

## ASSESSMENT CRITERIA FOR POSSIBLE THERAPEUTIC HYPOTHERMIA for HIE

Based on TOBY Register & CPS guidelines<sup>1,2</sup>

Gestation:  $\geq$  36 weeks.

Age:  $\leq$ 6 hours.

Treatment criteria A & B present.

### Criteria A (any two of the following)

- Apgar score  $<$ 5 at 10 min of age.
- Continued need for ventilation and resuscitation at 10 min of age.
- Metabolic acidosis with pH  $<$ 7.0 or base deficit  $>$ 16 mmol/L in cord or arterial blood gases measured within 1 h of birth.

### Criteria B

Moderate (Sarnat stage II) or severe (Sarnat stage III) encephalopathy demonstrated by the presence of:-  
**Seizures** or at least one sign from at least three of the six categories (grey zones) shown in Table below.

Clinical criteria for hypoxic ischemic encephalopathy			
	HIE		
Category	Mild	Moderate	Severe
<b>Level of consciousness</b>	Hyperalert	Lethargic (reduced response to stimulation)	Stupor or coma (Absent response to stimulation)
<b>Spontaneous activity</b>	Normal	Decreased	No activity
<b>Neuromuscular control</b>			
Tone Posture Stretch reflexes Segmental myoclonus	Normal Mild distal flexion Overactive Present	Mild hypotonia Strong distal flexion Overactive Present	Flaccid Decerebrate Absent Absent
<b>Primitive reflexes</b>			
Suck Moro	Weak Strong	Weak or Absent Weak	Absent Absent
<b>Autonomic system</b>	<u>Sympathetic</u>	<u>Parasympathetic</u>	<u>Both absent</u>
Pupils Heart Rate Respiration Secretions	Mydriasis Tachycardia Normal Sparse	Miosis Bradycardia Periodic Profuse	Nonreactive Variable Apnoea Variable
<b>Seizures</b>	None	Common	Uncommon

Information from amplitude integrated EEG provides useful adjunct information. Delay in obtaining this information should not prevent commencement of therapeutic hypothermia if clinical criteria are present.

Category	Mild	Moderate	Severe
aEEG (CFM)	Mild depression	Moderate depression	Severe depression

### References

1. <http://www.cps.ca/documents/position/hypothermia-for-newborns-with-hypoxic-ischemic-encephalopathy>
2. <https://www.npeu.ox.ac.uk/downloads/files/tobyregister/Register-Clinicians-Handbook1-v4-07-06-10.pdf>