

Checklist for therapeutic hypothermia

If baby has a perinatal event and/or acidosis and meets the criteria below, therapeutic hypothermia may be indicated.

Call Retrieval Services Queensland immediately on 1300 799 127 to discuss with a neonatologist the need for transfer and therapeutic hypothermia.

Therapeutic hypothermia criteria

- Evidence of acidosis or depression at birth, as indicated by at least **one** of the following:
 - Apgar score ≤ 5 at 10 minutes
 - pH < 7.05 or a base excess equal to or worse than minus 12 mmol/L on a cord/arterial/venous/capillary blood gas obtained within 60 minutes of birth
 - Mechanical ventilation or ongoing resuscitation for ≥ 10 minutes

AND either of:

- Evidence of moderate or severe encephalopathy **at any time** from 1–6 hours of age (use modified Sarnat assessment)*

OR:

- Seizures (witnessed by medical officer/nurse/midwife or as seen on aEEG/EEG)

AND

- No absolute contraindications to therapeutic hypothermia:
 - Uncontrolled critical bleeding
 - Uncontrolled hypoxia due to persistent pulmonary hypertension
 - Imminent withdrawal of life support planned

AND

- Meets the following criteria:
 - ≥ 35 weeks**
 - Birth weight ≥ 1800 grams***
 - Able to begin cooling before 6 hours of age
 - Assessment made of relative contraindications (e.g. uncontrolled pulmonary hypertension, critical bleeding or coagulopathy, major congenital abnormalities, conditions requiring major surgery in the first 72 hours of life)
 - Assessed as not moribund and with plans for full care

*If baby has evidence of **mild encephalopathy** discuss with neonatologist

If baby is **< 35 weeks gestational age discuss with neonatologist

***If baby is **< 1800 grams** discuss with neonatologist

Abbreviations: aEEG: **amplitude-integrated electroencephalograph**; EEG: **electroencephalograph**;
 \geq : **greater than or equal to**; $<$: **less than**; \leq : **less than or equal to**

Queensland Clinical Guideline. *HIE - Checklist for Therapeutic hypothermia* Flowchart: F21.11-1-V10-R26



Assessment of encephalopathy severity (Sarnat scoring)

Assessment criteria	Encephalopathy severity				Hours from birth					
	<ul style="list-style-type: none"> Assess baby's signs against each criterion Record each hour the actual time of assessment during the first 6 hours of life Record severity for each sign: normal (n), mild (mild), moderate (mod) or severe (s) or N/A (if criterion not assessable) 				1h	2h	3h	4h	5h	6h
	Normal (N)	Mild (Mild)	Moderate (Mod)	Severe (S)	:	:	:	:	:	:
Level of consciousness	Alert/arouses appropriately	Hyperalert	Lethargic	Stupor or coma						
Spontaneous activity	Normal	Normal or increased	Decreased	None						
Posture	Normal	Normal or mild distal flexion	Distal flexion, complete extension	Decerebrate						
Tone*	Normal	Normal or increased in trunk and extremities	Hypotonia (focal or general)	Flaccid						
Suck reflex	Normal	Normal or incomplete	Weak	Absent						
Moro reflex	Strong	Strong, low threshold	Incomplete	Absent						
Autonomic system	Pupils equal and reacting to light; normal heart rate and respirations	Pupils equal and reacting to light; tachycardia; normal respirations	Pupils constricted; bradycardia or periodic/irregular breathing	Pupils deviated/dilated/non-reactive; variable heart rate or apnoea						
Seizures	None	None	Common, focal or multifocal	Uncommon (excluding decerebration)						

*Assess tone in both limbs and trunk/neck—presence of hypotonia in either meets the criteria.

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