, vaginal coil, hand-held monitors for natural family planning, anti-progestin ECP.

## MEN AND FAMILY PLANNING

### Goal
To provide access to reproductive health information and services for men in a gender-sensitive setting. Emphasis to be placed on counselling and the promotion of improved knowledge, attitude and practices as well as the importance of the role men play in their own and their partner’s reproductive health.

### Strategies
- Provision of community-based reproductive health education and services for men
- Opportunities for integration of family planning into STI service delivery as a means of targeting men
- Provision of educational material on reproductive health for men
- Provider training on reproductive health issues for men and to enable couple communication
- Media campaign highlighting men’s reproductive health issues
- Social marketing of condoms

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>Agent</th>
<th>How it works</th>
<th>General Use</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>New barrier methods</td>
<td>“Lea’s shield”</td>
<td>Fits over the cervix. Ring extends to behind pubic symphysis.</td>
<td>As for barrier methods</td>
<td>Registered in USA and Canada</td>
</tr>
<tr>
<td>“Femcap”</td>
<td>Looks like a sailor’s cap. Can be left in for 48 hours</td>
<td>As for barrier methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponge impregnated with more than 1 spermicide</td>
<td>Vaginal barrier method with spermicide</td>
<td>As for barrier methods</td>
<td>Still in research</td>
<td></td>
</tr>
<tr>
<td>Vaginal contraceptive film</td>
<td>Inserted in vagina near cervix. Releases spermicidal gel on contact with vaginal secretions</td>
<td>As for barrier methods</td>
<td>Registered in USA</td>
<td></td>
</tr>
</tbody>
</table>
• Behaviour change communication programme for men
• Coordinated research on men’s reproductive health issues

*Family planning should be presented to men as a much broader concept than contraception.*

**Components of Family Planning**
• Decisions on number of children, timing and spacing
• Contraception use
• Impact of Sexually Transmitted Diseases on the decision making process.

**WHY SHOULD MEN BE INVOLVED?**
Involvement of men in family planning programmes:
• Increases access to contraceptives and specifically methods that men can use, thus expanding the couple’s range of contraceptive options.
• Improves women’s support for use of contraception and shares the reproductive decision-making.
• Prevents the transmission of sexually transmitted infections (STIs) by:
  ◊ Use of condoms
  ◊ Limiting activity to one partner
  ◊ Seeking treatment for current STIs

Men need to accept that they also must be treated, because when women are treated for an STI, they can easily become re-infected if their partners are not treated concurrently.

**Factors limiting men’s involvement include:**
• Services primarily target women and children, and men are embarrassed to go to a clinic that serves mainly women, and for which the hours may be inconvenient.
• Provider's bias - needs to be sensitised about male perspectives on sexuality and reproduction, in order to enable them to encourage male responsibility for sexual and reproductive behaviour.
• Providers need training in the promotion and counselling on condom use, voluntary abstinence, and male methods of contraception.

• Providers’ attitudes also influence men’s perception of the appropriateness of service position.

• There is a limited number of male contraceptives available; and it is unlikely that any new male methods will be approved for several years.

• Myths and misinformation exists.

• Due to the lack of access to accurate information about male contraceptives, many men and women may not know how to use them correctly or may have misperceptions and fears that prevent them from using the methods.

• Providers’ bias against certain methods, results in not all contraceptives being discussed equally.

• For some men, practicing contraception is contrary to their religion and/or opposition exists for certain methods.

It means therefore that providers must be fully informed and have the technical competence to train men and their partners how to use the Billing’s Method if this is the only option available.

Where training skills are deficient, providers must refer clients to alternative sites.

An unfavourable social climate may reduce use of contraceptives where

• Men need information but fear admitting ignorance about sexual matters.

• Men believe that women should be held responsible for contraception

SERVICES OF PARTICULAR INTEREST TO MEN include:

a. Information/Education
Some topics for inclusion include:

• Male and female anatomy and physiology

• Counselling in sexuality, sexual dysfunction and sexual needs of partners.

• Family planning information.

b. Clinical Services

• Family planning services

• Diagnosis of STIs

• General medical care
• Screening for prostate and other reproductive tract cancers
• Treatment of urological conditions
• Evaluation of male infertility.

MALE INFORMATION NEEDS

Men share similar views to women on contraception as they relate to perceptions of ease of use, efficacy, problems of “vaginal discharge, bad for blood circulation and infertility” for pill, IUD and injectable.

To promote increased condom use, men’s attitudes/knowledge on condom needs to be addressed. These include:

• Condom use and diminishing pleasure
• Use/relationship status
• Partner’s opposition
• Female responsibility for family planning
• Efficacy in preventing pregnancy
• Availability

Lack of information on sterilization ranked first as the reason why males (15 – 54 years) who do not want any more children, and who are interested in sterilization have not been sterilized.

Men need to be educated and shown that involvement in family planning and reproductive health will serve their interest as men.

Economically, they will have fewer children to support and the health of their wives will be better with fewer children.

Men need to be urged to use the existing methods:

• Condom
• Vasectomy

The new contraceptive technology has some hopeful alternatives, however, the latex condom will prevent the transmission of HIV/AIDS and other sexually transmitted diseases, while more of the new male methods under development will protect people from these diseases.
Future options include a unisex hormonal preparation which prevents ovulation and spermatogenesis.
ESTIMATING COUPLE YEARS OF PROTECTION (CYP)

Statistical system for family planning programme services often produces inaccurate data on “current users” of a programme, which is one of the most important measures of program output. In this section, another method of measuring family planning output is described - the Couple Years of Protection (CYP) Index, which summarizes the overall output of a programme in terms of the potential contraceptive protection dispensed by the programme. CYP is sometimes called CYP achievement, and is expressed as a number. This number is the theoretical number of couples receiving contraceptive protection for a year.

The CYP index is a way to determine the total contraceptive protection offered by the different methods issued by a programme during a certain time period. One CYP is equal to 12 couple-months of protection, which could be attributed to any person-time combination, from one couple practicing birth control for one year to 12 couples practicing birth control for 1 month each. CYP indicates how much contraceptive protection time could result from quantity of contraceptives dispensed.

The procedure for estimating CYP consists of these steps:

- Determine the quantities dispensed for each method during the time period being analyzed. This information should come from outlet records such as daily activity registers. If information is not easily available from the outlets, estimate the quantities dispensed from higher-level data, such as warehouses issues. [Note: higher-level data are less accurate because it is impossible to know whether the entire amount has been dispensed to users.]

- Determine the conversion factor, which is the amount of each method needed to provide one CYP. Ideally, programme managers determine conversion factors for themselves from evidence. However, in most instances a program will have to use estimates that have been developed on the basis of relevant experience elsewhere. The following estimates are used as conversion factors for one CYP:
  - 15 cycles of pills
  - 150 condoms
  - 150 foaming tablets
  - 1 unit for each diaphragm user (or 0.3 units per continuing user)
  - 6 tubes of jelly per diaphragm user
  - 1 unit for each new IUD user (or 0.3 units per continuing user)
  - 1 implant for each new Norplant user (or 0.3 implants per continuing user)
  - 4 doses of Depo Provera
  - 6 doses of Noristerat
To calculate CYP for each method, simply divide the quantity of each contraceptive method dispensed in a year by the average quantity of each method used by a couple in a year. These results can be calculated as shown in the following table.

### SAMPLE CYP CALCULATIONS

<table>
<thead>
<tr>
<th>Contraceptive Method</th>
<th>Amount Issued</th>
<th>Average No. Needed per Couple per Year</th>
<th>CYP Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4) = (2)/(3)</td>
</tr>
<tr>
<td>Pill</td>
<td>290,416</td>
<td>15 cycles</td>
<td>19,361</td>
</tr>
<tr>
<td>Condom</td>
<td>193,596</td>
<td>150 units</td>
<td>1,291</td>
</tr>
<tr>
<td>IUD</td>
<td>540</td>
<td>0.3 units</td>
<td>1,800</td>
</tr>
<tr>
<td>Jelly (including diaphragms)</td>
<td>1,116</td>
<td>6 tubes</td>
<td>186</td>
</tr>
<tr>
<td>Foaming Tablets</td>
<td>87,221</td>
<td>150 tablets</td>
<td>581</td>
</tr>
<tr>
<td>Depo Provera</td>
<td>9,260</td>
<td>4 injections</td>
<td>2,315</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>25,534</td>
</tr>
</tbody>
</table>

The above example shows that contraceptives sufficient to provide 25,534 couple-years of contraceptive use were dispensed through program activities during the year. This type of analysis can be done by clinic or region, or for the entire program.

However, in calculating CYP achievement, keep in mind that certain assumptions are necessary. These include that all supplies dispensed are used and that there is no hoarding, improper use of contraceptives by clients, or use for other purposes such as STD prevention. In practice, these assumptions are often difficult to validate.
Guideline: FAMILY PLANNING

<table>
<thead>
<tr>
<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
<th>Index:</th>
</tr>
</thead>
</table>

Approved by: **Director, Family Health Services**
5. SAFE MOTHERHOOD
There can be no departure from that most desirable of goals, SAFE MOTHERHOOD, that is, good health from conception that continues through the gestation period to delivery of the newborn baby. The task of the family health services and the responsibility of the pregnant woman, her partner and the family, must be aligned in this direction for best results. Quality of health care is essential for achievement of the goal.

Many key factors have been identified, and need to be reinforced. Foremost among them is the education of individuals and the community to the proper and full use of antenatal services including:

- Early and regular attendance at clinics for care,
- Use of risk approach for assessment,
- Careful documentation and availability of records,
- The establishment of good support and referral mechanisms throughout the system.

The ever-present concerns of high adolescent pregnancy rates, pregnancy-related disorder of hypertension, recreational substance abuse, HIV infection, iron deficiency, and diabetes present strong challenges to our capacity to maintain a high quality service.

The strengthening of the hospital, health centre, and private practitioner systems are vital for the optimal care of patients, so too is the assurance of adequacy of physical facilities, materials/supplies, equipment and a sufficiency of appropriately trained staff (Family Health Strategy for the Caribbean Community PAHO 2003).

**ANTENATAL CARE**

**POLICY**

Every pregnant woman should have a minimum of four quality antenatal visits, with the first visit commencing in the first trimester (<12 weeks).

High risk patients should be appropriately referred to a higher level of care. Management of the pregnant woman should be done by a skilled birth attendant with access to Emergency Obstetric Care (EOC).
GOAL
To ensure all pregnant women have early access to quality care throughout pregnancy adopting a risk approach to ensure delivery of a healthy baby and the reduction of morbidity and mortality from pregnancy-related conditions.

OBJECTIVES
- To achieve minimum of 4 antenatal visits per pregnancy
- Minimum of 90% antenatal testing for HIV, syphilis and anaemia
- 100% of women testing positive treated effectively with ARV, penicillin and iron respectively
- 85% coverage for tetanus among pregnant women
- Less than 15% teenage pregnancy rate

INDICATORS
- Number of visits per mother
- Percent of 1st visit in 1st trimester and 3rd trimester
- Percent of teenage pregnancies
- Percent of mothers screened for Syphilis, HIV, Hb, Sickle, group, and Rh factor
- Percent of women testing positive for syphilis
- Percent of syphilis positive women who are treated
- Percent of women pre- and post-test counselled for HIV
- Percent of women testing positive for HIV
- Percent of women testing positive for HIV who are treated with antiretrovirals
- Percent of women testing Rh-negative
- Percent of women testing sickle cell positive
- Percent of sickle cell positive women who are SS or SC
- Percent of women fully immunized against tetanus and diphtheria
- Percent/number of mothers with pre-eclampsia in PHC
- Percent of maternal home visits
- Percent of pregnancies in girls under 16 years referred to Children’s Registry
- Percent of women referred to high risk clinic
- Percent of health care workers receiving training (CME) in the previous year
STRATEGIES

- Increased access to and use of appropriate antenatal care.
- Increased access to emergency obstetric care
- Minimum of 4 antenatal visits of at least 20 minutes per visit.
- Rhesus factor (Rh) typing and blood grouping at first visit
- Haemoglobin (Hb), syphilis sero-reactivity, and HIV estimation on first visit and repeated at 32\textsuperscript{nd} week
- Early management of women with positive RPR/VDRL results and low Hb levels.
- Appropriate management of women who are HIV-positive
- Immunization against tetanus and diphtheria
- Health promotion/education on “key” issues regarding pregnancy including parenting and safe sex
- Nutrition counselling and supplementation as required
- Promotion of breastfeeding
- Complete history and physical examination (including dental) before the end of the 2\textsuperscript{nd} trimester of pregnancy.
- Attention to privacy and confidentiality in the provision of clinical services.
- Early detection and appropriate referral of high risk pregnancies
- Integration of Primary and Secondary Health Care, to ensure continuity of care
- Assignment of a Community Health Aide (CHA) to each pregnant woman for effective monitoring, and reporting of birth to Public Health Nurse/Midwife within the first week
- Monitoring of high-risk mothers through follow-up visits by District Midwife/Public Health Nurse after CHA visit
- Use of antenatal register for monitoring
- Provision and utilization of updated maternal health record/”passport”
- Encouragement for attendance of partner at antenatal clinic and at delivery
- Improved quality of antenatal care by the training and supervision of health workers and the provision of adequate equipment and support services
- Community health promotion on safe motherhood
# NORMS AND RECOMMENDED PROCEDURES FOR ANTENATAL VISITS

<table>
<thead>
<tr>
<th>VISIT</th>
<th>GEST.</th>
<th>PROCEDURE</th>
<th>HEALTH EDUCATION</th>
<th>ACTION</th>
</tr>
</thead>
</table>
| First | <12 weeks or when she comes | Registration  
Medical and obstetrical history  
Physical examination,  
Blood Test: Hb, Syphilis screen, HIV, hepatitis B & C, Group, Rh, Sickle (if not previously done).  
Immunization - 1st DT adult, or booster if immunization completed previously.*  
Weight, Height & BMI | Conception and reproduction.  
Signs and symptoms of pregnancy.  
Importance of clinic attendance  
Minor ailments and abnormalities.  
Avoidance of unprescribed medicine/drugs,  
Healthy lifestyle (nutrition, safe sex, smoking...)  
Breastfeeding | Appointment - 4 wks  
Referral for any abnormality **  
Home visit, if appointment not kept  
Maternal Passport given  
Folic Acid  
Complete front sheet and record |
| 2nd | 16-20 weeks or 4 weeks after first visit | Routine ANC (history, physical examination, BP, Wt, uterine height, foetal heart & movements, oedema, Urinalysis)  
Medical and dental examination | Blood results  
Nutrition  
Breastfeeding  
Delivery arrangements  
Personal hygiene  
Exercise  
Danger signs in pregnancy  
Preparation for delivery  
Postpartum contraception | Iron & Folic Acid supplementation & treatment, or referral for abnormality**  
Home visit if appointment not kept  
Complete record |
| 3rd | 28 wks | Routine antenatal care.  
Immunization. | Signs of labour (when to go to hospital or call the birth attendant)  
Breastfeeding  
Postpartum contraception  
Postpartum visit  
Care of baby  
Attendance at Child Health Clinic  
Birth registration | Confirm delivery arrangements  
Referral for abnormality**  
Home visit if appointment not kept  
Complete record |
2 weekly visits as off 36 weeks

**see Immunization protocol**  **see high risk list pg 162-163**

- The CHA should do home or hospital visit to ensure that the client kept the appointment or went to hospital when referred. (If referred to hospital for emergencies, visit within 24 hours; if referred to High Risk clinic, visit within 1 week).

- All antenatal clients should be educated on the signs of labour and possible complications/danger signs and given a maternal passport with the “ACT NOW” card, and instructions to return to the Health Centre/maternity ward immediately if any of these symptoms develop (whether or not it is an antenatal clinic day).

- All staff (including clerks, guards, cashiers or switchboard operators) should be trained to react in an agreed upon fashion (“sound the alarm,” call for help) when a woman arrives at the facility with an obstetric emergency or pregnancy complication or when the facility is notified that a woman is being referred.

- Partners (fathers) should be encouraged to attend antenatal clinics and labour and delivery with their spouses.

- At the first and all following visits, each woman should be assessed for the presence of risk factors and referred to the high risk clinic if necessary (see

---

<table>
<thead>
<tr>
<th>VISIT</th>
<th>AGE</th>
<th>PROCEDURE</th>
<th>HEALTH EDUCATION</th>
<th>ACTION</th>
</tr>
</thead>
</table>
| 4th   | 32 wks | Routine antenatal care.  
Immunization* 
Repeat Hb, and syphilis screen ± HIV screen | As for 28 wks | Referral for abnormality** 
Home visit if appointment not kept 
Complete record |
| 5th   | 36 wks | Routine antenatal care. | As for 28 weeks | Referral for abnormality** 
As for 28 weeks 
Review blood results and take action 
Complete record |
| 6th   | 38 wks | Routine antenatal care. | Postnatal care 
Exercise 
Contraception 
Breastfeeding | As for 28 weeks 
Complete record |
| 7th   | 41 wks | Routine Examination | Post maturity | Refer to Hospital 
Complete record |
THE “ACT NOW” CARD

PREGNANT! HAVING ANY OF THESE?

SEEING SPOTS, SEEING DOUBLE, UNABLE TO SEE
VOMITING IN LATE PREGNANCY
ACT NOW!
VAGINAL BLEEDING
HEADACHE ABOVE THE EYES
SWOLLEN HANDS, FEET OR FACE
BELLY ACHE

CHECK WITH...........................................

INDICATIONS FOR REFERRAL TO HIGH RISK CLINIC

Women with the following medical/obstetric history or pregnancy complications should be referred to the nearest high risk clinic and be managed by a team, including an internist:

Medical History

Chronic medical condition: (renal disease, heart disease, diabetes, thyrotoxicosis (goitre), autoimmune disorders, eg. systemic lupus, epilepsy, severe asthma, mental illness)
HIV/AIDS
Thromboembolic events
Urinary tract infection/uncomplicated persistent proteinuria
Anaemia (Hb <8.0 g/dl)
Sickle cell disease (Hb SS, SC, Thalassemia)
Rhesus negative (with positive IDCT)
Previous myomectomy/uterine fibroids

Demographic Features
Young teenagers (16 years and under)
Primigravida (30 years or older) or multigravida (35 years or older)
Grand multiparas (5 or more previous pregnancies)

Obstetric History
Previous spontaneous abortions (2 or more)
Previous intra-uterine deaths/stillbirths
Previous neonatal deaths
Previous Caesarean section
Previous difficult/prolonged labour
Previous forceps delivery
Previous postpartum haemorrhage
Previous retained placenta
Preterm labour
Previous hypertension, pre-eclampsia or eclampsia
Previous postpartum depression

Obstetrical Complications in Current Pregnancy
Bleeding in the antenatal period
Hypertension/pre-eclampsia or eclampsia
Excessive weight gain
Twins
Large for gestational age
Intra-uterine Growth Retardation (IUGR) - small for dates
Breech presentation or transverse lie
Foetal compromise, reduced foetal movements, inaudible heartbeat

Current Medical Signs/Symptoms suggestive of Medical or Obstetrical Complications
Deep Vein Thrombosis (DVT) - Pain in calves, legs or thigh
Shortness of breath, chest pain, vaginal bleeding
RISK FACTORS FOR PREGNANCY-INDUCED HYPERTENSION (PIH)

- Maternal age of 16 years or less or more than 30 years
- Multiple pregnancies
- Personal and family history of pre-eclampsia or eclampsia.
- Previous history of low birth weight baby/stillbirth/neonatal death
- Excessive weight gain (>1.5 kg or 3 pounds per week) - monitor these women weekly in third trimester.
- Booking diastolic blood pressure >80mm Hg
- If the diastolic blood pressure is 90 mm Hg or more on two consecutive readings taken four hours or more apart, diagnose hypertension. Diastolic blood pressure is a good indicator of prognosis for the management of hypertensive disorders in pregnancy. Diastolic blood pressure is taken at the point at which the arterial sound disappears. A falsely high reading is obtained if the cuff does not encircle at least three-fourths of the circumference of the upper arm. A wider cuff should be used when the diameter of the upper arm is more than 30 cm.
- Obesity increases the risk of high blood pressure and gestational diabetes. Below are screening weight guidelines for short, average and tall women (representing Body Mass Index) above which they should be considered to be at risk for PIH.

\[
\text{BMI} = \frac{\text{Wt(kg)}}{\text{Ht(m}^2\text{)}}
\]

<table>
<thead>
<tr>
<th>Height</th>
<th>Pre-pregnancy Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overweight (BMI = 25)</td>
</tr>
<tr>
<td>Short (152cm = 5ft)</td>
<td>&gt;59.1 kg (130 Ib)</td>
</tr>
<tr>
<td>Average (162.6cm = 5ft 4 in)</td>
<td>&gt;68.2 kg (150 Ib)</td>
</tr>
<tr>
<td>Tall (172.7cm = 5ft 8 in)</td>
<td>&gt;75.0 kg (165 Ib)</td>
</tr>
</tbody>
</table>

WOMEN AT RISK FOR PIH (i.e. HAVE ONE OR MORE OF THE ABOVE RISK FACTORS) SHOULD BE REFERRED TO HIGH RISK CLINIC AND RECEIVE HOME VISITS.

Women with a BMI equal to or greater than 25 should be screened for diabetes.
**Emergencies For Immediate Referral To Hospital**

When a woman of childbearing age presents with a problem, rapidly assess her condition to determine her degree of illness.

**RAPID INITIAL ASSESSMENT**

° This list does not include all the possible problems a woman may face in pregnancy or the puerperal period. It is meant to identify those problems that put the woman at greater risk of maternal morbidity and mortality.

<table>
<thead>
<tr>
<th>ASSESS</th>
<th>DANGER SIGNS</th>
<th>CONSIDER</th>
<th>ACTION</th>
</tr>
</thead>
</table>
| Airway and Breathing    | **LOOK FOR:**
  - cyanosis (blueness)
  - respiratory distress
  - Shortness of breath, chest pain
**EXAMINE:**
  - skin: pallor
  - lungs: wheezing or rales |
|                         | **severe anaemia**
  - heart failure
  - pneumonia
  - asthma
  - pulmonary embolism |
|                         | Refer to hospital                                 |
|                         | Give oxygen if available                          |
| Circulation (signs of  | **EXAMINE:**
  shock)                                             |
|                         |  - skin: cool and clammy                          |
|                         |  - pulse: fast (110 or more) and weak             |
|                         |  - blood pressure: low (systolic less than 90 mm Hg) |
|                         | Shock                                              |
|                         | Refer to hospital                                 |
|                         | Start IV                                           |
|                         | Give oxygen if available                          |
| Vaginal bleeding        | **ASK IF:**
  (early or late pregnancy or after childbirth)
|                         |  - pregnant, length of gestation                  |
|                         |  - recently given birth                            |
|                         |  - placenta delivered                              |
**EXAMINE:**
  - vulva: amount of bleeding, placenta retained, obvious tears
  - uterus: atony
  - bladder: full
DO NOT DO A VAGINAL EXAM AT THIS STAGE |
|                         | **abortion**
  - ectopic pregnancy
  - molar pregnancy
  - abruptio placentae
  - ruptured uterus
  - placenta praevia
  - atonic uterus
  - tears of cervix and vagina
  - retained placenta
  - inverted uterus |
|                         | Refer to hospital                                 |
|                         | Start IV                                           |
| Unconscious or convulsing | **ASK IF:**
|                         |  - pregnant, length of gestation                  |
|                         |  **EXAMINE:**
|                         |  - blood pressure: high (diastolic 90 mm Hg or more) |
|                         |  - temperature: 38°C or more                      |
|                         | **eclampsia**
  - epilepsy |
|                         | Refer to hospital                                 |
|                         | **See management of severe pre-eclampsia/eclampsia** |
HYPERTENSION IN PREGNANCY

Diastolic blood pressure alone is an accurate indicator of hypertension in pregnancy. Elevated blood pressure and proteinuria, however, define pre-eclampsia.

Remember:

- Mild pre-eclampsia often has no symptoms.
- Increasing proteinuria is a sign of worsening pre-eclampsia.
- Oedema of the feet and lower extremities is not considered a reliable sign of pre-eclampsia.
- In pregnancy-induced hypertension, there may be no symptoms and the only sign may be hypertension.

Mild pre-eclampsia may progress rapidly to severe pre-eclampsia. The risk of complications, including eclampsia, increases greatly in severe pre-eclampsia. Convulsions with signs of pre-eclampsia indicates eclampsia. These convulsions:

- can occur regardless of the severity of hypertension
- are difficult to predict and typically occur in the absence of headache or visual changes
- occur after childbirth in about 25% of cases
- are tonic-clonic and resemble grand mal convulsions of epilepsy
- may recur in rapid sequence, as in status epilepticus, and may end in death
- will not be observed if the woman is alone
- may be followed by coma that lasts minutes or hours depending on the frequency of convulsions.

Do not give ergometrine to women with pre-eclampsia, eclampsia or high blood pressure because it increases the risk of convulsions and cerebrovascular accidents.

Early detection and management in women with risk factors is critical to the management of pregnancy-induced hypertension and the prevention of convulsions. These women should be followed up regularly and given clear instructions on when to return to their health care provider. Education of immediate family members is equally important, not only so that they understand the significance of signs of pregnancy-induced hypertension progression but also to increase social support when hospitalization and changes in work activities are needed.
Hypertension in pregnancy should be managed at the high risk clinic and patient must be delivered in hospital where EOC is available.

However, should the staff member be faced with severe pre-eclampsia/eclampsia, the following management is recommended while transfer to hospital is organized.

**SEVERE PRE-ECLAMPSIA AND ECLAMPSIA**

Severe pre-eclampsia and eclampsia are managed similarly with the exception that delivery must occur within 12 hours of onset of convulsions in eclampsia. ALL cases of severe pre-eclampsia should be managed actively. Symptoms and signs of “impending eclampsia” (blurred vision, hyperreflexia) are unreliable and expectant management is not recommended.

**Management during a convulsion**

- Gather equipment (airway, suction, mask and bag, oxygen) and give oxygen at 4—6 litres per minute.
- Protect the woman from injury but do not actively restrain her.
- Prepare anticonvulsive drugs.

**After the convulsion**

- Give anticonvulsive drugs.
- Position the woman on her left side to reduce risk of aspiration of secretions, vomit and blood
- Aspirate the mouth and throat as necessary.
- Monitor vital signs (pulse, blood pressure, respiration), reflexes and fetal heart rate hourly.

A key factor in anticonvulsive therapy is adequate administration of anticonvulsive drugs. Convulsions in hospitalized women are most frequently caused by undertreatment. Magnesium sulfate is the drug of choice for preventing and treating convulsions in severe pre-eclampsia and eclampsia.

**Magnesium sulfate schedules for severe pre-eclampsia and eclampsia**

**Loading dose**

- Give 4 g of 20% magnesium sulfate solution IV over five minutes.
- Follow promptly with 10 g of 50% magnesium sulfate solution:
  - Give 5 g in each buttock as a deep IM injection with 1 ml of 2% lignocaine in the same syringe.
Ensure aseptic technique when giving magnesium sulfate deep IM injection.

Warn the woman that a feeling of warmth will be felt when magnesium sulfate is given.

If convulsions recur after 15 minutes, give 2 g of 50% magnesium sulfate solution IV over five minutes.

REMEMBER to complete the following records AFTER EACH VISIT:

<table>
<thead>
<tr>
<th>Maternal Care Records</th>
<th>Docket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal passport</td>
<td>Client</td>
</tr>
<tr>
<td>Antenatal Register</td>
<td>Monitoring Tool</td>
</tr>
</tbody>
</table>

MANAGEMENT OF MINOR DISORDERS OF PREGNANCY

The health staff should be equipped to deal with reports of minor disorders experienced during pregnancy. The most common are:

<table>
<thead>
<tr>
<th>DISORDER</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Morning Sickness</td>
<td>A light sweet meal before retiring – eg. glass of milk with sugar, and</td>
</tr>
<tr>
<td></td>
<td>biscuits.</td>
</tr>
<tr>
<td></td>
<td>Dry toast or biscuit before getting out of bed in the morning.</td>
</tr>
<tr>
<td></td>
<td>Small amounts of light foods at frequent intervals.</td>
</tr>
<tr>
<td></td>
<td>Avoid fatty foods.</td>
</tr>
<tr>
<td>2. Heartburn</td>
<td>Avoid foods known by the patient to cause discomfort.</td>
</tr>
<tr>
<td></td>
<td>Magnesium Trisilicate ½ oz. after meal or other antacid preparation.</td>
</tr>
<tr>
<td>3. Vomiting</td>
<td>Gravol tablets one three times daily.</td>
</tr>
<tr>
<td>4. Constipation</td>
<td>Correct with diet – fluids, high-fibre fruits and vegetables.</td>
</tr>
<tr>
<td></td>
<td>Exercise.</td>
</tr>
<tr>
<td></td>
<td>Good toilet habits.</td>
</tr>
<tr>
<td>DISORDER</td>
<td>ACTION</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5. Backache</td>
<td>Rest periods when possible during the day.</td>
</tr>
<tr>
<td></td>
<td>Good body mechanics.</td>
</tr>
<tr>
<td></td>
<td>Sensible shoes.</td>
</tr>
<tr>
<td></td>
<td>Comfortable bed, firm mattress.</td>
</tr>
<tr>
<td></td>
<td>If persistent refer to Medical Officer.</td>
</tr>
<tr>
<td>6. Varicose Veins</td>
<td>No tight bands or gathers around the waist or legs to impede circulation.</td>
</tr>
<tr>
<td>7. Persistent Leg Cramps</td>
<td>Refer to Medical Officer.</td>
</tr>
<tr>
<td>8. Haemorrhoids</td>
<td>Avoid constipation.</td>
</tr>
<tr>
<td></td>
<td>Application of hot compresses then soothing haemorrhoidal ointment/cream in mild cases.</td>
</tr>
<tr>
<td></td>
<td>Refer to Medical Officer if bleeding or if not relieved by above treatment.</td>
</tr>
<tr>
<td>9. Itching of the Skin</td>
<td>Assess for underlying cause and refer appropriately.</td>
</tr>
<tr>
<td></td>
<td>Sponge skin with a solution of bicarbonate of soda: 1 teaspoonful to 1 pint of water.</td>
</tr>
<tr>
<td></td>
<td>Application of calamine lotion or cold cream.</td>
</tr>
<tr>
<td>10. Pruritis Vulvae</td>
<td>Check for vaginal discharge.</td>
</tr>
<tr>
<td></td>
<td>Advise good personal hygiene.</td>
</tr>
<tr>
<td></td>
<td>Refer patient to doctor for treatment if condition persist.</td>
</tr>
<tr>
<td>If suggestive of Monilia,</td>
<td>Canesten pessaries 1 noite x 6 days, treat partner.</td>
</tr>
<tr>
<td>If not responding or suggestive of STI,</td>
<td>Nystatin pessaries 1 noite x 1 week.</td>
</tr>
<tr>
<td></td>
<td>Screen for diabetes.</td>
</tr>
<tr>
<td></td>
<td>Refer to MO/FNP</td>
</tr>
</tbody>
</table>

**NUTRITION SUPPLEMENTS**

**Iron** - Ferrous sulphate or other iron preparation, one tablet daily (60mg of elemental iron)

**Folic acid** - Folic acid tablets 5mg once a day

**Iron + Folic acid** - As prescribed
SPECIAL NEEDS OF THE PREGNANT ADOLESCENT

- There is no right or wrong choice for everyone, and so appropriate counselling of the adolescent is essential to aid her in making appropriate and healthy choices.
- Family support is to be recommended.
- Post-partum contraception must be discussed at the antenatal visits.
- Reintegration into family and school, through the assistance of the relevant agencies is to be recommended.

PREVENTION OF MOTHER TO CHILD TRANSMISSION (MTCT) OF HIV/AIDS

(For details, please refer to the HIV P-MTCT guidelines of National HIV/AIDS Programme)

Voluntary Counselling and Testing (see Manual)

All women presenting to the health institutions for antenatal care at any gestational age will be offered confidential counselling and testing for HIV with an informed consent. Refer women to trained counsellor who will conduct the session.

Pregnant Women Who Test HIV-Negative

Counselling a woman following a negative test can help a woman to:

- Understand and maintain safe behaviour (including condom use) to avoid future infection.
- Breastfeed for the greatest health of the infant.

Pregnant Women Who Test HIV-Positive

Counselling a woman following a positive test can help a woman to:

- Accept ARV prophylaxis therapy.
- Understand infant feeding options and make an informed choice.
- Learn more about HIV infection and its implications for her health.
- Make choices about sexual behaviour (condom use) and future fertility, including tubal ligation.
- Access other relevant services/agencies.
HIV Testing (Rapid testing and ELISA for confirmation)

All test results should be made available to the referring institution within two weeks of testing. Priority will be given to HIV-positive results, which will be sent immediately to the institution for early identification and follow-up and treatment as per guidelines. The positive results are sent directly to the Medical Officer of Health of each parish to ensure the confidentiality of test results.

*N.B. Health care providers are reminded to complete the antenatal record card making strict documentation of all procedures inclusive of counselling, anti-retroviral drugs and method of testing. Client’s HIV results must also be documented on the maternal card/passport using the same coloured ink as all other notations (the HIV results must not be highlighted in red).*

ANTENATAL FOLLOW-UP OF HIV POSITIVE PREGNANT WOMAN

- Refer mother to high risk clinic and contact investigator (CI).
- Advise the mother not to miss any of her antenatal appointments.
- Appointments should be once per month until 28 weeks and every two weeks until 36 weeks then every week until the baby is born, or as advised by the physician.
- Advise on healthy nutrition and meals, and refer her to the nutritionist.
- Advise pregnant woman to avoid smoking or alcoholic beverages.
- Advise the client to bring her maternal passport at the time of labour.
- Remind her to ask the maternity ward nurse to give medication to her baby before discharge.
- Refer the pregnant mother to the parish HIV Treatment Centre for clinical and medical assessment especially if she complains of fever, loss of weight, loss of appetite, weakness, and or night sweats and coughing for over 2 weeks.

Referral at any stage of pregnancy should be for obstetric or other medical indications according to the Family Health Guidelines for High-risk Pregnancy.

The Public Health Nurse/Midwife, the Contact Investigator and the labour ward staff must work closely together to ensure continuity of care.

ABORTION

Provisions for women should be in keeping with the MOH policy for this issue.

Health care workers should be able to offer appropriate counselling to women before and after a termination of pregnancy.
FOLLOW-UP OF WOMEN WHO HAVE HAD AN ABORTION

A woman who has had a spontaneous abortion needs to be told that spontaneous abortion is common and occurs in at least 15% (one in every seven) of clinically recognized pregnancies. Also reassure the woman that the chances for a subsequent successful pregnancy are good unless there has been sepsis or a cause of the abortion is identified that may have an adverse effect on future pregnancies (this is rare).

Some women may want to become pregnant soon after having an abortion. The woman should be encouraged to delay the next pregnancy until she is completely recovered.

It is important to counsel women who have had an unsafe abortion. If pregnancy is not desired, certain methods of family planning can be started immediately (within seven days) provided:

- There are no severe complications requiring further treatment.
- The woman receives adequate counselling and help in selecting the most appropriate family planning method (see Family Planning Chapter).
- Identify any other reproductive health services that a woman may need. For example, some women may need:
  - tetanus prophylaxis or tetanus booster
  - treatment for sexually transmitted infections (STIs)
  - cervical cancer screening.

<table>
<thead>
<tr>
<th>Guideline: SAFE MOTHERHOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Revised:</td>
</tr>
<tr>
<td>Approved by: Director, Family Health Services</td>
</tr>
</tbody>
</table>

*FAMILY HEALTH MANUAL*
6. INTRANATAL CARE
6. INTRANATAL CARE

POLICY
All deliveries should be attended by a skilled birth attendant. All high-risk pregnancies and primigravidas should be delivered in hospital. Timely access to Emergency Obstetric Care (EOC) should be available.

GOAL
To ensure that every pregnant woman has access to a safe delivery including emergency services for the delivery of a healthy newborn infant, parent-to-child bonding, and the establishment of lactation.

OBJECTIVES
- To achieve a Perinatal Mortality Ratio of 16/1000 births by 2015.
- To reduce the Maternal Mortality Ratio to 42/100,000 live births by 2015.
- To ensure use of partograph in 100% of deliveries.
- To ensure over 95% of deliveries have skilled birth attendant at delivery.

STRATEGIES
- Use of appropriate facility for confinement.
- Increased coverage of attended deliveries by skilled birth attendant.
- Vaginal examination on admission in labour and use of the partograph for monitoring.
- Putting baby to the breast within thirty minutes after birth.
- Rooming-in for mother and child.
- Postpartum visit in the first week for all women for early detection and management of any complication and to provide support for breastfeeding.
- Facilitate father’s attendance at delivery.
• Improved quality of intrapartum care of mother and baby through regular training of staff.
• Provision of adequate equipment and support services.
• A referral system including adequate transportation to be established for obstetric emergencies.
• Community health promotion on safe delivery practices.

INDICATORS
• Total number of deliveries (public and private and home)
• Percent of home deliveries
• Percent of deliveries attended by trained personnel
• Total number of live births
• Total of live births notified to local registrar
• Number and percent of still births
• Number and percent of registered stillbirths
• Number of maternal deaths
• Number of maternal deaths investigated
• Maternal Mortality Rate (MMR)
• Percent of Low Birth Weight infants (LBW)
• Baby-friendly status of hospital
• Percent of women receiving Anti-Retroviral Therapy (ART)
• Percent of fathers in attendance at delivery
• Percent of women with eclampsia
• Percent of women with Post-partum Haemorrhage (PPH)
• Percent of deliveries monitored using a partograph
• Percent of health care workers receiving training (CME) in the previous year
• Perinatal Mortality ratio.
GUIDELINES FOR THE SELECTION OF LOCATION FOR CONFINEMENT

The following guidelines, taking into consideration the risk factors assigned to the mother, are to be applied:

Home Delivery

- Normal past obstetrical history and no high risk factors.
- Present pregnancy progressing normally.
- Suitable home conditions checked during 28th week home visit and reconfirmed at 36th week.
- Easy access to midwife at onset of labour.

Rural Maternity Centre

- Normal deliveries where home conditions are unsuitable or location relatively inaccessible.

Hospital

- All “high-risk” pregnancies that require specialized services for the mother and/or newborn such as general anaesthesia, major operation, resuscitation, or special care.
- All HIV-positive clients.
- Normal deliveries where home conditions are unsuitable.

HOME DELIVERY CHECKLIST

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is location accessible?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there access to emergency transportation?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is space adequate?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are sanitary facilities, water and lighting available?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is layette for mother and baby ready?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the mother have suitable protection (plastic) for mattress?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the mother/relatives know when to notify midwife of onset of la-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bour viz: regular contractions, loss of fluid/show and pain in back or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lower abdomen?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MANAGEMENT OF LABOUR

- Examination (including vaginal) to assess general condition and stage of labour.
- Abdominal examination to detect foetal presentation, position, engagement of presenting part and foetal heart rate.
- Check vaginal loss if antepartum haemorrhage (p.v. bleeding).
- Monitor vital signs (pulse, blood pressure, temperature), nutrition and hydration, foetal heart rate, frequency, duration and strength of contractions.
- Use analgesics when labour is fully established (if necessary and if woman less than 6 cm dilated).
- In case of an imminent delivery of an HIV-positive woman, administer 200 mg dose of Nevirapine (see PMTCT Manual) and transfer to hospital post-delivery.

SPECIFIC PROCEDURES IN LABOUR MANAGEMENT

1\textsuperscript{st} Stage

- **Preparation**
  Quick bed bath or shower if possible.
  Allow the woman to walk around if she desires.

- **Nutrition**
  Maintain hydration.
  Offer light and small amounts of food.

- **Pain Relief** (in early labour – contractions 1 in 15 minutes or more).
  - Sedative – Sparine 50mg orally hourly.
  - Analgesic – Pethidine 50-100mg at 4 – 6 hourly intervals up to a maximum of 200 mg.

  \textbf{NB:} Before administering any sedative or analgesic, assess progress of labour by carrying out vaginal or rectal examination. Do not give any drugs within 4 hours of delivery. Avoid using these drugs unless absolutely necessary as they can cause depression of foetal respiration.

- **General Comfort/Assistance.**
  Attend to:
  \begin{itemize}
  \item Personal toilet including vulval toilet every four hours and after vaginal/rectal examination.
  \item Leg cramps and backache.
  \end{itemize}
◊ Bladder: encourage emptying every three hours; if necessary, catheterise and test for protein and acetone. Transfer to Hospital if abnormalities are detected.
◊ Encourage woman to rest between contractions and alleviate pain and anxiety. Advise against bearing down until second stage is reached.

OBSERVATION PROCEDURES DURING LABOUR

First Stage
- Maternal pulse hourly.
- Foetal heart rate hourly - (never during a contraction). Normal range 120-160/ min.
- Vaginal bleeding.
- Dilation of the cervical os – as felt per vagina 4-hourly.
- Descent of the presenting part on abdominal palpation. If in doubt, do vaginal or rectal examination.
- Rupture of membranes: time, colour, and amount of liquid.
- Temperature 4-hourly.
- Blood pressure 4-hourly. If woman is hypertensive, (BP 140/90 and over) transfer woman to hospital.
- Chart progress of labour on partograph (see page 181-184).

Second Stage
- Maternal pulse every 10 – 15 minutes.
- Uterine contractions.
- General condition.
- Advancement of presenting part.
- Foetal heart sounds: auscultate after every second contraction.
- Chart progress of labour on partograph (see page 184).
- Nutrition: give only sips of water or ice to suck.
- Bladder: catheterise if no urine is passed for three hours or bladder appears distended supra-pubically.

Delivery Procedures
- Place patient in appropriate position for delivery.
• Drape patient appropriately.
• Sterile preparation for delivery procedure.
• Pelvic examination to determine presentation, position, effacement, dilatation and condition of the membranes.
• Amniotomy as indicated. Delay as long as possible.
• Determine necessity for episiotomies and introduce local anaesthetic and make incision if indicated. Avoid if possible. Episiotomy is no longer recommended as a routine procedure. There is no evidence that routine episiotomy decreases perineal damage, future vaginal prolapse or urinary incontinence. In fact, routine episiotomy is associated with an increase of third and fourth degree tears and subsequent anal sphincter muscle dysfunction (WHO IMPAC Manual).
• As head descends, apply enough pressure with one hand to keep flexed until sub-occipital area impinges under symphysis.
• Deliver the remainder of the head by extension, controlling speed of the delivery by gentle pressure of the hand on the baby’s head.
• Coach mother to pant rapidly through the mouth during a contraction to prevent too rapid expulsion. If possible, deliver the head between contractions with the aid of the mother’s voluntary expulsion efforts.
• All restitution to take place with hands lightly over the baby’s head.
• Check for umbilical cord; if loose, slip over baby’s head; if tight, clamp and cut.
• Continue external rotation until occiput is in transverse position.
• Simultaneously exert downward pressure until anterior shoulder can be seen. If necessary, assist rotation until shoulders are in the anterior position.
• Give oxytocic drug with the delivery of the anterior shoulder - Ergometrine 0.5 mg IM.
• Raise head towards ceiling, watching perineum and slowly deliver the posterior shoulder.
• With one hand supporting the posterior shoulder, slide the other hand along the baby’s back until the ankles are grasped.
• Hold baby with the head down. Perform gentle suction of the mouth and nose with bulb syringe or other suction apparatus.
• Clamp and tie cord with cord ligatures placed approximately 2 inches from the umbilicus and cut (with scissors not scalpel).
• Score baby according to APGAR system (see page 200). Dry baby and wrap in clean, dry towel or sheet. Immediately wash off baby if mother is HIV-positive.
• Show baby to mother and place on the breast to suckle. Allow baby to stay with mother for at least 20 minutes.

**Third Stage**

• When signs of placental separation are observed, ask mother to bear down and exert gentle traction on the cord as the placenta delivers.

• Inspect placenta and membranes for completeness. Inspect vagina for lacerations.

• Repair episiotomies or lacerations according to procedures.

• Wash off perineum before removing drapes.

• Make the mother comfortable.

• Perform physical examination of the baby.

• Give baby Vitamin K (Konakion 1mg IM).

• Collect two tubes of cord blood if indicated by:
  ◦ Rh-negative blood type of mother.
  ◦ Positive syphilis or HIV test in mother.
  ◦ Sickle cell disease or trait in mother.

**REMEMBER** Do not give ergometrine to women with pre-eclampsia, eclampsia or high blood pressure because it increases the risk of convulsions and cerebrovascular accidents. Syntometrine may be substituted.

**USING THE PARTOGRAPH**

The WHO partograph (see page 184) has since been modified to make it simpler and easier to use by removal of the latent phase. The plotting on the partograph begins prior to the active phase when the cervix is 4 cm dilated. A sample partograph is included. Note that the partograph should be enlarged to full size before use. Record the following on the partograph:

**Patient information**

Fill out name, gravidity, parity, hospital number, date and time of admission and time of ruptured membranes.

**Fetal heart rate**

Record every half hour.
Amniotic fluid
Record the colour of amniotic fluid at every vaginal examination:
- I: membranes intact
- C: membranes ruptured, clear fluid
- M: meconium-stained fluid
- B: blood-stained fluid.

Moulding
- 1: sutures apposed
- 2: sutures overlapped but reducible
- 3: sutures overlapped and not reducible.

Cervical dilatation
Assessed at every vaginal examination and marked with a cross (X). Begin plotting on the partograph at 4 cm.

Alert line
A line starts at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour.

Action line
Parallel and 4 hours to the right of the alert line.

Descent assessed by abdominal palpation
Refers to the part of the head (divided into 5 parts) palpable above the symphysis pubis; recorded as a circle (O) at every vaginal examination. At 0/5, the sinciput (S) is at the level of the symphysis pubis.
Hours
Refers to the time elapsed since onset of active phase of labour (observed or extrapolated).

Time
Record actual time.

Contractions
Chart every half hour; palpate the number of contractions in 10 minutes and their duration in seconds.
- Less than 20 seconds:
- Between 20 and 40 seconds:
- More than 40 seconds.

Oxytocin
Record the amount of oxytocin per volume IV fluids in drops per minute every 30 minutes when used.

Drugs given
Record any additional drugs given.

Pulse
Record every 30 minutes and mark with a dot (●).

Blood pressure
Record every 4 hours and mark with arrows.

Temperature
Record every 2 hours.

Protein, acetone and volume
Record every time urine is passed.
<table>
<thead>
<tr>
<th>Name</th>
<th>Gravida</th>
<th>Para.</th>
<th>Hospital no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of admission</td>
<td>Time of admission</td>
<td>Ruptured membranes</td>
<td>hours</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
<td></td>
<td></td>
<td></td>
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<td>160</td>
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<td>110</td>
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<tr>
<td>100</td>
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<tr>
<td>Liquor Moulding</td>
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</tbody>
</table>

![Chart of Normal Labour](chart_normal_labour.png)

- **Active Phase**
- **Latent Phase**

<table>
<thead>
<tr>
<th>Cervix centimetre (plot X)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Descent of head (plot G)</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

| Hour | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

<table>
<thead>
<tr>
<th>Contraction</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Oxytocin U.I.</th>
<th>1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Drugs given</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>170</td>
<td>160</td>
</tr>
<tr>
<td>150</td>
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<td>120</td>
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<td>90</td>
<td>80</td>
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<tr>
<td>70</td>
<td>60</td>
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</table>

<table>
<thead>
<tr>
<th>Pulse</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>170</td>
<td>160</td>
</tr>
<tr>
<td>150</td>
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<td>90</td>
<td>80</td>
</tr>
<tr>
<td>70</td>
<td>60</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Temp °C</th>
<th>180</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Protein</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>170</td>
</tr>
<tr>
<td>Volume</td>
<td>160</td>
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</table>

<table>
<thead>
<tr>
<th>BP</th>
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<tbody>
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<tr>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>60</td>
<td>50</td>
</tr>
</tbody>
</table>
INDICATIONS FOR REFERRAL TO HOSPITAL
*(see also “Rapid Initial Assessment”)*

<table>
<thead>
<tr>
<th>MOTHER</th>
<th>1st STAGE</th>
<th>2nd STAGE</th>
<th>3rd STAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maternal distress *</td>
<td>Abnormal contractile pattern of uterus</td>
<td>Maternal shock</td>
</tr>
<tr>
<td></td>
<td>Strong uterine contractions with no progress</td>
<td>Lack of progress of presenting part</td>
<td>Elevated Blood Pressure</td>
</tr>
<tr>
<td></td>
<td>Malpresentations</td>
<td>Unmanageable conditions</td>
<td>Elevated Temperature &gt;39.4°C / 99.4°F</td>
</tr>
<tr>
<td></td>
<td>Prolonged 1st stage &gt;12 hours for primigravida and &gt;8 hours for multigravidas</td>
<td>Abnormal bleeding</td>
<td>Severe lacerations or extended episiotomies</td>
</tr>
<tr>
<td></td>
<td>Premature rupture of membranes</td>
<td></td>
<td>Retained placenta / membranes</td>
</tr>
<tr>
<td></td>
<td>Vaginal bleeding</td>
<td></td>
<td>Incomplete placenta / membranes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Amnionitis (foul smelling liquor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Haemorrhage from uterus or lacerations</td>
</tr>
</tbody>
</table>

*MATERNAL DISTRESS*: Pulse rate >100, Temperature >39.4°C, vomiting, urine scanty /concentrated, acetone smell on breath, restlessness / anxiety, and dry lips and tongue.

<table>
<thead>
<tr>
<th>BABY</th>
<th>1st STAGE</th>
<th>2nd STAGE</th>
<th>3rd STAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Foetal distress</td>
<td>Loss of /irregularity of foetal heart</td>
<td>Respiratory distress</td>
</tr>
<tr>
<td></td>
<td>Umbilical cord prolapse</td>
<td>Cord prolapse</td>
<td>Asphyxia neonatorium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fresh meconium stained amniotic fluid</td>
<td>Sepsis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shoulder dystocia</td>
<td>Intrauterine Growth Retardation (IUGR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prematurity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Congenital abnormality</td>
</tr>
</tbody>
</table>

**FOETAL DISTRESS**: Excessive foetal movements, foetal rate with increase /decrease of 20 beats per minute, irregular, intermittent, or takes progressively longer to recover its normal rate after each contraction has ceased. Meconium-stained liquor in a vertex presentation.

**For district midwives**: In the event of any complications, seek urgent guidance from obstetrician/paediatrician and transfer client as quickly as possible to hospital.
IMMEDIATE CARE AFTER DELIVERY
MOTHER

<table>
<thead>
<tr>
<th>AREA OF ATTENTION</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Episiotomies, laceration</td>
<td>Suture/ repair</td>
</tr>
<tr>
<td>3rd degree laceration</td>
<td>Transfer to hospital</td>
</tr>
<tr>
<td>Uterus</td>
<td>Massage for contraction Expel clots</td>
</tr>
<tr>
<td>Bleeding</td>
<td>Repeat Ergometrine Measure and record blood loss If bleeding is above &gt;500ml transfer to hospital</td>
</tr>
<tr>
<td>Pallor (palmar and conjunctival)</td>
<td>Transfer to hospital</td>
</tr>
<tr>
<td>with or without excessive bleeding</td>
<td></td>
</tr>
<tr>
<td>Placenta and Membranes</td>
<td>Examine for completeness Weigh and record findings</td>
</tr>
<tr>
<td>Vital signs</td>
<td>Observe and document within the first hour. If signs of maternal distress, transfer to hospital</td>
</tr>
<tr>
<td>Fundal height</td>
<td>Observe and document as above</td>
</tr>
</tbody>
</table>

If a midwife is called to perform a home delivery of a known diabetic woman, and delivery is imminent then:

- Deliver and transfer mother and child immediately to hospital.
- Initiate early feeding. Administer oral glucose (5 %) 10 mls per hour to baby en route to hospital.

REMINDER: Rhesus-negative mothers with Indirect Coombs’ Test (ICT) positive should be given RHOGAM within 72 hours after delivery.
### Modification of Obstetrical Practice for HIV+ Clients

#### General

All HIV-positive clients are to be delivered in hospital. However, if a midwife is called to perform a home delivery and delivery is imminent then:

- Practice universal precautions.
- Routine episiotomies should be avoided unless absolutely necessary.
- Give stat dose of Nevirapine to mother.
- Transfer both mother and baby to hospital.

---

<table>
<thead>
<tr>
<th>Area of Attention</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cord</td>
<td>Hold baby at level lower than the mother’s perineum for 2-3 minutes post delivery, then clamp cord and cut <strong>or</strong> clamp and cut immediately if resuscitation is required. Ligate at least 2 inches distal to umbilicus.</td>
</tr>
<tr>
<td>Body Temperature</td>
<td>Remove blood, meconium with sterile swab and wrap baby including head in dry sheet. <strong>Keep warm</strong> If hypothermic, dry and wrap immediately and provide extra heat. Do not bathe or remove vernix. Vernix has lubricating and anti-infective properties and should not be removed from baby’s skin.</td>
</tr>
<tr>
<td>Nutrition and Bonding</td>
<td>Within 30 minutes of delivery, allow mother to identify baby’s gender. Then give baby to mother and put to breast for at least 20 minutes</td>
</tr>
</tbody>
</table>

Document delivery data on appropriate forms noting the following:

- Drugs and anaesthetic given.
- Time of start and end for each stage of labour.
- Method of delivery of baby and by whom.
- Method of delivery of placenta and by whom.
- Lacerations, episiotomies and the repair.
- Condition of cord, membranes and placenta.
- Condition of the baby at birth.
- Condition of mother after delivery.

Birth notification should be done using appropriate form, to local registrar within 14 days of birth.
<table>
<thead>
<tr>
<th>Guideline: INTRANATAL CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Revised:</td>
</tr>
<tr>
<td>Approved by: Director, Family Health Services</td>
</tr>
</tbody>
</table>
7. POSTNATAL CARE
7. POSTNATAL CARE

POLICY
Mothers and babies should be re-assessed a minimum of three times as follows: 6 hours, 6 days and 6 weeks postpartum by a physician or midwife.

GOAL
To ensure the mother’s satisfactory recovery from the physical and emotional strain of childbirth. To prevent infection, detect and manage abnormalities, establish and maintain lactation, and support bonding in mother and child.

OBJECTIVES
- To ensure that at least 80% of mothers attend 6 weeks postnatal clinic.
- To ensure that at least 80% of mothers accept a family planning method at postnatal visit.
- To achieve 25% acceptance of a dual method by mothers at 6 weeks.
- To achieve 70% of babies being exclusively breastfed.

INDICATORS
- Number of postnatal visits within 6 days (disaggregated into home, RMC and hospital)
- Number of 6-weeks postnatal clinic visits
- Percent of women immunized with MMR and DT
- Percent of PAP smears done at 6 weeks postnatal postnatal clinic
- Percent of breast examination done at 6 weeks postnatal clinic
- Percent of women accepting a family planning method at 6 weeks
- Percent of women accepting a dual method at 6 weeks
- Percent of women with TL done in postpartum period
- Percent of women with postpartum IUCD insertion
Percent of women referred to doctor/hospital for complications
Percent of women having repeat Haemoglobin at 6 weeks clinic
Percent of babies exclusively, partially and not breastfed at 6 weeks
Percent of babies of HIV-positive mothers receiving breastmilk substitutes
Percent of babies receiving BCG and Pentavalent vaccine
Percent of infants of HIV-positive mothers being seen at paediatric clinic.

STRATEGIES
- Minimum of three visits to mother and child (within 6 hours, 6 days, and at 6 weeks).
- Adequate nutrition for mother.
- Promotion of exclusive breastfeeding.
- Postpartum contraception.
- Cervical cancer screening.
- Immunization for mother: (as per protocol).
- Immunization for baby: (as per protocol).
- Referral of babies of HIV-positive mother to paediatrician.
- Strengthening of referral system between Primary and Secondary Health Care.
- Usage of Maternal Record Book (passport).
- Appropriate training of staff.
- Usage of protocols.
- Health promotion.

POSTNATAL HOME VISITS

<table>
<thead>
<tr>
<th>PLACE OF DELIVERY</th>
<th>HOME VISITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>Days 1, 3, 6, 9</td>
</tr>
<tr>
<td>Hospital</td>
<td>During 1st week</td>
</tr>
<tr>
<td>Rural Maternity Centre</td>
<td>Days 6, 9</td>
</tr>
</tbody>
</table>
### REQUIRED EXAMINATIONS / ACTIONS OF MOTHER AND BABY

<table>
<thead>
<tr>
<th>DAY</th>
<th>PLACE OF DELIVERY</th>
<th>MOTHER</th>
<th>BABY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td>Home</td>
<td><strong>Check:</strong> Breasts, Vital signs, Lochia, Bowel action</td>
<td><strong>Check:</strong> Vital signs, Cord, Passage of meconium, Reflexes, Colour of skin and eyes (for jaundice), Breastfeeding, Birth injury/congenital abnormalities</td>
</tr>
<tr>
<td><strong>Day 3</strong></td>
<td>Home</td>
<td><strong>Check:</strong> Vital signs, Breastfeeding, Lochia, Fundal height, Bowel action</td>
<td><strong>Check:</strong> As above, Demonstrate bathing of baby</td>
</tr>
<tr>
<td><strong>Day 6 &amp; 9</strong></td>
<td>Home, Hospital &amp; RMC</td>
<td><strong>Check:</strong> <em>In addition to Day 3 activity:</em> Social readjustment, Family planning, Nutrition, Birth registration.</td>
<td><strong>Check:</strong> <em>In addition to Day 3 activity:</em> General appearance, Baby’s accommodation</td>
</tr>
</tbody>
</table>

Indications for referral of the mother to the hospital are the following puerperal complications:

- Persistent hypertension (diastolic BP >90mm Hg)
- Retained placenta
- Puerperal pyrexia/sepsis
- Puerperal psychosis/depression
Severe anaemia (palmar and conjunctival pallor and/or Hb <7g/L)
SOB, chest pain

**NB** – Complete the postpartum section of maternal record. Give appointment for postnatal examination at nearest Health Centre at 6 weeks postpartum.

**POSTNATAL VISIT AT SIX WEEKS**
*(May be earlier for babies of HIV +ve mothers—see PMTCT Manual)*

**Procedures**
- Conduct postnatal examination and document findings as per maternal care record for mother and child.
- Give MMR to mother if not fully immunized.
- Immunize baby as per immunization protocol.
- Discuss/initiate contraception including Lactational Amenorrhea Method (not recommended for HIV-positive mothers) and Dual Method.
- Conduct cancer screening test (Pap smear).
- Conduct haemoglobin test (if indicated) and give advice/treat/refer accordingly.
- Screening and appropriate management of Mothers who tested positive for syphilis.
- Refer mother and/or baby to obstetrician/paediatrician for management of abnormalities.
- Give appointment for family planning and child health clinics for follow-up.

**INDICATIONS FOR REFERRAL TO MEDICAL OFFICER/OBSTETRICS & GYNAECOLOGY CLINIC/PAEDIATRICIAN AT 6 WEEKS CLINIC**

**Mother**
- Mastitis
- Persistent Hypertension (diastolic BP >90mm Hg)
- Severe anaemia (palmar and conjunctival pallor and/or Hb <7g/L)
- Persistent vaginal discharge
- Persistent temperatures over 101°F
- Mental disorder (e.g. postpartum depression or psychosis)
- Complications of episiotomies/tears
- Any other abnormality
Infant
- HIV-positive mother
- Respiratory distress (respiratory rate <30 or >60/min, and check for chest in-drawing)
- Congenital abnormalities
- Persistent jaundice
- Fever or unstable body temperatures (<36°C or >38°C)
- Infections (including eye and umbilicus)
- Tremors/convulsion
- Failure to gain weight or serious problems with feeding
- Persistent vomiting or abdominal distension
- Pallor
- Any other abnormality

Infant of HIV-positive mother
- Visit at 6 weeks of age, three and six months for routine medical care including immunizations and growth monitoring.
- A blood sample should be collected from infants of HIV-positive mothers to determine HIV status at 2 months and 4 months of age using PCR technique. If PCR is not available, do HIV antibody test at 18 months.
### MANAGEMENT OF COMMON MATERNAL DISORDERS

<table>
<thead>
<tr>
<th>DISORDER</th>
<th>ACTION</th>
</tr>
</thead>
</table>
| **Engorged Breast** | Advise mother to express a small amount of breast milk before and empty breast after feeding.  
Nurse infant for up to 15 minutes on each breast.  
Bathe breast with warm water.  
Use breast pump where available.  
For persistent and painful engorgement, refer to Medical Officer.  
For HIV-positive mothers, who choose not to breastfeed, do not express milk.  Give analgesics and use a warm compress to relieve hardness followed by a cold compress to relieve the discomfort.  Give good support.  
**Try to avoid lactation suppression drugs, though they may be necessary** |
| **Cracked Nipples** | Keep nipples clean and dry.  
Paint nipples with Gentian Violet or Tincture Benzoin Co.  
Express breastmilk and feed the infant by cup and spoon if nipples are too sore. |
| **Lacerations/Episiotomies** | Wash vulval area daily with warm solution of Savlon and clean with cotton.  
Sitz baths are indicated. |
| **Persistent vaginal bleeding** | Ascertain the amount of bleeding.  
Do pelvic examination to check the source of bleeding and consistency of uterus.  
For heavy and persistent bleeding, refer to Medical Officer. |
| **Constipation**    | Correct with diet – fluids, high-fiber fruits and vegetables.  
Exercise.  
Good toilet habits. |
Guideline: POSTNATAL CARE

<table>
<thead>
<tr>
<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
<th>Index:</th>
</tr>
</thead>
</table>

Approved by: Director, Family Health Services
8. CARE OF THE NEWBORN
8. CARE OF THE NEWBORN

(See also: Guide for Newborn Resuscitation and Care)

POLICY
A skilled birth attendant who is trained in resuscitation of the newborn should attend all deliveries.
High-risk pregnancies are to be delivered in type A or B hospitals with a paediatrician in attendance.
The Perinatal team should approach the care of the mother and the baby as a team, and coordinate the management of data as part of the continuous quality improvement exercise

GOAL
To reduce perinatal morbidity and mortality through early and effective management interventions in the newborn

OBJECTIVES
• To reduce perinatal mortality rate (PMR) to below 16 per 1000 births by 2015
• To achieve 70% exclusive breastfeeding at 6 weeks
• To certify 75% of hospitals and maternity units as baby-friendly
• To reduce the neonatal mortality rate (NMR) to 10/1000 live births by 2015
• To ensure that 100% of newborns (whether normal or high-risk), have a complete physical examination by a trained health provider within 48 hours of birth.

STRATEGIES
• Use of the APGAR score for initial assessment.
• Staff training in resuscitation and transport of newborns.
• Special care nurseries in type B and A hospitals.
• Access to paediatric care in each region with appropriate mechanisms for the transfer of sick newborns.
• Early initiation of breastfeeding (within 30 minutes of birth).
• Promotion of rooming-in of mother and baby.
• Adequate provision of equipment and drugs for resuscitation of the newborn.
• Appropriate long term follow up programmes for high risk newborns.

**INDICATORS**

- Percent of perinatal deaths
- Percent of neonatal deaths (early and late)
- Percent of babies being exclusively, partially or not breastfed.
- Percent of baby-friendly hospitals
- Percent of health care workers who received in-service training (CME) in previous year.

The newborn infant should be put with the mother as soon as possible after birth so that the process of maternal bonding and breastfeeding can be established. Only in instances where there are complications, such as asphyxia or respiratory distress in the infant, should infant and mother be separated.

*Always wash hands carefully before handling baby so as to avoid introducing infection.*

**Assess APGAR SCORE at one minute and again at 5 minutes after birth**

<table>
<thead>
<tr>
<th>SCORE</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Appearance (colour)</td>
<td>Blue</td>
<td>Pink centrally</td>
<td>All pink</td>
</tr>
<tr>
<td>P. Pulse (heart rate)</td>
<td>Absent</td>
<td>&lt;100</td>
<td>&gt;100</td>
</tr>
<tr>
<td>G. Grimace (reflex irritability)</td>
<td>No response</td>
<td>Grimace</td>
<td>Cough</td>
</tr>
<tr>
<td>A. Activity (muscle tone)</td>
<td>Limp</td>
<td>Some flexion</td>
<td>Active</td>
</tr>
<tr>
<td>R. Respiratory effort</td>
<td>Absent</td>
<td>Slow/irregular</td>
<td>Crying</td>
</tr>
</tbody>
</table>

*Use Newborn Resuscitation and Care Field Guide*
ESSENTIAL NEWBORN CARE  
*(see section on Intranatal Care)*

GENERAL CARE

| Umbilical cord                                           | Keep umbilicus clean and dry.  
|----------------------------------------------------------| Protect cord from urine and stool.  
|                                                          | An aqueous solution of Gentian Violet (1% Crystal Violet in 50% alcohol) may be used.  
|                                                          | Leave cord exposed outside of the diaper.  
|                                                          | Do not use binders.  
| Eyes                                                     | Wipe eyes with cotton swab moistened with cooled boiled water, clean from the nose outwards. Use a clean swab for each eye.  
|                                                          | Note any evidence of stickiness of the lids and refer for appropriate treatment.  
| Maintenance of Body Temperature                          | Clothe appropriately for climatic conditions.  
|                                                          | Ensure the room is warm (not <25°C and no draught). Keep the baby in the room with the mother in her bed or within easy reach (skin to skin contact advised).  
| Skin                                                     | Demonstrate the bathing techniques.  
|                                                          | Wash and dry skin gently especially between fingers, toes and creases. Apply pure petroleum jelly or zinc oxide ointment to diaper area.  

MANAGEMENT OF JAUNDICE

Jaundice in a newborn may be as a result of infection, bleeding or liver disorders. It may be observed by looking on the sclera (white part) of the eye or by blanching (pressing) the skin and looking for a yellow discolouration. Management should be guided by the doctor. In the early stages of life, mild-moderate jaundice may be managed by phototherapy or sun-bathing. However, if jaundice worsens and persists for greater than 2 weeks, refer newborn to the doctor for further evaluation.
EARLY DETECTION AND MANAGEMENT OF ABNORMAL CONDITIONS IN THE NEWBORN (see Newborn Field Guide)

Abnormal condition in the newborn requires immediate referral to the obstetrician/paediatrician.

<table>
<thead>
<tr>
<th>SYSTEM/ORGANS</th>
<th>ABNORMAL CONDITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>Anterior fontanelle—bulging, depressed, closed.</td>
</tr>
<tr>
<td></td>
<td>Head retraction</td>
</tr>
<tr>
<td>Neurological</td>
<td>Tremors/convulsions/abnormal or asymmetrical movements, floppy infant, irritability, lethargy</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Laboured breathing, retraction, grunting.</td>
</tr>
<tr>
<td></td>
<td>Respiratory rate &lt;30 or &gt;60/min</td>
</tr>
<tr>
<td>Cardiac</td>
<td>Heart rate &lt;120 or &gt;120 beats per minute</td>
</tr>
<tr>
<td>Skin</td>
<td>Cyanosis, pallor</td>
</tr>
<tr>
<td></td>
<td>Elevated or very low temperature(&lt;36°C and &gt;38°C)</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>No meconium/stools in 12 hrs</td>
</tr>
<tr>
<td></td>
<td>Poor sucking</td>
</tr>
<tr>
<td></td>
<td>Projectile or bile-stained vomiting</td>
</tr>
<tr>
<td></td>
<td>Distended abdomen</td>
</tr>
<tr>
<td></td>
<td>Excessive mucus in mouth</td>
</tr>
<tr>
<td></td>
<td>Gagging, coughing, cyanosis associated with feeding</td>
</tr>
<tr>
<td>Urinary</td>
<td>No urine in 24hrs although fluid intake is adequate</td>
</tr>
<tr>
<td>Jaundice</td>
<td>Occurs in the first 48 hrs accompanied by sepsis/infection</td>
</tr>
<tr>
<td></td>
<td>Associated with fever, poor feeding, twitching or other abnormalities</td>
</tr>
<tr>
<td>Malformations</td>
<td>i.e. Spina bifida, cleft palate/lip, imperforated anus, abnormal genitalia.</td>
</tr>
</tbody>
</table>

TRANSPORT OF SICK/LOW BIRTH WEIGHT BABY

- Scrupulous hand washing, before handling infant.
- Keep dry and keep head covered and give extra warmth (skin contact with mother/staff). Use aluminum wrap over cotton for extreme low weight babies.
- Minimum handling
- Ensure presence of health care worker trained in resuscitation during transport
- If oxygen available, administer by mask.

Infants of mothers who are Hepatitis B antigen positive need to be given Hepatitis B vaccine and immunoglobulin at birth (within 24 hours). Follow up Hepatitis B vaccination as per protocol.

**FEEDING OF THE NEWBORN**
- Put to breast immediately after birth. Feed on demand.
- Use expressed breastmilk and administer by cup and spoon if infant unable to suck.
- HIV-positive mothers should be advised against mixed feeding and counselled to make an informed choice.

**INTRAUTERINE DEATH OR STILLBIRTH**
Many factors will influence the woman’s reaction to the death of her baby. These include:
- the woman’s previous obstetric and life history
- the extent to which the baby was “wanted”
- the events surrounding the birth and the cause of the loss
- previous experiences with death.

**At The Time of The Event**
- Avoid using sedation to help the woman cope. Sedation may delay acceptance of the death and may make reliving the experience later—a part of the process of emotional healing—more difficult.
- Allow the parents to see the efforts made by the caregivers to revive their baby.
- Encourage the woman/couple to see and hold the baby to facilitate grieving.

*Emotional and psychological support*
- Prepare the parents for the possibly disturbing or unexpected appearance of the baby (red, wrinkled, peeling skin). If necessary, wrap the baby so that it looks as normal as possible at first glance.
- Avoid separating the woman and baby too soon (before she indicates she is ready), as this can interfere with and delay the grieving process.
After The Event

- Allow the woman/family to continue to spend time with the baby. Parents of a stillborn still need to get to know their baby.
- People grieve in different ways, but for many remembrance is important. Offer the woman/family small mementos such as a lock of hair, a cot label or a name tag.
- Where it is the custom to name babies at birth, encourage the woman/family to call the baby by the name they have chosen.
- Allow the woman/family to prepare the baby for the funeral if they wish.
- Arrange a discussion with both the woman and her partner to discuss the event and possible preventive measures for the future.

BIRTH OF A BABY WITH AN ABNORMALITY

- The birth of a baby with a malformation is a devastating experience for the parents and family. Reactions may vary.
- Allow the woman to see and hold the baby. Some women accept their baby immediately while others may take longer.
- Disbelief, denial and sadness are normal reactions, especially if the abnormality is unpredicted. Feelings of unfairness, despair, depression, anxiety, anger, failure and apprehension are common.

At The Time Of The Event

- Give the baby to the parents at delivery. Allowing the parents to see the problem immediately may be less traumatic.
- In cases of severe deformity, wrap the baby before giving to the mother to hold so that she can see the normality of the baby first. Do not force the mother to examine the abnormality.
- Provide a chair in the room or at the bedside so the companion can stay with the woman if she chooses.

After The Event

- Discuss the baby and the problem with the woman and her family together, if possible.
- Allow the woman and her partner free access to their baby. Keep the baby with the mother at all times. The more the woman and her partner can do for the baby themselves, the more quickly they will accept the baby as their own.
- Ensure access to supportive professional individuals and groups for counseling.
SURVEILLANCE AND MANDATORY REPORTING OF MATERNAL MORTALITY

The 9th and 10th revisions of the International Classification of Diseases, Injuries and Causes of Death (ICD 9/10) defines a maternal death as the “death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.”

This means that there was both a temporal and a causal link between pregnancy and the death. When the woman died, she could have been pregnant at the time (that is, she died before delivery) or within the previous 6 weeks have had a pregnancy that ended in a live or stillbirth, a spontaneous or induced abortion or an ectopic pregnancy. The pregnancy could have been of any gestational duration. In addition, the death was caused by the fact that the woman was or had been pregnant. Either a complication of pregnancy or a condition aggravated by pregnancy or something that happened during the course of caring for the pregnancy caused her death. In other words, if the woman had not been pregnant, she would not have died at that time.

Maternal deaths are subdivided in further groups as shown in table below (direct and indirect maternal deaths). New terms relating to maternal deaths have been introduced by the ICD-10: late maternal deaths, pregnancy-related deaths and coincidental maternal deaths.

**Maternal Mortality Surveillance** is the process that permits the identification, quantification, and determination of the causes of and avoidability of maternal deaths, with the goal of reducing maternal deaths.

Surveillance that identifies every maternal death will always require more than one source of information. Deaths occur in urban and rural areas; in hospitals and at home; early and late pregnancy; before, during and after labour, and delivery. Multiple data sources are required to find the most cases and the greatest amount of information about each death.

*All maternal deaths MUST be notified as a CLASS 1 NOTIFICATION and investigated using the maternal mortality surveillance forms,* (Reproductive Health/Quality Assurance Manual) and a report submitted to the National Surveillance Unit, Ministry of Health through the Medical Officer of Health.

Knowing the level of maternal mortality is not enough, we need to understand the underlying factors that also led to the deaths.
DEFINITION OF MATERNAL DEATHS

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal deaths</td>
<td>Death of women while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. “</td>
</tr>
<tr>
<td>Direct maternal deaths</td>
<td>Deaths resulting from obstetric complications of the pregnant state (pregnancy, labour, and puerperium) from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above.</td>
</tr>
<tr>
<td>Indirect maternal deaths</td>
<td>Deaths resulting from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by the physiological effects of pregnancy.</td>
</tr>
<tr>
<td>Late maternal deaths</td>
<td>Deaths occurring between 42 days and 1 year after the abortion, miscarriage or delivery that are due to direct or indirect causes.</td>
</tr>
<tr>
<td>Coincidental (fortuitous) deaths</td>
<td>Deaths from unrelated causes which happen to occur in pregnancy or the puerperium.</td>
</tr>
<tr>
<td>Pregnancy –related deaths</td>
<td>Deaths occurring in women while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.</td>
</tr>
</tbody>
</table>

Each maternal death or case of life-threatening complication has a story to tell and can provide indications on practical ways of addressing the problem.

A commitment to act upon the findings of these reviews is a key prerequisite for success.

All Health Regions must organize quarterly maternal and perinatal mortality committees at institutional/regional level to analyze all cases and take action.

All pregnancies occurring in women under 16 years of age must be reported to the Children’s Registry (The Child Protection Act, 2004).

All cases of abuse (including trafficking of persons) in women under 18 years of age must be reported to the Children’s Registry at 1-800-PROTECT (The Child Protection Act, 2004).
INDICATORS OF MATERNAL MORTALITY

- Number of Maternal deaths
- Number of Maternal deaths investigated
- Maternal Mortality Rate
- Number of active maternal and Perinatal mortality committees.
- Number of pregnancies < 16 years reported to child registry
- Number of abused women < 18 years reported to child registry

“Whose faces are behind the numbers? What were their stories? What were their dreams? They left behind children and families. They also left behind clues as to why their lives ended early”

Guideline: CARE OF THE NEWBORN

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<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
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Approved by: Director, Family Health Services
9. WOMEN’S HEALTH
(Management of the Menopause)
DEFINITIONS OF MENOPAUSE

The menopause is only one point in a continuum of life stages and health status at this time will be largely determined by prior health status, reproductive patterns, lifestyle and environmental factors.

Menopause occurs with the final menstrual period (FMP) which is known with certainty only in retrospect a year or more after the event.

The term peri-menopause should include the period immediately prior to the menopause (when the features of approaching menopause commence) and the first year after menopause. The term “climacteric” should be abandoned to avoid confusion.

The term pre-menopause refers to the whole reproductive period up to the final menstrual period.

Premature menopause: the age of 40 years is frequently used as an arbitrary cut-off point in the absence of reliable estimates

POLICY

Services for peri-menopausal women should be affordable and appropriate and integrated in the existing health services.

GOAL

To empower women for a smooth transition through this period of the life cycle.
To reduce morbidity and mortality associated with menopause and improve quality of life.

OBJECTIVES

To ensure that 70% of peri-menopausal women are managed appropriately.
STRATEGIES

- Health promotion.
- Counselling.
  - Contraceptive needs of peri-menopausal women.
  - Signs and symptoms of menopause.
- Training of staff.
- Standardised menopause management protocols should be developed.
- Provision of equipment and drugs.

AGE AT MENOPAUSE

In industrialized societies, the average age at menopause is about 51 years. The age at menopause is lowered by smoking (the most significant factor), by nulliparity and possibly by low socioeconomic status.

SYMPTOMS OF THE MENOPAUSE

- Hot flushes and night sweats.
- Other symptoms, not specific to the menopause, include depression, nervous tension, palpitations, headaches, insomnia, lack of energy, fluid retention, backache, difficulty in concentrating and dizzy spells.
- Vaginal atrophy with resulting dyspareunia.
- Urinary problems: urgency, dysuria, nocturia, stress incontinence and recurrent urinary tract infections (UTI).

Management of Menopause Symptoms

- Information
- Reassurance
- Diet, exercise
- Lubricant use during sexual intercourse
- Refer to Medical Officer for UTI and if symptoms are severe.
OSTEOPOROSIS AND FRACTURES

Osteoporosis is “a disease characterized by low bone mass and micro-architectural deterioration of bone tissue, leading to enhanced bone fragility and a consequent increase in fracture risk” (WHO Study Group).

The major health consequence of osteoporosis is fracture as osteoporotic bone is easily broken. The primary fracture sites are the long bones and vertebrae. Fractures of the vertebrae are painful and cause spinal deformity, but fractures of the long bones, especially the neck of the femur, cause the greatest morbidity and mortality.

There are large geographical variations in the prevalence of osteoporosis and the incidence of fractures.

The risk factors for osteoporosis in women are numerous:

- family history (genetic susceptibility)
- inadequate acquisition of vitamin D
- low calcium intake
- smoking
- high alcohol consumption
- inactivity.

Reduced bone mass is a major risk factor for fracture. Fracture risk is also affected by bone fragility, length of the femoral neck (for hip fracture), history of prior fracture (for vertebral fracture) and falls. Reduced bone mass is determined by bone density measurement.

Bone density measurement to predict a woman’s fracture risk at the time of the menopause allows for the selection of individuals who could benefit most from preventive interventions such as estrogen or estrogen plus progestogen therapy.

Prevention of osteoporosis is a high priority, especially because treatment of the established disease remains unsatisfactory. Prevention aims at promoting the adoption of healthy lifestyles throughout the life cycle and includes:

- appropriate diet
- supplementation with calcium and vitamin D (post menopause)
- maintenance of muscle tone and strength through exercise/physical activity
- friendly environment to prevent falls (elderly).
CARDIOVASCULAR DISEASES
Cardiovascular diseases (CVDs) are the most common cause of death in men over the age of 35 and in women over the age of 65 years. Mortality rates for CVDs in women are lower than those for men at all ages, but the gender gap is much greater in middle age than in old age (after menopause).

If estrogens and progestogens are prescribed at the time of the menopause, the goals of therapy must be clearly understood, i.e. either short-term relief of menopausal symptoms or long-term use to reduce the risk of cardiovascular disease and fractures, or to achieve both these goals.

The decision about whether or not to use hormones for both short-term and long-term preventive purposes should be based on an understanding of the risks and benefits of this type of therapy as well as on the personal preferences of the woman.

For women who experience a premature menopause, whether induced or natural, hormone therapy is recommended at least up to the usual age of natural menopause. The advice of the doctor must be sought in this regard.

CONTRACEPTION AND THE LATE PRE-MENOPAUSE
The late pre-menopause encompasses a period ranging from the mid-thirties to at least 50 years of age.

The majority of women in their forties are potentially fertile, yet almost all have achieved their desired family size. Safe, efficacious and acceptable contraception is a high priority for older pre-menopausal women throughout the world. Pregnancy in women aged over 35 years causes health risks to both the mother and the fetus. Maternal mortality, spontaneous abortion, perinatal mortality and fetal anomalies all increase with increasing maternal age.

Options: (see Family Planning chapter)
- Combined oral contraceptives containing low doses of an estrogen and a progestogen are suitable for healthy, non-smoking women over the age of 35.
- Progestogen-only contraceptives (oral preparations, implants, depot injectables or IUDs).
- Both copper-bearing and progestogen-releasing IUDs. Copper-bearing IUDs are also inexpensive.
- Barrier methods (not the most efficacious of contraceptive methods).
- Male or female sterilization.
- **Dual method should be advocated at all times.**
# WOMEN’S HEALTH SCREENING TOOL

<table>
<thead>
<tr>
<th>Frequency of Tests</th>
<th>Date Of Test / Exam</th>
<th>RESULTS</th>
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<td>65 yrs and Over</td>
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Guideline: WOMEN’S HEALTH  
(Management of the Menopause)

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<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
<th>Index:</th>
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Approved by: Director, Family Health Services
10. CANCER OF THE UTERINE CERVIX
(CERVICAL CANCER)
Cervical cancer remains a significant public health problem in Latin America and the Caribbean. Cancer of the uterine cervix is the most common cancer and the leading cause of death from cancer in women in Jamaica and in other developing countries.

Early onset of sexual activity and multiple sexual partners increases the risk of cervical cancer. Many cases are associated with human papilloma virus (HPV), a sexually transmitted agent that infects the cells of the cervix and slowly causes cellular changes that can result in cancer. Human papilloma virus (HPV) is now recognized as the major cause of cervical cancer, a disease that kills more than 200,000 women around the world each year. It has been estimated that 25,000 women die from cervical cancer in the Americas annually. Latin American and Caribbean countries exhibit some of the highest incidence rates in the world for cancer of the cervix uteri.

Well-organized cervical cancer screening programmes can significantly reduce incidence and mortality of cancer of the cervix. A reduction of at least 60% in incidence and mortality is possible, the maximum being around 90%. Recent evidence shows that the vast majority of cases of cytological dysplasia, i.e. abnormal changes in cervical cells, do not progress to more severe abnormalities. The incidence of cervical cancer is high in the 30-60 year age group, reaching an annual incidence of 124/100,000 in the 30-34 year age group.

**POLICY**

All women in the age group 25-54 years should be screened at least once every three years, women 55 years and over to be screened annually, and women at risk to be screened as indicated.

**GOAL**

To reduce incidence and mortality from cervical cancer through the early detection and treatment of pre-cancerous changes before they become clinically apparent.
OBJECTIVES

- To achieve a 60% reduction in cervical cancer mortality rates
- To achieve 80% screening of women aged 25-54 years with Pap smears every 3 years

STRATEGIES

- Target population defined as all females aged 25 to 54 years.
- Training of health care providers in Pap Smear technique, interpretation of results and management of positive smears.
- Provision of adequate supplies for screening and follow-up.
- Training and retention of cyto-technologists.
- Targeting of women in postnatal, family planning, STI, child health, special women’s and curative clinics. Special emphasis is placed on the HIV-positive female attending the HIV Treatment Centers at the parish and regional levels.
- Targeting of women at various community-based settings including the workplace. High-risk women are of special interest and include Commercial Sex Workers.
- Improved laboratory productivity and timely reporting of results.
- Media campaign/public education programmes promoting screening.
- Referral system for treatment and follow-up of women with positive smears.
- Strengthening of Parish and Regional colposcopy clinics.
- Data analysis for research and programme improvement.
- Human Papilloma Virus (HPV) vaccination.

PURPOSE OF CERVICAL CANCER SCREENING PROGRAMMES

- To detect cervical cancer before it becomes clinically apparent.
- To detect pre-cancerous changes of the cervix in need of treatment.
- To treat and/or refer and follow-up all women who are deemed to need further investigation or treatment based on any abnormalities detected.
CERVICAL CANCER SCREENING IN THE PRIMARY HEALTH CARE SETTING

(For details of screening and follow-up, please refer to Cervical Cancer Guidelines from Health Promotion and Protection Division)

Pap Smear

Pap test screening of sexually active women has been based on the concept that cervical cancer is at the end point of a continuum that begins with Cervical Intra-epithelial Neoplasia (CIN) 1, 2, 3 and progresses to micro-invasive and invasive cancer; and both pre-invasive lesions can be detected by cytological screening.

Target Population

- All women 25 to 54 years.
- Women of reproductive age with a history of genital warts, human papilloma virus (HPV) or other cervical atypia.
- Women at high risk for cervical cancer.

Risk Factors for Cervical Cancer

- Early age at first sexual intercourse.
- Family history of cervical cancer.
- HPV or other STIs.
- History of smoking.
- High parity.
- Multiple sexual partners.

Visual Screening

In the initial phase of the organized cancer screening programme for all women Down Staging will be applied. Down Staging, which aims to detect the disease at an earlier stage, involves use of a bivalve speculum for visual inspection of the cervix. Visual screening should be done at least once every year.
**CERVICAL CANCER SCREENING TOOL**

**Patient's Name:** __________________________  **Date of Birth:** __________________________

**Docket Number:** __________________________  **Parish:** __________________________

**Address:** __________________________  **Next of Kin** __________________________

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<tr>
<th>Frequency of Tests</th>
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**Footnotes:**

1. First Pap Smear to be done 3 years after age at first sexual intercourse.

2. Women with risk factors for cervical cancer may have a need for an annual Pap Smear.

3. Women in the 25-54 years age group who have had 3 consecutive normal Pap Smears should be tested every 3 years to age 65 years.

4. Women aged 65 years and over who have previously been screened regularly with normal results have no need for Pap Smears.
Frequency of Pap Smears
- First Pap Smear to be done 3 years after age at first sexual intercourse.
- Women with risk factors for cervical cancer may have a need for an annual Pap Smear, and should be assessed on case by case basis.
- Women in the 25-54 years age group who have had 3 consecutive normal Pap Smears should be tested every 3 years to age 65 years.
- Women aged 65 years and over who have previously been screened regularly with normal results have no need for Pap Smears.

Methodology, Procedure, Classification and Case Management
Please refer to the Cervical Cancer guidelines.

Where services can be accessed
- All Public and Private Hospitals
- Public and Private Health Centers
- Private Physician Offices
- Jamaica Cancer Society
- Satellite clinics or outreach programmes including health fairs with clinical facilities, workplaces, mobile units and other similar sites.

Abnormal Pap Smear
When an abnormal Pap smear is identified in the clinic the client must be promptly contacted and referred for appropriate follow-up. The results of the follow-up treatment should be recorded in the client’s file.

Who can provide follow-up
- Nurses/Midwives
- Physicians (including Obstetrics and Gynaecology specialists).
| Guideline: **CANCER OF THE UTERINE CERVIX**  
| (CERVICAL CANCER) |
|---|---|---|
| Date Revised: | Distribution to hospitals and health centres | Index: |
| | | |
| Approved by: **Director, Family Health Services** |
11. MEN’S HEALTH
Most incidents of domestic violence, motor vehicle accidents, intentional injuries, and incarcerations involve males. Moreover, all types of substance abuse are more prominent among males. They have poor health-seeking behaviours. Life expectancy is generally lower for men than for women, globally. They die more frequently than women from the leading causes of death. There is a loss of productive man-hours in the workplace. The direct and indirect costs involved are enormous. Men are said to be marginalized in the Jamaican society. Yet, historically, they have accepted the economic role in the household.

On the other hand, women’s health and associated issues have taken on increasing prominence in the global health arena, at least in the last decade or so. Promotive and preventive services for women have taken on a greater level of sophistication. The benefits are significant in reducing morbidity and mortality. Therefore, the same strategy must be applied to the male crisis and must include the provision of promotive and preventive health services that will arrest these pathological situations and reduce the number of new occurrences of these undesirable outcomes. A multi-disciplinary and inter-sectoral approach has been used in developed countries and should also be used in Jamaica in this regard.

**POLICY**

All males should have access to health services which are gender-sensitive, facilitate the employed person, of high quality and cost-effective. Special emphasis is to be placed on those aged 20 to 59 years. No one should be denied services.

**GOAL**

To provide promotive, preventive and curative health services that are specific to each age group of males, that will promote their health and wellbeing. Special emphasis will be placed on reproductive health (STI/HIV/AIDS prevention and family planning), cancer screening and prevention, chronic lifestyle diseases, violence prevention, occupational health and mental health and substance abuse.
OBJECTIVES

- To ensure that 100% of health centres are gender-sensitive
- To ensure that at least 80% of men aged 50 years and older, receive screening for prostate and colo-rectal cancer
- To ensure that there is 100% Voluntary Counselling and Testing (VCT) for HIV
- To achieve 25% Dual Method use in Family Planning.

STRATEGIES

The Services

- STI/HIV/AIDS: Voluntary Confidential Counselling and Testing (Pre- and Post-Test Counselling for HIV screening), information, education and counselling (IEC), and case management and referral for STI and AIDS.
- Family Planning service provision and education.
- Evaluation of dietary, exercise and smoking habits with measurement of Body Mass Index (BMI).
- Occupational Health: Exposure to chemical and other hazards, vaccinations (e.g. adult DT), and relevant information and education.
- Observation of National Men’s Health Week annually, with an appropriate theme. This celebration will involve local partners that may include, but are not limited to, other government sectors, community-based organizations, non-governmental organizations, faith-based organizations, the private health sector, tertiary institutions, sports organizations and the private business sector.

Access to Care

- Workplace: At least one hour per month is to be dedicated to men’s health issues (information, skills and services) at the workplace.
- Community settings: taking health promotion/health education activities and services to the community and homes.
- Health facilities: Extended health service delivery hours to include weekday evenings, and weekends.

Inter-sectoral and intra-sectoral collaboration is essential to facilitate health promotion, prevention and services to all men.
User Issues
Men tend to resist seeking health services until they are at a critical or near-death state and that decision is often taken by another person. There is a shying away from the “sick role” in contrast to women who attend more readily and focus on the sensitivity of health care providers to their needs. These attitudes and norms should be addressed through health promotion and education.

Provider Issues
Health care providers at all levels, must become more sensitive to men’s health issues. This requires training and re-training in conditions relevant to males and the services outlined above. Attitudes of health care workers must be compatible with this group and its special needs in order that providers minimize barriers to accessing care.

FOR SCREENING TOOLS
HIV, Syphilis and Voluntary Counselling: Please refer to the following manuals.
- VCT Manual
- HIV/AIDS Manual (Ministry of Health, Jamaica)
- STI Manual (Ministry of Health, Jamaica)
Depression: Please refer to screening tool in Mental Health Manual (Ministry of Health, Jamaica).
Colorectal cancers: Please see page 229.
### MENS' HEALTH SCREENING TOOL

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<td><strong>COLORECTAL CANCER Screening Tool: Risk Status</strong></td>
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### Guideline: MEN’S HEALTH

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<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
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Approved by: **Director, Family Health Services**
12. ELDERLY HEALTH
The over-60 year old or senior citizen population is the fastest growing segment of the population in Jamaica. The present population of over 250,000 persons is expected to double over the next thirty years. At this point in time, ageing is being seen in a new light.

Ageing is defined as “a lifelong development process of physical, social and psychological changes” and health care is seen as needed to promote and support active ageing.

Jamaicans are now expected to live to an average of 75 years. Women have a life expectancy of 78 years and men 73 years. Most people have their lives altered or shortened by diseases and disabilities, rather than the natural process of ageing.

**POLICY**

Comprehensive health care must be provided throughout the life-course including to the elderly, with special attention to maintaining their dignity.

**GOAL**

An actively ageing Jamaican population practicing a healthy lifestyle.

**OBJECTIVE**

- 100% of Primary Health Care clinics sensitive to the needs of the elderly
- 80% chronic disease patients screened for depression

**STRATEGIES**

- Training of health care workers
- On-going health promotion and education
- Community home-visiting
BASIS OF HEALTH CARE

The majority of the problems that seniors encounter occur in the community and a primary health care approach is the best way to reduce problems. Health care workers can support older persons in staying independent and healthy by understanding age-related changes and norms. Among seniors, even those who are relatively healthy, there is a constant need for regular health care and health supervision. This includes the monitoring of blood pressure, early detection and treatment of illness, monitoring of medications (adherence and side effects), monitoring of nutritional status (under- and over-nutrition), and the promotion of healthy lifestyles.

Older persons often have multiple pathologies, poly-pharmacy and an acceptance of their aches and pains as due to old age. They need to be encouraged to discuss their symptoms and should not be hurried. They need to feel comfortable during the health interaction and therefore take more time than the younger person. The interaction can be complicated by age-related changes including poor hearing that can result in poor communication and or memory impairment. A careful assessment will establish whether any of these factors are present.

PRINCIPLES OF HEALTH CARE OF THE ELDERLY

- Individuals gradually become more and more dissimilar as they age.
- Ageing does not produce an abrupt decline in organ function; but disease always does.
- The ageing process is accentuated by disease and attenuated by modification of risk factors, such as smoking, sedentary lifestyle and obesity.
- Healthy old age can be attained with different levels of prevention and health promotion.

Important Concepts

- Diseases can present early because of the lack of reserve capacities.
- Clinical signs and symptoms often differ from those of younger persons.
- Older people get symptoms but tend to present later to health care services.
- Small interventions can produce dramatic results.
- All levels of prevention are effective in old age.

HEALTH RISKS IN OLDER PATIENTS

- Several health risks related to unhealthy behaviour have been identified through epidemiological research in the last few decades. These include malnutrition (both over-nutrition and under-nutrition), inadequate consumption of fibre and fruits, physical inactivity and sedentary lifestyle, smoking and excessive alcohol
consumption. The list is far from being complete. Several health promotion measures have been advocated to avoid the ill-effects of these unhealthy behaviours.

- In addition, early detection of certain common cancers and the risk factors for atherosclerotic vascular disease, and immunizations have been proven to be cost-effective.
- Prevention of accidents and injuries by maintaining a safe home environment and prevention of adverse drug reactions through safe medication management practices have been shown to protect the elderly from life-threatening health problems.

**ASSESSMENT**

An assessment of older persons must be comprehensive and must focus on the physical aspect. It must also include a functional and cognitive assessment as well as a social support assessment. The assessment can be done annually but needs to be updated with each new episode of illness.

**ACTIVITIES OF DAILY LIVING SCALE FOR FUNCTIONAL ASSESSMENT**

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>FUNCTIONAL ASSESSMENT</th>
<th>INDEPENDENT</th>
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<tbody>
<tr>
<td>1. Bathing (sponge bath, or tub bath, or shower)</td>
<td>Receives no assistance or assistance in bathing only one part of body.</td>
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<tr>
<td>2. Dressing</td>
<td>Gets clothes and dresses without any assistance except for tying shoes.</td>
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<tr>
<td>3. Toileting</td>
<td>Goes to toilet room, uses toilet, arranges clothes, and returns without any assistance (may use cane or walker for support and may use bedpan or urinal at night)</td>
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<tr>
<td>4. Transferring</td>
<td>Moves in and out of bed and chair without assistance (may use cane or walker)</td>
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<tr>
<td>5. Continence</td>
<td>Controls bowel and bladder completely by self (without occasional accidents)</td>
<td></td>
</tr>
<tr>
<td>6. Feeding</td>
<td>Feeds self without assistance (except for help with cutting meat or buttering bread)</td>
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*Total ADL Score = (Number of “yes” answers, out of possible 6)*
The mini mental test is used for cognitive assessment.

**PREVENTIVE CARE**

The best thing a senior can do to protect him/herself and their health is not to get sick in the first place or, at the very least, become aware of the problems while they are still treatable. Preventive practices are both health- and lifestyle-related.

**Immunizations**

Annual influenza vaccination and vaccination every three (3) years with a pneumococcus vaccine is recommended for persons over 60 years of age.

**Breast Examination**

About 50% of all breast cancers occur in women aged over 65 years. All women should be instructed in how to do self-examination of their breasts and to do it at least once every month.

**Mammogram**

This test is recommended once between the ages 35 and 40 years to get a baseline and then every two years until age 50. Thereafter, an annual mammogram is recommended. The mammogram is done in conjunction with self-examination of the breast for lumps, which is recommended on a monthly basis.

**Stool Slide Test**

This is an analysis of the stool for hidden traces of blood, the appearance of which could mean disorder in the digestive tract or cancer. Stool Slide Tests are recommended once a year for everyone over 50 years.

**Urinalysis**

The urine is like a road map that details the workings of many vital organs. It is recommended that a urinalysis be done every year after the age of 40 years and more frequently for diabetics.

**Blood Tests**

Like the urine, the blood is a window to the workings of the body. Blood tests for executive profiles should be taken every five years until age 60 years and every two and a half years thereafter, if good results have been documented. Diabetics should do blood tests more often.

**Cancer Screening Tests**

Cancer of the cervix should be screened for in all women 25-54 years of age with annual pelvic examination and Pap smears every three (3) years. More frequent Pap smears should be done as indicated.

Cancer of the prostate increases with age and may be asymptomatic. Annual rectal/digital prostate examination is always recommended in all elderly men. PSA’s should be done annually after age 50 years.
The vision, hearing, teeth and feet of older people should be inspected periodically.

**PREVENTION OF ADVERSE DRUG REACTION**

- Older persons may require multiple drugs due to the presence of multiple degenerative diseases. As a result there is a high risk of drug interaction and adverse drug reaction.

- Pharmacokinetics and pharmacodynamics of drugs are altered in old age due to alterations in absorption from gastrointestinal tract, detoxification in liver, excretion through the kidney, composition of body fat and muscle mass and total body water and drug receptor sensitivity.

- Drugs which produce adverse reactions are: antibiotics, anti-arrhythmic drugs, digoxin, diuretics, non-steroidal anti-inflammatory drugs (NSAIDs), anti-Parkinsonian agents, anti-cholinergic drugs, sedatives, anti-depressants, anti-hypertensives, anti-coagulants and psychotropic drugs.

- Interventions to reduce adverse drug reactions are:
  - Frequent review of medication;
  - Instructions about possible side-effects;
  - Minimizing the number of drugs used;
  - Limited use of over-the-counter drugs;
  - Remaining alert for common side-effects such as: confusion, delirium, orthostatic hypotension, falls, anxiety, sleep disturbances, constipation, diarrhoea, urinary incontinence and urinary retention.

**ACCIDENTS**

- Accidents are associated with the pain and trauma of injury, loss of function, prolonged immobility and its complications, fear of future accidents, self-imposed isolation, and loss of independence.

- Most accidents in old age are in some way or the other related to normal age-related changes in the sensory system and the musculoskeletal system. These changes include:
  - Poor vision
  - Defective hearing
  - Decline in proprioception (touch and position-sense)
  - Decline in sense of touch and temperature
Defective balance and gait, and
Poor muscle strength and co-ordination.

- In addition, several other factors increase the probability of falls and accidents in elderly subjects. These include:
  - Cognitive impairment and dementia
  - Confusion
  - Chronic illness
  - Vaso-active drug use, and
  - Emotional stress.

- Thus, a large number of accidents can be avoided by recognizing and compensating for normal age-related changes. Several interventions can improve environmental safety. These include:
  - Use of colours to enhance the older person’s vision and depth perception
  - Removal of obstacles, especially furniture
  - Bright lighting in bathrooms, stairs
  - Use of flat shoes
  - Handrails and grab bars on stairs and in bathrooms
  - No loose wires or floorboards
  - Beds and chairs at proper height
  - No mats without slip-proof backing.

**HEALTH PROMOTION**

**Exercise**

Regular physical activity is essential to healthy living and should be promoted at all times.

**Physical fitness**

Physical fitness is to the human being like fine-tuning an engine. It is a foundation for good health and well being and should be encouraged.

**Exercise and weight maintenance**

Any form of exercise should involve the performance of the heart, lungs and muscles. Because exercise also prevents obesity, it helps to protect us from illness commonly associated with being overweight. By promoting muscle strength and balance it helps reduce accidents.
An important note on the "pot-belly": For every inch that the waistline exceeds the size of the chest, one can deduct two years from life expectancy.

Oral Health
Tooth decay and gum disease increases with age. Good oral health is important such as brushing the teeth and dentures daily. Dry mouth can cause difficulty with eating and can be a side effect of many medications. In order to reduce dry mouth, drink more water and avoid sugary snacks, caffeine drinks and alcohol.

Nutrition
- Over-nutrition causes obesity and is associated with hypertension, ischaemic heart disease (IHD) and diabetes, which are among the commonest health problems in old age.
- Under-nutrition is equally harmful leading to frailty, physical dependence and premature death apart from impairment of the immune system, increased risk of infection and poor wound-healing.

EATING HABITS
Healthy eating is important regardless of age. The life span of the average Jamaican has dramatically increased over the past century. Unfortunately, knowledge of the changing nutritional needs with ageing has not kept pace.

Causes of under-nutrition
- Ageing
- Eating processed foods low in nutritional value
- Reduced metabolism
- Diminished appetite (due to depression, loneliness, etc.)
- Effects of medications
- Lack of cooking skills (especially in widowers)
- Dental problems
- Changes in taste and sense of smell.

Tips for Good Nutrition
To ensure a well-balanced diet, the following guidelines for counselling are essential and it should be noted that eating regular meals is very important.

- Eat a variety of foods every day to ensure that the seniors are getting all the nutrients that are necessary for the maintenance of good health. These should include fresh fruits and vegetables, fish and fresh seafood, whole grains, nuts, beans and seeds for protein, fibre, minerals and essential fatty acids. Poultry and other meats, butter, eggs and dairy should be eaten in moderation.
• Drink at least 6 to 8 glasses of liquid daily.
• Avoid food high in cholesterol, such as shellfish.
• Limit total fat intake to less than 30% of daily calories and keep intake of saturated fats to less than 10%.
• Increase intake of dietary fibre, such as whole wheat bread, potatoes, corn, brown rice, cooked beans, peas, nuts, seeds and fresh fruits and leafy vegetables.
• Limit intake of foods that cause gas. However, each person will vary and will need to identify the foods relevant to them.
• Limit the use of salt and sodium compounds.
• Increase calcium intake, especially for women.
• Avoid too much sugar.
• Eat smaller more frequent meals.

**Constipation**

• Older persons frequently complain of constipation and often actually do have more constipation than younger persons. Bowel motility tends to decrease with age.
• A diet deficient in fibres and poor liquid intake are the most important causes of constipation in old age. Other causes of constipation are:
  ◊ drugs such as diuretics, anticholinergics, opiates and antidepressants
  ◊ mental health problems such as depression and dementia
  ◊ laxative abuse
  ◊ chronic debilitating disease and functional disability, and
  ◊ lack of physical exercise.
• Long-term complications of constipation are faecal impaction, megacolon, urinary infection and incontinence and confusional state. Impacted stools need to be removed manually, which is unpleasant, embarrassing and can cause rectal bleeding.
• Use of laxatives and purgatives are very common in old age. A right mix of lifestyle changes and laxatives can relieve constipation in old age.
SEXUALITY

Late-life Sexuality

- Sexuality is much more than simply the act of sexual intercourse. Sexuality is a normal and healthy part of life, which continues throughout the older years. It is strongly associated with the need for inter-personal relationships, the need for physical and emotional intimacy, the need for love and affection, and one’s self-image.

- By denying the need for sexual expression in old age, society makes the aged sexually invisible, which affects their feelings of self-worth and attractiveness. At a time when the need for intimacy and belonging is greatest, this can lead to loneliness and isolation. As members of society, health professionals also hold negative views about the sexuality of older adults.

- An older person’s attitude to sexuality depends on
  ◊ his or her past experiences
  ◊ positive psychological development; and
  ◊ physical health.

- Health problems that can reduce sexual desire and activity include cardiovascular disease, respiratory diseases, cancer, arthritis, osteoporosis, stroke, Parkinson’s disease, anaemia, diabetes, chronic prostatitis in men and chronic cystitis in women, urinary incontinence and functional limitations.

- The emotional state of the older person affects sexual performance. Grief over the death of loved ones, role adjustment after menopause and following retirement, fear, stress and worry, lack of privacy when living with children or when living in a nursing home or other institutional settings, all interfere with feelings of sexuality. The death of a lifelong partner may leave the remaining person frustrated.

- Many drugs have side-effects, which either reduce sexual desire or cause impotency in men; these include sedatives, certain analgesics, anti-spasmodics, tranquilizers, anti-depressants and certain anti-hypertensives. Their effects on women are less well understood. To reduce symptoms the physician can adjust most drugs.

- In counselling older persons who seek advice, health professionals should emphasize the quality of relationship with a focus on the person rather than the performance, and be well informed and comfortable so that correct, unbiased information is provided. Sexuality should always be described in the broadest sense that is beyond just sexual intercourse, including social participation, finding meaning in relationships, holding hands, hugging and so on.

- Older persons can get STD’s (including HIV), and must be counselled appropriately.
INCONTINENCE

Urinary incontinence can be classified as either acute or chronic.

- Acute or sudden incontinence can be due to urinary tract infections, diabetes, vaginal infections, faecal impaction, medication use, confusion and systemic sepsis. Acute incontinence resolves as soon as the underlying cause is treated.

- Chronic urinary incontinence can be
  - Stress incontinence: loss of urine during coughing, sneezing, laughing or other physical activity that increases abdominal pressure
  - Urge incontinence: loss of urine associated with an abrupt and strong desire to void; and
  - Overflow incontinence: loss of urine associated with over-distension of the bladder.

Managing incontinence depends on the type of incontinence. Drugs are sometimes needed; however, most symptoms can be minimized by behavioural techniques and adaptation to the environment.

- Stress incontinence is usually managed by improving the strength of pelvic musculature.
- Urge incontinence is managed by anticholinergic drugs and pelvic muscle exercise.
- Overflow incontinence is associated with a full bladder and requires intervention for the primary disease. In the presence of irreversible conditions such as neurogenic bladder, catheterization may be required.

- In addition, the patient needs to be educated with several behavioural interventions, such as:
  - Bladder retraining by regular voiding at 2-hour intervals even if there is no urge.
  - Limitation of fluid intake to the daytime.
  - Using some form of underwear protection because leakage and accidents are common.
  - Wearing loose clothing so that changing clothes is easier.
  - Avoiding strenuous exercise.
  - Limiting the use of dietary irritants: caffeine, carbonated drinks, highly acidic foods.
  - Practise relaxation techniques.
  - Maintain good skin care and good hygiene.
  - Monitoring for urinary tract infections.
MENTAL HEALTH

- Older people suffer a wide range of psychiatric disorders. Concurrent physical illnesses increase the vulnerability to mental health illness.

- Though underestimated and undetected, most of these conditions have excellent prognosis with proper management.

- Older adults and their families usually deny the existence of mental health problems because:
  - They feel these problems are shameful.
  - They believe the problem is a repayment for the bad deeds done earlier in life.
  - They are convinced that the healing of illnesses is in God’s hands.
  - They think suffering should be endured.

**Depression**
This is the commonest mental health disorder in old age and may not be present in the classical way.

- The aetiology of depression in old age includes genetic susceptibility, chronic disease and disability, pain, frustration with limitations in activities of daily living, personality trait (dependent, anxious or avoidant), adverse life-events (widowhood, separation, divorce, bereavement, poverty, social isolation) and lack of adequate social support.

- Typical symptoms of depression may not be marked in old age. Usual symptoms are somatic complaints, sleep disturbance and agitation. Other symptoms include anorexia, thoughts of death, impaired concentration and dysphoria (symptom complex with depression, anxiety and restlessness). Suspected cases should be referred to the doctor for screening and further assessment.

**Stresses of Old Age**
Common situational stresses in older people include:

- Widowhood and the death of other significant relatives
- Care-giver stress
- Fear of death, financial difficulties and loss of independence
- Changes in living arrangements and previous roles
- Social isolation.

The emotional response to these problems include grief, guilt, loneliness, loss of meaning in life and lack of motivation, anxiety, anger, feelings of powerlessness and depression.
Cognitive impairment is usually associated with depression hence, the importance to screen for depression in primary health care clinics.

**Mental Impairment**

Numerous changes occur in the brain with which an individual usually copes. When the age-related changes are excessive, they are accompanied by functional impairment and are referred to as mental impairment. Age-associated memory loss with no other associated sign is one form of dementia. Alzheimer’s disease is a form of dementia, and is a severe form of impairment characterized by multiple cognitive impairment and physical and behavioural problems. Other causes of dementia include Lewy body, Parkinson’s disease and vascular disease. Symptoms of dementia include gradual memory loss, decline in the ability to perform routine tasks, disorientation, difficulties in judgement, learning and communication and personality changes. The rate of progression is highly individualistic and ranges from three to twenty years.

Cognitive impairment of normal ageing produces little disability and can be easily distinguished from dementia even early in the disease.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>DEMENTIA</th>
<th>AGE-ASSOCIATED MEMORY PROBLEM</th>
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<tbody>
<tr>
<td>Forgets</td>
<td>Whole experience</td>
<td>Parts of an experience</td>
</tr>
<tr>
<td>Remembers later</td>
<td>Rarely</td>
<td>Often</td>
</tr>
<tr>
<td>Can follow written or spoken instructions</td>
<td>Gradually unable</td>
<td>Usually able</td>
</tr>
<tr>
<td>Can use notes</td>
<td>Gradually unable</td>
<td>Usually able</td>
</tr>
<tr>
<td>Can care for self</td>
<td>Gradually unable</td>
<td>Usually able</td>
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It is important that careful evaluation is carried out to exclude treatable causes of cognitive impairment, which include depression, adverse drug reaction, metabolic diseases and nutritional deficiencies.
Care of the Demented Patient
The objectives of caring for a demented elderly are:

- Protection from harm.
- Maintenance of independence in daily activities as long as possible.
- Improvement in communication.
- Prevention and reduction of occurrence of difficult behaviour.
- Provision of support to family and care-givers.

Support to Family and Care-givers
The family needs a great deal of emotional support in taking care of a relative with dementia. This may include co-ordination with support groups.

COMMON ILLNESSES IN OLD AGE
Diabetes
Ageing is associated with glucose intolerance and the factors that lead to the derangement of carbohydrate metabolism are:

- Decreased glucose-induced insulin secretion
- Impaired insulin-mediated uptake of glucose by skeletal muscle and adipose tissue; and
- Influence of increased body fat, physical inactivity, reduced dietary carbohydrates, impaired renal function, hypokalemia, increased sympathetic nervous system activity and effect of drugs (thiazide).

Most long-term complications of diabetes such as hypertension, diabetic foot disease, diabetic neuropathy and retinopathy are the diseases of advancing age. Diabetes increases the risk of mortality and is associated with reduced life expectancy. Diabetes is also associated with a higher risk of dementia.

The aims of managing diabetes in the elderly are:

- To relieve symptoms of hyperglycaemia, prevent undesirable weight loss and avoid hypoglycaemia and other adverse drug reactions
- To assess the impact of co-existing systemic medical illnesses such as hypertension and ischaemic heart disease (IHD)
- To screen for and prevent complications
- To recognize disability, limit handicap and maintain well being and quality of life.
Various common problems faced during the management of diabetes are:

- Irregular oral intake (confusion, poor appetite, concurrent illness)
- Recurrent infections (UTI, LRTI, skin)
- Leg ulcers, bedsores
- Increased vulnerability to hypoglycaemia
- Concurrent systemic disease (heart failure, renal failure)
- Difficulty in communication
- Lack of infrastructure (experienced health professionals, monitoring facility)
- Glycaemic control can be achieved by adequate diet (calorie and composition) and oral hypoglycaemic drugs.

OTHER ENDOCRINE DISORDERS

Hypertension

Hypertension is the commonest type of disease in old age and is also known as “high blood pressure”. It occurs when the blood flows through the system at a very high pressure that it causes damage to blood vessels and other vital organs such as the kidneys. It is a major cause of stroke (the bleeding or clotting of a blood vessel of the brain, which damages the brain, due to the loss of oxygen or other nutrients).

One of the more common signs of stroke is a sudden weakness or numbness often felt in the face, arm and leg or on one side of the body, which may or may not be temporary. There may be a slurring of words, loss of speech or unexplained dizziness or falls. Hypertension can also lead to kidney failure and loss of use of other organs.

Reducing salt in the diet, changing the diet, losing weight, regular exercise and if necessary, medication can control hypertension. If medication is necessary, be sure to work closely with the doctor and report all side effects. It is important that the right drug in the correct dosage is used.

Attention must always be paid to systolic hypertension even in the absence of raised diastolic pressure as it can result in vascular accidents. Treatment of hypertension can have major benefits and reduces complications and disability. However, older persons need to be monitored for the hypotensive effects of the medication. Drug dosages are usually less than for younger persons. Beta-blockers and diuretics are the main staves of treatment with increasing emphasis on the use of calcium channel blockers because of the additional benefit to the heart.
Heart Disease and Heart Attacks

Description
There are many types of heart disease. The most common type is a disease of the arteries called arteriosclerosis, better known as hardening of the arteries. This condition is caused by the build-up of plaque in the coronary arteries, which slowly cuts off the blood supply to the heart muscle and in turn leads to a heart attack.

Symptoms
Any pain or feeling of fullness or squeezing in the chest that lasts for more than two minutes should be considered as a possible heart attack. Also, pain in the shoulder or jaw can be a sign of a heart attack. Vomiting and sweating frequently accompany the pain. Older people may also suffer silent symptoms rather than painful ones. In such cases, the person may simply feel breathless or experience a sudden state of confusion or change in mental status, without experiencing any chest pain.

Prognosis
There is a lot that can be done to prevent heart disease. Usually a simple diet to reduce cholesterol is the first step. Advice should be given on a regular exercise programme, such as walking or riding a stationary bicycle. Clients should be educated about heart disease and about the things that can be done to avoid or reduce its effects.

Stroke
Stroke is defined as rapidly developing clinical signs of focal or global disturbance of cerebral function with symptoms lasting 24 hours or longer, or leading to death. Those lasting less than 24 hours are referred to as transient ischaemic attacks (TIA’s). Strokes are due either to a clot or a bleed.

Risk Factors
- Hypertension
- Increasing age
- Family history
- Obesity and hypercholesterolemia
- Smoking
- Lack of exercise
- Heart failure
- Atrial fibrillation
- Diabetes mellitus
- Anticoagulant therapy
**Management of Stroke**

The diagnosis of a stroke is always clinical and so investigations are required to confirm the pathology and aetiology of a stroke, to detect treatable cardiovascular risk factors and identify treatable complications of stroke, for which baseline investigations of blood, ECG and chest X-ray are useful.

**After the Diagnosis**

The management of a stroke involves:

- Medical intervention to minimize impairment
- Prevention and treatment of acute complications
- Rehabilitation to minimize disability
- Adaptation to minimize handicaps.

The prevention of a stroke in patients with TIA requires:

- Modification of risk factors: hypertension, smoking, cholesterol
- Drug therapy with anti-platelet agents and anticoagulants.

The patient as well as the family requires support in terms of education, training and counselling. Community and domiciliary rehabilitative services are essential for stroke patients living in communities.

**Joint and Muscle Problems**

Loss of muscle strength occurs in old age often due to preventable reasons such as:

- The failure to use the muscle group due to the lack of motivation, ignorance and pain.
- Bones become less dense due to loss of minerals and protein.
- Joints become stiff and painful due to loss of the articulate cartilage.

**Consequences of Age-related Changes in Musculoskeletal System**

- The most important functional impairment is a marked loss of muscle strength.
- There is a reduced range of movement of the spine and peripheral joints and loss of joint proprioception contributing to problems of balance.
- Changes in vertebrae lead to kyphosis and loss of height.
- These changes lead to joint and peri-articular pain and difficulty in initiating movement due to stiffness.
- Susceptibility to trauma increases.
- Loss of mobility leads to social isolation and loneliness.
The common disease in old age is osteoarthritis, a degenerative disease of the joints.

- Osteoarthritis is usually a result of an excessive and inappropriate mechanical stress or follows joint diseases secondary to trauma, infection, and inflammation, endocrine or metabolic diseases. In a substantial number of patients no cause can be demonstrated.
- Female sex, genetic predisposition and obesity are known risk factors.
- Osteoarthritis usually affects the weight-bearing joints such as knees, hips, lower spine, cervical spine and fingers. The onset is usually gradual.

The clinical features are pain, stiffness, swelling, and loss of movement and loss of function. The management is symptomatic relief and mobilization.
13. MENTAL HEALTH

(for details, see Mental Health Strategic Plan and Management Guidelines)

The Family Health Unit recognizes the mental health challenges that occur among various age groups. It has been estimated that approximately one in four patients visiting a health service has at least one mental, neurological or behavioural disorder but most of these disorders are neither diagnosed nor treated.

Mental illnesses affect and are affected by chronic conditions such as cancer, heart and cardiovascular diseases, diabetes and HIV/AIDS. Untreated, they bring about unhealthy behaviour, non-compliance with prescribed medical regimens, diminished immune functioning, and poor prognosis.

Barriers to effective treatment of mental illness include lack of recognition of the seriousness of mental illness and lack of understanding about the benefits of services.

It is recognized that Mental Health problems have both an undefined and hidden burden. The *undefined burden* of mental problems refers to the economic and social burden for families, communities and countries. Although obviously substantial, this burden has not been efficiently measured. This is because of the lack of quantitative data and difficulties in measuring and evaluating. The *hidden burden* refers to the burden associated with stigma and violations of human rights and freedoms. Again, this burden is difficult to quantify. This is a major problem throughout the world, as many cases remain concealed and unreported.

**POLICY**
All individuals should be provided with holistic, integrated care including that for mental health.

**GOAL**
To reduce morbidity and mortality from mental health-related conditions.

**OBJECTIVES**
- 80% screening of patients with chronic diseases for depression
- Timely referral of child and adolescent mental health concerns.
STRATEGIES

- Training of health care workers
- Health promotion and education
- Community-based care
- Development of policies and legislation

THE UNDEFINED BURDEN

Mental illnesses affect the functioning and thinking processes of the individual, greatly diminishing his or her social role and productivity in the community. Moreover, the individual’s health seeking behaviours may be severely compromised. In addition, because mental illnesses are disabling and last for many years, they take a tremendous toll on the emotional and socio-economic capabilities of relatives who care for the patient, especially when the health system is unable to offer treatment and support at an early stage. Some of the specific economic and social costs include:

- Lost production from premature deaths caused by suicide (generally equivalent to, and in some countries greater, than deaths from road traffic accidents);
- Lost production from people with mental illness who are unable to work, in the short, medium or long term;
- Lost productivity from family members caring for the mentally-ill person;
- Reduced productivity from people being ill while at work;
- Cost of accidents by people who are psychologically disturbed, especially dangerous in people like train drivers, airline pilots, factory workers;
- Supporting dependents of the mentally ill person;
- Direct and indirect financial costs for families caring for the mentally-ill person;
- Unemployment, alienation, and crime in young people whose childhood problems, e.g., depression, behaviour disorder, were not sufficiently well addressed for them to benefit fully from the education available;
- Poor cognitive development in the children of mentally ill parents, and the
- Emotional burden and diminished quality of life for family members.

THE HIDDEN BURDEN

Stigma can be defined as a mark of shame, disgrace or disapproval, which results in an individual being shunned or rejected by others. The stigma associated with
all forms of mental illness is strong but generally increases the more an individual's behaviour differs from that of the 'norm'.

Because of stigma, persons suffering from a mental illness are:

- Often rejected by friends, relatives, neighbours and employers leading to aggravated feelings of rejection, loneliness and depression;
- Often denied equal participation in family life, normal social networks, and productive employment;
- Stigma has a detrimental effect on a mentally ill person's recovery, ability to find access to services, the type of treatment and level of support received and acceptance in the community;
- Rejection of people with mental illness also affects the family and caretakers of the mentally ill person and leads to isolation and humiliation; and
- A major cause of stigma associated with mental illness are the myths, misconceptions and negative stereotypes about mental illness held by many people in the community.

The stigma can be reduced by:

- fostering a team approach to the mentally ill patient in both the primary and secondary / tertiary health care settings
- aggressively addressing stigma and discrimination issues among health care workers at all levels
- openly talking about mental illness in the community
- providing accurate information on the causes, prevalence, course and effects of mental illness
- countering the negative stereotypes and misconceptions surrounding mental illness
- providing support and treatment services that enable persons suffering from a mental illness to participate fully in all aspects of community life
- ensuring the existence of legislation to reduce discrimination in the workplace, in access to health and social community services.

THE PRIMARY CARE APPROACH TO MENTAL HEALTH

Integration With Primary Care Services

The approach to prevention and care seeks to link closely with the Mental Health and Substance Abuse programme in the Ministry of Health. Early recognition (including the use of screening tools in the Primary Health Care setting) and treatment or appropriate referral and community follow-up are the basic
requirements for this service. In addition, greater emphasis is being placed on the reduction of stigma and discrimination against the mentally ill and their families. In this regard, both the general public and health care workers are targeted. Appropriate training and sensitization of all categories of health care workers is also emphasized in order to ensure early recognition of mental disorders, particularly in patients not known to suffer from these conditions. Strong collaboration between Mental Health workers and other Primary Care employees facilitates this early recognition and access to treatment and other services.

**Mental Health Promotion**

The mental health promotion strategy is being developed through collaboration within the Family Health Unit and other divisions within the health sector. In this regard, the involvement of a wide range of non-health organizations and other government sectors as well as the community is also critical.

Outlined below are mental health challenges generally affecting various age groups and the general approach to management and referral.

**Children and Adolescents** – Behavioural and emotional disorders, depression and suicide, substance abuse, and post-traumatic stress disorder (associated with sexual and other forms of abuse and domestic and community violence). Referral to Child and Adolescent Mental Health Services (Child Guidance Clinics). There are parish level linkages with the Child Development Agency. These groups of individuals may be in or out-of-school.

**Adults** – Depression and suicide, substance abuse, post-traumatic stress disorders (associated with sexual and other forms of abuse and domestic and community violence), psychoses, personality disorders, other medical conditions including HIV/AIDS and cancers. Referral to Community Mental Health Services and also to Psychiatrist as needed, application of screening tool for depression.

**Elderly** – depression and suicide, various psychoses, other medical conditions including cancers, heart disease, diabetes mellitus, dementia and alcoholism. Referral to Community Mental Health Services and also to Psychiatrist as needed.

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**Guideline: MENTAL HEALTH**

<table>
<thead>
<tr>
<th>Date Revised:</th>
<th>Distribution to hospitals and health centres</th>
<th>Index:</th>
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</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approved by: **Director, Family Health Services**
BIBLIOGRAPHY AND REFERENCES

   - Management of Rheumatic Fever.
   - Management of Asthma.
   - Cervical Cancer Guidelines.


34. World Health Organization –WHO. *Menopause.*


ANNEX 1

CONVENTION ON THE RIGHTS OF THE CHILD

Article 23

1. States Parties recognize that a mentally or physically disabled child should enjoy a full and decent life, in conditions which ensure dignity, promote self-reliance and facilitate the child's active participation in the community.

2. States Parties recognize the right of the disabled child to special care and shall encourage and ensure the extension, subject to available resources, to the eligible child and those responsible for his or her care, of assistance for which application is made and which is appropriate to the child's condition and to the circumstances of the parents or others caring for the child.

3. Recognizing the special needs of a disabled child, assistance extended in accordance with paragraph 2 of the present article shall be provided free of charge, whenever possible, taking into account the financial resources of the parents or others caring for the child, and shall be designed to ensure that the disabled child has effective access to and receives education, training, health care services, rehabilitation services, preparation for employment and recreation opportunities in a manner conducive to the child's achieving the fullest possible social integration and individual development, including his or her cultural and spiritual development.

4. States Parties shall promote, in the spirit of international cooperation, the exchange of appropriate information in the field of preventive health care and of medical, psychological and functional treatment of disabled children, including dissemination of and access to information concerning methods of rehabilitation, education and vocational services, with the aim of enabling States Parties to improve their capabilities and skills and to widen their experience in these areas. In this regard, particular account shall be taken of the needs of developing countries.

Article 24

1. States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such health care services.

2. States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures:

   (a) To diminish infant and child mortality;

   (b) To ensure the provision of necessary medical assistance and health care to all children with emphasis on the development of primary health care;

   (c) To combat disease and malnutrition, including within the framework of primary health care, through, inter alia, the application of readily available technology and through the provision of adequate nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution;

   (d) To ensure appropriate pre-natal and post-natal health care for mothers;
(e) To ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, the advantages of breastfeeding, hygiene and environmental sanitation and the prevention of accidents;

(f) To develop preventive health care, guidance for parents and family planning education and services.

3. States Parties shall take all effective and appropriate measures with a view to abolishing traditional practices prejudicial to the health of children.

4. States Parties undertake to promote and encourage international co-operation with a view to achieving progressively the full realization of the right recognized in the present article. In this regard, particular account shall be taken of the needs of developing countries.

**Article 25**

States Parties recognize the right of a child who has been placed by the competent authorities for the purposes of care, protection or treatment of his or her physical or mental health, to a periodic review of the treatment provided to the child and all other circumstances relevant to his or her placement.
ANNEX 2

MILLENIUM DEVELOPMENT GOALS (MDGS)

The Millennium Development Goals (MDGs) are eight goals to be achieved by 2015 that respond to the world’s main development challenges. The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000.

The 8 MDGs break down into 18 quantifiable targets that are measured by 48 indicators. The Family Health Unit focuses primarily on MDGs 4 & 5.

Goal 1: Eradicate extreme poverty and hunger

Goal 2: Achieve universal primary education

Goal 3: Promote gender equality and empower women

Goal 4: Reduce child mortality

   Target 5: Reduce by two thirds the mortality rate among children under five

   13. Under-Five Mortality Rate (UNICEF)

   14. Infant Mortality Rate (UNICEF)

   15. Proportion of 1 year-old Children Immunised Against Measles (UNICEF)

Goal 5: Improve maternal health

   Target 6: Reduce by three quarters the maternal mortality ratio

   16. Maternal Mortality Ratio (WHO)

   17. Proportion of Births Attended by Skilled Health Personnel (UNICEF)

Goal 6: Combat HIV/AIDS, malaria and other diseases

Goal 7: Ensure environmental sustainability

Goal 8: Develop a Global Partnership for Development
### ORGANISMS COMMONLY CAUSING DIARRHEAL DISEASE IN CHILDREN

<table>
<thead>
<tr>
<th>ORGANISMS</th>
<th>INCIDENCE</th>
<th>PATHOGENESIS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROTAVIRUS</td>
<td>Responsible for up to 50% of diarrhea in children aged 6 to 24 months visiting treatment facilities. Causes an estimated 10-20% of all diarrheas in the community.</td>
<td>Virus is cytopathic to small intestinal epithelial cells</td>
<td>Prevalence - worldwide. Diarrhea is associated with vomiting and fever. Two serotypes of human rotavirus are known. Spreads by faecal-oral transmission. Almost all severe disease is restricted to children aged 6 - 24 months. Asymptomatic infection can also occur in neonates and adults. Peak incidence is in colder seasons.</td>
</tr>
<tr>
<td>ENTEROTOXIGENIC ESCHERICHIA COLI (ETEC)</td>
<td>Important pathogen in infants. Causes up to 25% of diarrheas in all age groups in developing countries.</td>
<td>Produces heat-labile (LT) and/or heat stable (ST) enterotoxins causing secretory diarrhea of small intestinal origin.</td>
<td>Important pathogen in infants, also common in older children and adults. Common cause of travellers' diarrhoea. Probably usually food-borne and water-borne.</td>
</tr>
<tr>
<td>SHIGELLAE</td>
<td>Causes up to 5% of acute diarrhea in children aged under 5 years. Also occurs in older children and adults.</td>
<td>Dysentery syndrome by invasion of large bowel. Enterotoxin mediated small bowel diarrhea.</td>
<td>Shigella flexneri most common in developing countries. Spreads commonly from person to person; less often by food and water. S. dysenteriae may cause epidemics with high mortality.</td>
</tr>
<tr>
<td>NON-TYPHOID SALMONELLAE</td>
<td>In developing countries up to 2% of diarrhoea in children can be due to Salmonella. Incidence increases as country becomes more developed.</td>
<td>Intracellular invasion of ileal epithelium by entero-toxin.</td>
<td>About 2000 serotypes. Spreads by foods, especially animal products. Multiple antibiotic resistances common. Produces acute febrile gastroenteritis.</td>
</tr>
<tr>
<td>VIBRIO CHOLERAE (Not presently a problem in Jamaica)</td>
<td>In cholera endemic areas: common in children 2-10 years of age and an important cause of dehydrating acute watery diarrhea in adults; it accounts for up to 10% of hospitalized patients in all age groups.</td>
<td>Produces secretory diarrhoea of small bowel origin due to a specific enterotoxin elaborated by V. cholerae.</td>
<td>It is emerging as an important cause of epidemic diarrhoea due to the recent spread of V. Cholera El Tor to many countries of the world. Usually water-borne or food-borne.</td>
</tr>
</tbody>
</table>
ANNEX 4

LIST OF RESOURCE / REFERRAL AGENCIES

CARE AND PROTECTION OF CHILDREN

CHILD DEVELOPMENT AGENCY
2-4 King Street
Kingston
Ph: 948-7067; 948-7206; 948-2841-3; 948-6678

FAMILY COURT
79 Duke Street
Kingston
Ph: 922-0001

EARLY CHILDHOOD COMMISSION
Shop 45-46 Kingston Mall
Ocean Boulevard
Kingston
Ph: 922-9296-7

OFFICE OF THE CHILDREN’S ADVOCATE
72 Harbour Street
Kingston
Ph: 967-5890; 967-3225; 948-3279; 948-3771

THE CHILDREN’S REGISTRY
C/O Child Development Agency
Kingston
Ph: 1-888-PROTECT; 497-6419; 822-7031; 878-2882

CENTRE FOR THE INVESTIGATION OF SEXUAL OFFENCES AND CHILD ABUSE (C.I.S.O.C.A.)
3 Ruthven Road
Kingston 10
Ph: 926-4079; 926-6538

CHILDREN FIRST
9 Monk Street
Spanish Town, St. Catherine
Ph: 984-0367

NATIONAL INITIATIVE FOR STREET CHILDREN
21 Hope Road
Kingston 10
Ph: 906-5444-5
SERVICES FOR CHILDREN AND PERSONS WITH DISABILITIES

MICO CARE ASSESSMENT CENTRE
5 Manhattan Road
Kingston 5
Ph: 960-1282

CARBERRY CHILD DEVELOPMENT CENTRE
Hope Estate
Papine, Kingston 6
Ph: 977-3176

JAMAICA ASSOCIATION FOR PERSONS WITH MENTAL RETARDATION
7 Golding Avenue
Kingston 7
Ph: 927-2054; 977-0134

JAMAICA ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES
7 Leinster Road
Kingston 5
Ph: 929-4341; 929-4348

JAMAICACOUNCIL FOR PERSONS WITH DISABILITIES
18 Ripon Road
Kingston 5
Ph: 926-9734-5

EARLY STIMULATION UNIT/ JAMAICA COUNCIL FOR THE HANDICAPPED
95 Hanover Street
Kingston
Ph: 922-0585

3D’s PROJECT (Dedicated to the Development of the Disabled)
14 Monk Street
Spanish Town, St. Catherine
Ph: 984-2840

JAMAICA ASSOCIATION FOR THE DEAF
9 Marescaux Road
Kingston 5
Ph: 926-7701; 906-6808

JAMAICA SOCIETY FOR THE BLIND
111 Old Hope Road
Kingston 6
Ph: 927-3760; 927-6757
THE LEARNING CENTRE
7 Leinster Road
Kingston 5
Ph: 929-4341; 929-4348

McCAM CHILD - CARE AND DEVELOPMENT CENTRE
231 Old Hope Road
Kingston 6
Ph: 977-0189; 977-6496
Resource Centre- Ph: 702-2874

MUSTARD SEED COMMUNITIES
1 Mahoe Drive
Kingston 11
Ph: 923-2165; 923-6000; 923-6488

SERVICES FOR PREGNANT ADOLESCENTS
WOMEN’S CENTRE OF JAMAICA FOUNDATION
42 Trafalgar Road
Kingston 10
Ph: 929-4242; 929-3512; 906-1607

RURAL FAMILY SUPPORT
5 Main Street
May Pen, Clarendon
Ph: 986-4242

SERVICES FOR WOMEN
WOMEN’S CRISIS CENTRE
7 Denehurst Avenue
Kingston 10
Ph: 929-2997; 929-9038; 1-888-274-7477

BUREAU OF WOMEN’S AFFAIRS
4 Ellesmere Road
Kingston 10
Ph: 754-8575-8

THE MENOPAUSE CENTRE OF JAMAICA LTD.
4A Caledonia Road
Mandeville, Manchester
Ph: 961-2082
SERVICES FOR MEN

FATHER’S INC.
C/O Dept. of Sociology, Psychology and Social Work
UWI, Mona
Ph: 977-0315

FATHERS IN ACTION
(counseling, paternity testing, family court support, single father support)
5-7 Dunrobin Avenue
Kingston 10
Hotline Ph: 893-9340
e-mail: fathersinaction@gmail.com

SERVICES FOR THE ELDERLY

NATIONAL COUNCIL FOR SENIOR CITIZENS
11 West Kings House Road
Kingston 10
Ph: 906-9277-8

REPRODUCTIVE HEALTH SERVICES FOR ADOLESCENTS, WOMEN AND MEN

NATIONAL FAMILY PLANNING BOARD
5 Sylvan Avenue
Kingston 5
Ph: 968-1629-36

MARGE ROPER COUNSELLING SERVICES
5 Sylvan Avenue
Kingston 5
Ph: 968-1619
ECP Hotline- Ph: 1-888-225-5327

HIV/AIDS HELPLINE
Ph: 967-3764; 967-3830; 1-888-991-4444

CENTRE FOR HIV/AIDS RESEARCH EDUCATION SERVICES (CHARES)
University Hospital of the West Indies
Mona
Kingston 7
Ph: 977-6921
CANCER SCREENING SERVICES

JAMAICA CANCER SOCIETY
16 Lady Musgrave Road
Kingston 5
Ph: 927-4265; 927-4573

SOCIAL SAFETY NET SERVICES

PROGRAMME FOR THE ADVANCEMENT THROUGH HEALTH AND EDUCATION (PATH)
14 National Heroes Circle
Kingston 4
Ph: 1-888-991-7284

HEALTH INSURANCE SERVICES

NATIONAL HEALTH FUND/ JAMAICA DRUGS FOR THE ELDERLY PROGRAMME
25 Dominica Drive
Kingston 5
Ph: 960-3443

NATIONAL INSURANCE SCHEME – NI GOLD
14 National Heroes Circle
Kingston 4
Ph: 922-8000-9

DRUG AND POISON CONTROL SERVICES

NATIONAL COUNCIL FOR DRUG ABUSE
2 Melmac Avenue
Kingston 5
Ph: 1-888-991-4244

DRUG ABUSE SECRETARIAT/ DRUG ABUSE HOTLINE
2 Melmac Avenue
Kingston 5
Ph: 926-9002

RISE LIFE MANAGEMENT SERVICES
57 East Street
Kingston
Ph: 967-3777-8; 1-888-991-4146

TEEN CHALLENGE
10 Shaw Park Road
Ocho Rios
St. Ann
Ph: 795-2695; 974-4598
CARIBBEAN POISON INFORMATION NETWORK  
C/O University of Technology  
Papine, Kingston 6  
Ph: 977-7777; 1-888-POISONS (764-7667)

COUNSELLING FOR PARENTS AND CHILDREN  
JAMAICA FOUNDATION FOR CHILDREN  
119 Old Hope Road  
Kingston 7  
Ph: 977-0040  
Parent’s Hotline- Ph: 977-6738; 1-888-991-5121  
Friend’s Hotline Ph: 977-5754; 1-888-991-4505  
Friend’s Factline Ph: 1-888-991-5140

CHILD GUIDANCE SERVICES  
C/O Bustamante Hospital for Children  
Arthur Wint Drive  
Ph: 920-0995; 968-0300-4

JAMAICA COALITION ON THE RIGHTS OF THE CHILD  
C.B. Facey Building  
Hope Estate, Papine  
Kingston 6  
Ph: 970-1776; 927-1098

COALITION FOR BETTER PARENTING  
42 Trafalgar Road  
Kingston 10  
Ph: 906-2561

HELP FOR PARENTS  
1A Trevennion Road  
Kingston 5  
Ph: 960-3289

THE COUNSELLING CENTRE  
14-16 West Avenue  
Kingston 8  
Ph: 755-3715-6

FAMILY LIFE MINISTRIES  
1 Cecelio Avenue  
Kingston 10  
Ph: 926-8101; 929-4360; 920-1034  
1-888-326-5433
JAMAICA AIDS SUPPORT
4 Upper Musgrave Avenue
Kingston 5
Ph: 978-4668

VIOLENCE PREVENTION AND SUPPORT SERVICES
CAMP BUSTAMANTE (CHILD ABUSE MITIGATION PROJECT)
C/O Bustamante Hospital for Children
Arthur Wint Drive
Ph: 926-5721-5 EXT. 252; 948-1542 EXT. 2072

VICTIM SUPPORT UNIT (Ministry of National Security)
47E Old Hope Road
Kingston 5
Ph: 946-0663; 946-9287; 978-8021

POLICE MEDIATION UNIT
12 Ocean Boulevard
Kingston Mall
Kingston
Ph: 967-5590-1

DISPUTE RESOLUTION FOUNDATION
5 Camp Road
Kingston 4
Ph: 906-2456; 906-0291; 908-3657

REGISTRATION OF BIRTHS AND DEATHS
REGISTRAR GENERAL’S DEPARTMENT
Twickenham Park
Spanish Town, St. Catherine
Ph: 984-3041; 1-888-743-2273