

**Algorithm**

**Recognition of the Sick CHILD**

**A heightened level of concern should be applied to ALL infants less than 3 months and advice from a Paediatric Clinician^ should be sought**

AIRWAY (Page 9)	BREATHING (Page 10)	CIRCULATION (Page 11)	DISABILITY / LOC / PAIN (Page 18 & 25)	FLUIDS IN / FLUIDS OUT (Page 19)	ACTION
Obstructed  Partially obstructed with increased effort of breathing	<ul style="list-style-type: none"> <li>Recent or current apnoea or abnormally slow breathing</li> <li>Severely increased effort of breathing                             <ul style="list-style-type: none"> <li>- with severe tachypnoea*, accessory muscle use, recession, nasal flaring, grunting and/or gasping</li> </ul> </li> <li><b>NOTE: above signs can be absent in:</b> <ul style="list-style-type: none"> <li>Exhaustion</li> <li>Central respiratory depression</li> <li>Neuromuscular problems</li> </ul> </li> <li>- reduced or asymmetric chest expansion</li> <li>- absent breath sounds</li> <li>SpO<sub>2</sub> less than 90% in any amount of oxygen</li> <li>Cyanotic</li> </ul>	<ul style="list-style-type: none"> <li>Cardiac arrest</li> <li>Severe tachycardia*</li> <li>Peripheral pulse absent or weak</li> <li>Bradycardia less than 60*</li> <li>Uncontrolled bleeding</li> <li>Central capillary refill over 4 seconds</li> <li>Hypotension*</li> </ul>	<ul style="list-style-type: none"> <li>Unresponsive</li> <li>Responds only to pain</li> <li>Severe pain: Pain score 7-10</li> <li>Seizure</li> <li>Paralysis</li> </ul>	<ul style="list-style-type: none"> <li>No urine output 24 hours</li> <li>Hyperglycemia (BGL greater than 12mmol/L) or Hypoglycemia (BGL &lt; 2mmol/L or symptomatic)</li> <li>Severe dehydration</li> </ul>	<ul style="list-style-type: none"> <li>Requires immediate response (refer to local escalation protocol)</li> <li>Continuous monitoring (HR, ECG, SpO<sub>2</sub> + frq BP + RR)</li> <li>Continuous clinical observation</li> <li>Discuss with Paediatrician or NETS (Tel: 1300 36 2500) regarding management and need for transfer</li> </ul>
Partially obstructed + normal effort of breathing	<ul style="list-style-type: none"> <li>Moderately increased effort of breathing                             <ul style="list-style-type: none"> <li>- With moderate tachypnoea*, moderate accessory muscle use, recession, nasal flaring</li> <li>- SpO<sub>2</sub> 90% - 94% in room air</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Moderate tachycardia*</li> <li>Pallor</li> <li>Central Capillary refill 3-4 seconds</li> <li>Skin mottled, cold</li> <li>Hypotension*</li> </ul>	<ul style="list-style-type: none"> <li>Responds only to voice</li> <li>Poor response to environment</li> <li>Moderate pain: Pain score 4-6</li> <li>Recent seizures</li> <li>Parasthesia</li> <li>Weak cry</li> <li>Irritability</li> <li>Agitation</li> </ul>	<ul style="list-style-type: none"> <li>Moderate dehydration</li> <li>Vomiting                             <ul style="list-style-type: none"> <li>- bile</li> <li>- coffee-ground</li> <li>- blood</li> <li>- greater than 6 in 12 hours</li> </ul> </li> <li>Melaena or red currant jelly stool</li> <li>Hyperglycemia (BGL 9-12mmol/L)</li> <li>Hypoglycemia (BGL 2-3mmol/L)</li> </ul>	<ul style="list-style-type: none"> <li>A clinical review by experienced clinician is required within 30 minutes (refer to local protocol)</li> <li>Continuous monitoring</li> <li>Consider need for transfer and discuss with senior clinician or NETS</li> <li>If clinical review is not undertaken within 30 minutes and the condition is not resolved, escalate call to a rapid response (refer to local protocol)</li> </ul>
Patent	<ul style="list-style-type: none"> <li>Mildly increased effort of breathing with mild tachypnoea*</li> <li>SpO<sub>2</sub> over 94% in room air</li> <li>Pink</li> </ul>	<ul style="list-style-type: none"> <li>Mild tachycardia*</li> <li>Normotensive</li> <li>Capillary refill (less than 3 seconds)</li> </ul>	<ul style="list-style-type: none"> <li>Alert but with decreased activity</li> <li>Mild pain: Pain score 1-3</li> <li>Prolonged sleeping</li> </ul>	<ul style="list-style-type: none"> <li>Mild dehydration</li> <li>Less than 50% of normal fluid intake</li> <li>Urine volume reduced</li> <li>Vomiting                             <ul style="list-style-type: none"> <li>- non-bilious</li> <li>- less than 6 in 12 hours</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Increase frequency of observations (refer to the SPOC)</li> <li>Initiate appropriate clinical care</li> </ul>
RISK FACTORS: CONSIDER AS MORE URGENT					
<b>SPECIFIC PROBLEMS</b> <ul style="list-style-type: none"> <li>High Risk Mechanism of Injury – page 24</li> <li>Rash: Petechial, non-blanching, allergic – page 24</li> <li>Testicular pain (surgical review) – page 24</li> <li>Chemical exposure / envenomation / ingestion (contact the NSW Poison Information Centre: 131126) – page 24</li> <li>Severe Burns – page 24</li> <li>Mental health presentation – page 21</li> </ul>		<b>AGE</b> <ul style="list-style-type: none"> <li>less than 3 months of age</li> </ul>	<b>ALSO CONSIDER</b> <ul style="list-style-type: none"> <li>Disease dynamic – how long has the child been unwell; what has occurred prior to presentation (symptoms and pre-hospital treatment eg antipyretics and sedating agents) – page 25</li> <li>Parental concern – what are the parents saying? Does their response seem appropriate to the child's condition? – page 25</li> <li>Co-morbidity – prematurity or chronic illness – page 25</li> <li>Immuno-compromised – page 25</li> <li>Recent admission to hospital – page 26</li> <li>Multiple presentations with same illness – page 26</li> </ul>		
IF DISCHARGING, PROVIDE PARENTS WITH FACT SHEET AND PROVIDE LETTER TO GENERAL PRACTITIONER AND/OR PAEDIATRICIAN					

\* Colour coding on this table corresponds with colour coding on the Standard Paediatric Observation Chart.

^ Paediatric clinician will vary according to the location – may include general or specialist paediatrician. Should at least be at the level of a Paediatric Registrar.

NB – Only one symptom is required for a higher urgency category to be allocated.

**Algorithm**

**Recognition of the Sick NEONATE**

**A heightened level of concern should be applied to ALL infants less than 1 month and advice from a Paediatric Clinician<sup>^</sup> should be sought**

AIRWAY (Page 9)	BREATHING (Page 10)	CIRCULATION (Page 11)	DISABILITY / LOC / PAIN (Page 18)	FLUIDS IN / FLUIDS OUT (Page 19)	ACTION
Obstructed  Partially obstructed with increased effort of breathing	<ul style="list-style-type: none"> <li>Recent or current apnoea or abnormally slow breathing</li> <li>Severely increased effort of breathing - with severe tachypnoea*, accessory muscle use, recessions, nasal flaring, grunting and/or gasping</li> <li><b>NOTE: above signs can be absent in:</b> <ul style="list-style-type: none"> <li>Exhaustion</li> <li>Central respiratory depression</li> <li>Neuromuscular problems</li> </ul> </li> <li>Reduced or asymmetric chest expansion</li> <li>Absent breath sounds</li> <li>SpO<sub>2</sub> less than 90% in any amount of oxygen or requirement for more than 60% oxygen</li> <li>Cyanotic or extreme pallor</li> <li>Need for CPAP or IPPV</li> </ul>	<ul style="list-style-type: none"> <li>Cardiac arrest</li> <li>Severe tachycardia*</li> <li>Peripheral pulse absent or weak</li> <li>Bradycardia*</li> <li>Uncontrolled bleeding</li> <li>Central capillary refill over 4 seconds</li> <li>Hypotension*</li> </ul>	<ul style="list-style-type: none"> <li>Unresponsive</li> <li>Unconscious</li> <li>Seizure</li> </ul>	<ul style="list-style-type: none"> <li>No urine output 24 hours</li> <li>Hyperglycemia (BGL greater than 12mmol/L) or Hypoglycemia (BGL less than 1.7mmol/L)</li> <li>Severe dehydration</li> <li>Weight loss greater than 15% birth weight</li> </ul>	<p><b>Only one symptom is required for a higher urgency category to be allocated</b></p> <ul style="list-style-type: none"> <li>Requires immediate response (refer to local escalation protocol)</li> <li><u>Continuous</u> monitoring (HR, ECG, SpO<sub>2</sub> + frq BP + RR)</li> <li><u>Continuous</u> clinical observation</li> <li>Discuss with Paediatrician or NETS (Tel: 1300 36 2500) regarding management and need for transfer</li> </ul>
Partially obstructed + normal effort of breathing  Secretions needing suction	<ul style="list-style-type: none"> <li>Moderately increased effort of breathing - With moderate tachypnoea*, moderate accessory muscle use, recession, nasal flaring, intermittent grunting in a newborn</li> <li>SpO<sub>2</sub> 90% - 94% in room air or requirement for more than 40-60% oxygen</li> <li>Abnormal pattern of breathing</li> </ul>	<ul style="list-style-type: none"> <li>Moderate tachycardia*</li> <li>Pallor</li> <li>Central capillary refill 3-4 seconds</li> <li>Skin mottled, cold</li> <li>Hypotension*</li> </ul>	<ul style="list-style-type: none"> <li>Hypotonic / hypertonic</li> <li>Poor feeding / suck</li> <li>Excessive crying</li> <li>Poor response to environment</li> <li>Recent seizures</li> <li>Weak cry or irritable high pitched cry</li> <li>Irritability</li> </ul>	<ul style="list-style-type: none"> <li>Moderate dehydration</li> <li>Weight loss of 10-14% birth weight</li> <li>Reduced number of wet nappies</li> <li>Markedly reduced volume and timing of feeds</li> <li>Vomiting - bile - coffee-ground - blood</li> <li>Melaena or red currant jelly stool</li> <li>Hypoglycemia - BGL 1.7-2.5mmol/L)</li> </ul>	<ul style="list-style-type: none"> <li>A clinical review by experienced clinician is required within 30 minutes (refer to local protocol)</li> <li><u>Continuous</u> monitoring</li> <li>Consider need for transfer and discuss with senior clinician or NETS</li> <li>If clinical review is not undertaken within 30 minutes and the condition is not resolved, escalate call to a rapid response (refer to local protocol)</li> </ul>
Patent	<ul style="list-style-type: none"> <li>Mildly increased effort of breathing with mild tachypnoea*</li> <li>SpO<sub>2</sub> over 94% in room air</li> <li>Pink</li> </ul>	<ul style="list-style-type: none"> <li>Mild tachycardia*</li> <li>Normotensive*</li> <li>Normal CRT less than 3 seconds</li> </ul>	<ul style="list-style-type: none"> <li>Alert but quiet</li> <li>Prolonged sleeping</li> </ul>	<ul style="list-style-type: none"> <li>Mild dehydration</li> <li>Weight loss up to 9% of birth weight</li> <li>Mild reduction in volume and time of feeds</li> <li>Increased milk vomits</li> </ul>	<ul style="list-style-type: none"> <li>Increase frequency of observations (refer to the SPOC)</li> <li>Initiate appropriate clinical care</li> </ul>
<b>RISK FACTORS: CONSIDER AS MORE URGENT</b>					
<p><b>SPECIFIC PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Maternal history of peripartum herpes, chorioamnionitis, fever, prolonged rupture of membranes (greater than 18 hours), group B strep colonisation</li> <li>Perinatal and post-natal complications</li> <li>Heart murmur / non palpable femoral pulses</li> <li>Dysmorphic features</li> <li>Bloated abdomen</li> <li>Umbilical discharge, redness or infection</li> <li>Skin infections</li> <li>Family history of childhood disease or consanguinity</li> </ul>		<p><b>TEMPERATURE</b></p> <ul style="list-style-type: none"> <li>Hypothermia* – page 25</li> </ul> <p><b>AGE</b></p> <ul style="list-style-type: none"> <li>All patients less than 1 month</li> </ul>		<p><b>ALSO CONSIDER</b></p> <ul style="list-style-type: none"> <li>Disease dynamic – ante-natal and family history; how long has the baby been unwell; what has occurred prior to presentation (symptoms and pre-hospital treatment eg antipyretics and sedating agents) – page 25</li> <li>Parental concern – what are the parents saying? Does their response seem appropriate to the child's condition? – page 25</li> <li>Co-morbidity – prematurity or congenital conditions (such as congenital heart disease or inborn error of metabolism) – page 25</li> <li>Immune-compromised – prematurity – page 25</li> <li>Readmission to hospital or multiple presentations with same illness – page 26</li> <li>Maternal health – consider post-natal depression and other mental health and drug and alcohol problems</li> <li>Neonates presenting with jaundice should get their bilirubin levels checked and plotted on an age appropriate chart – page 22</li> </ul>	
<b>IF DISCHARGING, PROVIDE PARENTS WITH FACT SHEET AND PROVIDE LETTER TO GENERAL PRACTITIONER AND/OR PAEDIATRICIAN</b>					

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