

Hypoxic Ischemic Encephalopathy (HIE) in the Neonate

WHEN TO COOL? - ELIGIBILITY FORM



Time = Brain
Effective Diagnosis and
Therapeutic Hypothermia
in babies with HIE

Name: Date of Birth: Time of Birth:

Hospital No: NHS No:

Risk of Encephalopathy (one of these)

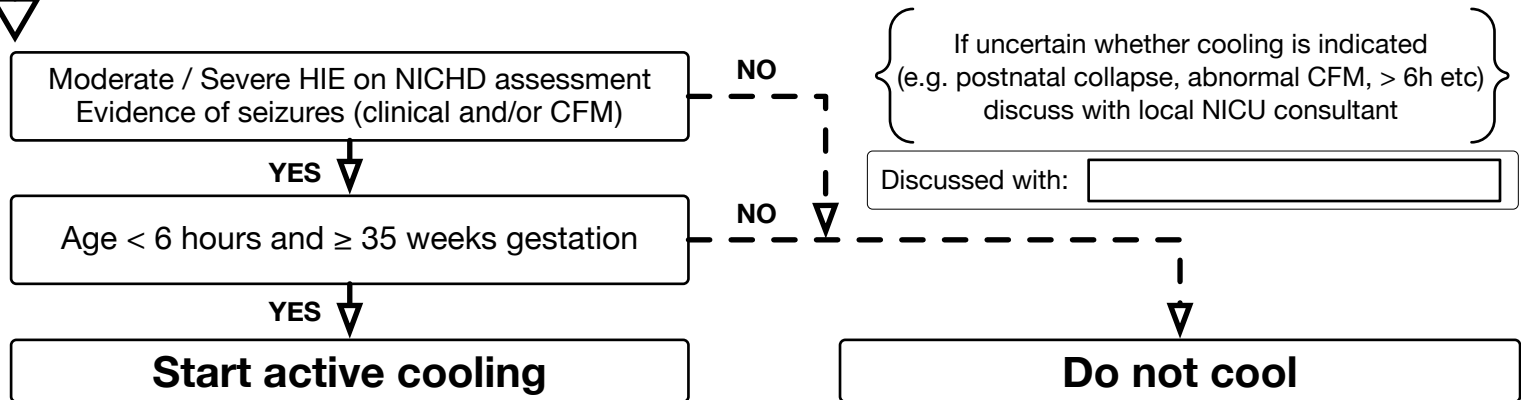
- Apgar Score ≤ 5 at 10 minutes
- Ongoing resuscitation / ventilation ≥ 10 minutes after birth
- Severe acidosis (pH < 7.1 or BE ≤ -12 mmol/l) within 60 minutes of birth

Postnatal Collapse
Asphyxial 'event'
needing resuscitation with
evidence of acidosis

Clinical signs of encephalopathy (either/both)

- Moderate/Severe HIE on NICHD Assessment (if HIE is mild, perform serial assessments until 6h)
- Evidence of Seizures (clinical and/or CFM)

Assessment:		Time (24h)				Age	NICHD Score	Seizures (Y/N)	CFM
Timing of assessments:	1st:	H	H	M	M				
	2nd:								
	3rd:								
	4th:								
	5th:								



Decision to cool? Yes / No	HIE Grade: None / Mild / Mod / Severe
Time active cooling started:	Time target temperature achieved:

Notes:

Assessment completed by: Grade: Signature:

NICHD Neurological Assessment of a Neonate with risk factors for HIE

NICHD Assessment		Domains			
Categories		Normal	MILD	MODERATE	SEVERE
1. Level of Consciousness		Alert, responsive to stimuli (state dependent)	Hyperalert, staring, jittery, high pitched cry, exaggerated response to minimal stimuli, inconsolable	Lethargy	Stupor/ comatose
2. Spontaneous Activity		Normal, changes position when awake	Normal, or decreased, with or without periods of excessive activity	Decreased	No activity
3. Posture		Predominantly flexed when quiet	Mild flexion of distal joints (fingers, wrists)	Strong distal flexion, complete extension	Intermittent decerebration
4. Tone		Strong flexor tone in all extremities	Normal or slightly increased peripheral tone	Hypotonia or hypertonia	Flaccid or rigid
5. Reflexes	Suck	Strong, easy to elicit	Weak, poor	Weak or has bite	Absent
	Moro	Complete	Partial response, low threshold to elicit	Incomplete	Absent
6. Autonomic	Pupils	Normal [Dark 2.5-4.5mm, Light 1.5 – 2.5mm]	Mydriasis	Constricted	Deviated, non-reactive, dilated
	Heart rate	Normal (100 to 160 bpm)	Tachycardia >160/min	Bradycardia <100/min	Variable
	Resp. rate	Regular respirations	Hyperventilation >60/min	Periodic breathing	Apnoea / ventilated
Total in each domain: (max 6)					
Grade of HIE:		Normal	Mild	Moderate	Severe
Evidence of Seizures:		No		Yes	

NICHD Assessment – 6 categories with 9 clinical aspects in 4 domains (normal, mild, moderate, severe).

How to use:

Evaluate all 9 aspects. Circle the worst domain for each of the categories. In both reflexes and autonomic, the worst domain dictates severity (*e.g. for reflexes, weak suck, absent Moro would put neonate as severe in that category*).

If two or more categories are not normal, (in any domain of HIE) then the neonate has at least mild HIE.

If three or more categories are moderate or severe, then neonate has moderate or severe HIE.

(*e.g. 3 moderate, 2 severe, 1 mild = neonate would have moderate HIE*).

If there are an equal number in mod/severe, then Category 1 (LoC) dictates grade.

Note if confirmed evidence of seizure activity, neonate classifies as at least moderate HIE.