Supplementary webappendix

This webappendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

<table>
<thead>
<tr>
<th>Neonatal Insult</th>
<th>Diagnostic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neonatal Jaundice</strong></td>
<td>• Significant jaundice based on bilirubin level for age and weight of newborn based on internationally accepted criteria [39] [40]</td>
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<tr>
<td></td>
<td>• Non-obstructive jaundice [41]</td>
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<tr>
<td><strong>Neonatal Tetanus</strong></td>
<td>• Initially well and then onset of spasms that maybe provoked or spontaneous</td>
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<tr>
<td></td>
<td>• Trismus and difficulty feeding</td>
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<tr>
<td><strong>Neonatal Meningitis</strong></td>
<td>• Cerebrospinal fluid (CSF) culture positive for a causative organisms</td>
</tr>
<tr>
<td></td>
<td><strong>Or</strong> positive antigen test [42]</td>
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<td></td>
<td>• White cell count in cerebrospinal fluid of more than 50 cells per microlitre [42]</td>
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<tr>
<td></td>
<td>• Positive blood culture and/or gram stain</td>
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<td></td>
<td>• Glucose blood/CSF ratio &lt; 0.1</td>
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<tr>
<td><strong>Neonatal Sepsis</strong></td>
<td>• Positive blood culture</td>
</tr>
<tr>
<td></td>
<td>• Clinical definition of neonatal sepsis based on an accepted algorithm</td>
</tr>
<tr>
<td><strong>Hypoxic Ischemic Encephalopathy</strong></td>
<td>• Onset within 2 days of birth of severe or moderate neonatal encephalopathy in infants born at 34 or more weeks of gestation</td>
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<tr>
<td></td>
<td>• Acute perinatal event, and/or a 10 minute APGAR less than 5 or assisted ventilation for more than 10 minutes.</td>
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<tr>
<td></td>
<td>• Ideally also the following:</td>
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<td>• Evidence of metabolic acidosis (pH &lt;7 or less or base deficit &lt; 12 mmol per liter [43]</td>
</tr>
</tbody>
</table>
Other identifiable aetiologies such as trauma, coagulation disorders, infectious conditions, or genetic disorders were excluded [43].

<table>
<thead>
<tr>
<th>Preterm birth</th>
<th>Documentation of gestation age below 37 completed weeks by:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Where last menstrual period is known and expected date of delivery can calculated</td>
</tr>
<tr>
<td></td>
<td>• Acceptable gestation age estimation criteria with</td>
</tr>
<tr>
<td></td>
<td>o Ultrasound, ideally first trimester</td>
</tr>
<tr>
<td></td>
<td>o Dubowitz score [44]</td>
</tr>
<tr>
<td></td>
<td>o Other clinical scores with validation published eg Eregie [45]</td>
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</tbody>
</table>

| HIV           | Polymerase Chain Reactions (PCR) test that shows infection with the HIV virus, |

<table>
<thead>
<tr>
<th>Toxoplasmosis</th>
<th>Serological diagnosis of infection in the mother through seroconversion, presence of IgA and IgM, low avidity IgG, or PCR in amniotic fluid [46, 47]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Immunological diagnosis in the newborn with suggestive clinical history [46, 47]</td>
</tr>
<tr>
<td></td>
<td>• Histological diagnosis of the central nervous system tissues where post-mortem is done</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Rubella</th>
<th>Clinical diagnosis based on the classical triad of congenital heart disease, deafness and congenital cataracts, and history of maternal infection</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Ideally also supportive laboratory evidence such as</td>
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<tr>
<td></td>
<td>o increased antibody titres</td>
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<tr>
<td></td>
<td>o Persistence of rubella-specific IgG in the infant after 6 to 12 months</td>
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<td></td>
<td>o Virus isolation from any site such as fetal blood or chorionic villus biopsy</td>
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</tbody>
</table>

| Cytomegalovirus | Documentation of maternal infections by either IgG avidity testing or documented seroconversion |
- Detection of virus in the newborn from urine, saliva or blood

<table>
<thead>
<tr>
<th>Herpes</th>
<th>Syphilis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation of Herpes simplex virus (HSV) from skin lesions, CSF, urine, throat, nasopharynx or conjunctivae</td>
<td>High neonatal antibody titres: ≥ 4 times above the maternal levels</td>
</tr>
<tr>
<td>Detection of HSV DNA in CSF by PCR</td>
<td>Positive rapid plasma regain or venereal disease research laboratory (VDRL) will also be considered</td>
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<tr>
<td></td>
<td>Laboratory microscopic visualization of spirochetes</td>
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<tr>
<td>Search element</td>
<td>MEDLINE</td>
</tr>
<tr>
<td>----------------</td>
<td>---------</td>
</tr>
<tr>
<td>Exposure</td>
<td>Thesaurus terms exploded</td>
</tr>
<tr>
<td></td>
<td>Jaundice</td>
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<tr>
<td></td>
<td>Tetanus</td>
</tr>
<tr>
<td></td>
<td>Meningitis</td>
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<tr>
<td></td>
<td>Sepsis</td>
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<td></td>
<td>Preterm birth</td>
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<tr>
<td></td>
<td>Birth asphyxia</td>
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<tr>
<td></td>
<td>HIV</td>
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<tr>
<td></td>
<td>Toxoplasmosis</td>
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<tr>
<td></td>
<td>Rubella</td>
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<tr>
<td></td>
<td>Cytomegalovirus</td>
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<tr>
<td></td>
<td>Herpes</td>
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<tr>
<td></td>
<td>Syphilis</td>
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<tr>
<td>+Subheadings:</td>
<td></td>
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<tr>
<td>Complications</td>
<td></td>
</tr>
</tbody>
</table>
Diagnosis
Epidemiology
Aetiology
Mortality
Prevention/control
Psychology
Rehabilitation
Therapy
<table>
<thead>
<tr>
<th>Keywords</th>
<th>Outcome</th>
<th>Thesaurus terms exploded</th>
<th>Thesaurus terms exploded</th>
<th>Thesaurus terms exploded</th>
<th>Thesaurus terms exploded</th>
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</thead>
<tbody>
<tr>
<td>Sequal* OR Outcome*OR</td>
<td>Neurological impairment</td>
<td>Neurological impairment</td>
<td>Neurological impairment</td>
<td>Neurological impairment</td>
<td>MH &quot;Outcomes of Prematurity&quot;</td>
</tr>
<tr>
<td>Morbidity OR Prognosis</td>
<td>Neurologic manifestation</td>
<td></td>
<td></td>
<td></td>
<td>MH &quot;Outcomes (Health Care)+&quot;</td>
</tr>
<tr>
<td>OR Impairment OR Deficit</td>
<td>Dyskinesias</td>
<td></td>
<td></td>
<td></td>
<td>MH &quot;Treatment Outcomes+&quot;</td>
</tr>
<tr>
<td>OR follow-up OR long-term OR Incidence OR Prevalence</td>
<td>Gait Disorders</td>
<td></td>
<td></td>
<td></td>
<td>MH &quot;Outcome Assessment&quot;</td>
</tr>
<tr>
<td></td>
<td>Neurobehavioral manifestations</td>
<td></td>
<td></td>
<td></td>
<td>MH &quot;Problem Rating Scale for Outcomes (Omaha)+&quot;</td>
</tr>
<tr>
<td>Condition</td>
<td>Age</td>
<td>Population</td>
<td></td>
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</tr>
<tr>
<td>Paralysis</td>
<td>Infant, newborn</td>
<td>Age=newborn</td>
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<tr>
<td>Paresis</td>
<td>All</td>
<td>All</td>
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<td>Reflex-abnormal</td>
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<td>Sensation disorder</td>
<td>All</td>
<td>All</td>
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<tr>
<td>Voice Disorders</td>
<td>All</td>
<td>All</td>
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</tr>
</tbody>
</table>
References of publications reviewed

Preterm births


Hypoxic-ischemic encephalopathy


**Neonatal jaundice**


Neonatal Meningitis


**Neonatal sepsis**


**Cytomegalovirus**


**Herpes**


**Rubella**


**Toxoplasmosis**


**Neonatal tetanus**


**HIV**
