

# HAMMERSMITH INFANT NEUROLOGICAL EXAMINATION

Name

Date of birth

Gestational age

Date of examination

Chronological age / Corrected age

Head circumference

## SUMMARY OF EXAMINATION

Global score (max 78)

Number of asymmetries

Behavioural score

Cranial nerve function score (max 15)

Posture score (max 18)

Movements score (max 15)

Tone score (max 24)

Reflexes and reactions score (max 15)



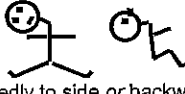
COMMENTS

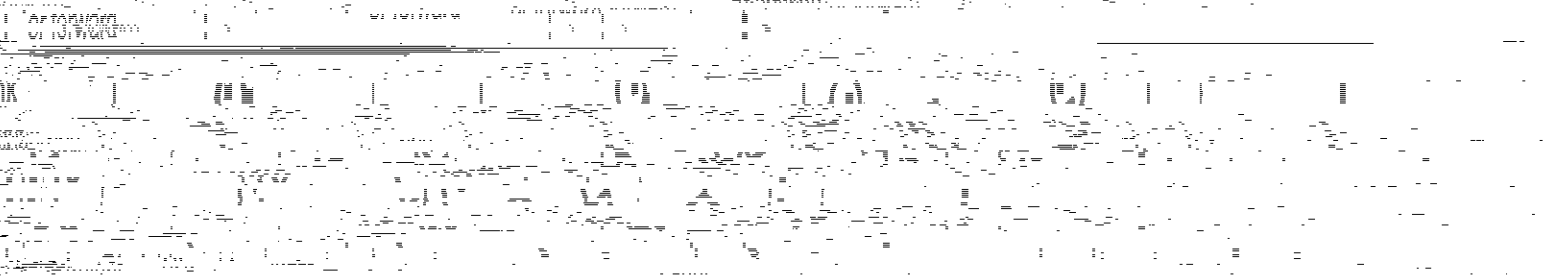
## NEUROLOGICAL EXAMINATION

### ASSESSMENT OF CRANIAL NERVE FUNCTION

	score 3	2	score 1	score 0	score	Asymmetry
at rest and when crying or	stimuli by closing	tightly, poor lacrimation	does not react to stimuli			
eye movements	Deviation of eyes or abnormal nystagmus	Deviation of eyes or abnormal nystagmus				
test the response to a tonic	Follows the target	Follows the target in	Does not follow			
When infant suck on breast or bottle. If older, ask about feeding	swallowing					

# ASSESSMENT OF POSTURE (note any asymmetries)

	score 3	score 2	score 1	score 0	sc	Comment / asymmetry
Head in sitting			 Slightly to side or backward	 Markedly to side or backward		

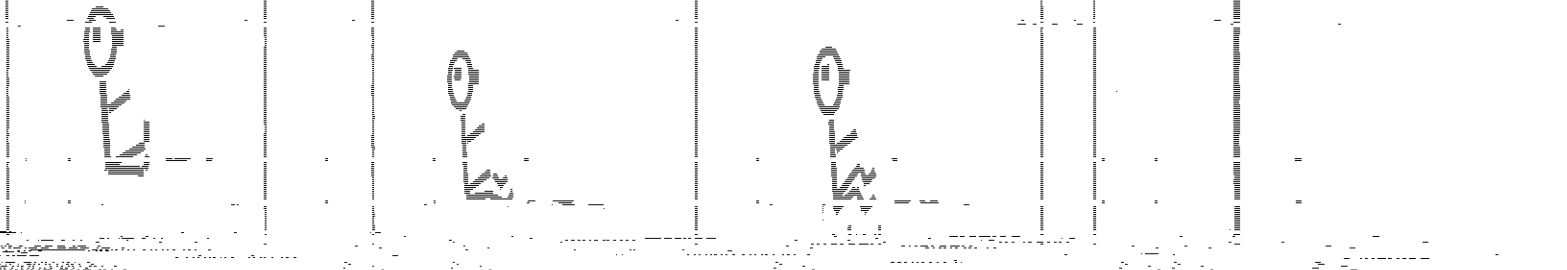


Head in sitting	rounded neck	sideways
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slightly bent	external rotation	external rotation or
	Intermittent dystonic posture	dystonic posture hemiplegic posture

hands open	abducted thumb or rising	abducted thumb or rising
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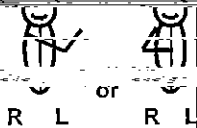

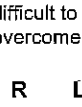

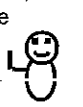
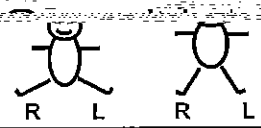
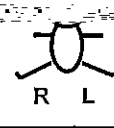
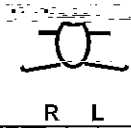
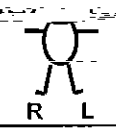


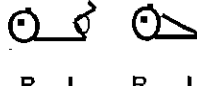

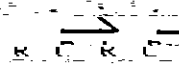


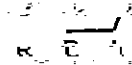
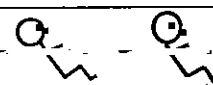
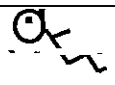
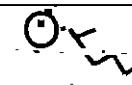
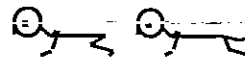


back and legs straight or slightly bent (long sitting)	bent at 15-20°	knees markedly bent (no long sitting)
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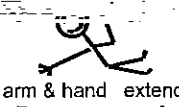


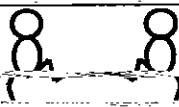
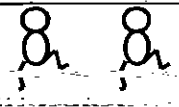

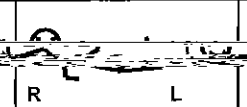




standing	legs in neutral position	internal rotation	Internal rotation or external rotation at the hips	external rotation or fixed extension or flexion or
	straight or slightly bent		contractures at hips and knees	
	or external rotation			

standing	Toes straight midway	external rotation	external rotation at the ankle
		Intermittent Tendency to stand on tiptoes or	Persistent Tendency to stand on tiptoes








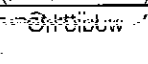
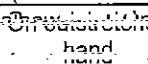
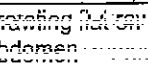
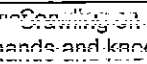


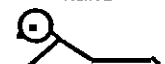
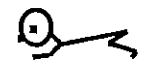
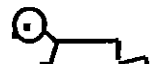
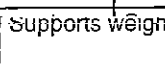
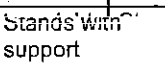
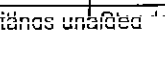
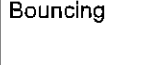
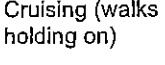
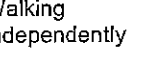
# ASSESSMENT OF TONE

	Score 3	Score 2	Score 1	Score 0	sc	comment
<b>Scarf sign</b>	Range:					
Take the infant's hand and pull the arm across the chest until there is resistance. Note the position of the elbow in relation to the midline.						
<b>Passive shoulder elevation</b> Lift arm up alongside infant's head. Note resistance at shoulder and elbow.	Resistance overcomeable 	Resistance difficult to overcome 	No resistance 	Resistance, not overcomeable 		
<b>Pronation/supination</b> Steady the upper arm while pronating and supinating forearm. Note resistance.	Full pronation and supination, no resistance		Resistance to full pronation / supination overcomeable	Full pronation and supination not possible, marked resistance		
<b>Adductors</b>	Range: 150-80°	150-160°	>170°	<80°		
extended, abduct them as far as possible. The angle formed by the legs is noted.						
<b>Popliteal angle</b> Keep the infant's bottom on the bed, flex both hips onto the abdomen, then extend the knees until there is resistance. Note the angle between upper and lower leg.	Range: 150°-100°	150-160°	~90° or > 170°	<80°		
						
<b>Ankle dorsiflexion</b>	Range: 30°-85°	20-30°	<20° or 90°	> 90°		
with knee extended, dorsiflex the ankle. Note the angle between foot and leg.						
<b>Pull to sit</b> Pull infant to sit by the wrists (support head if necessary)						
<b>Ventral suspension</b> Hold infant horizontally around trunk in ventral suspension; note position of back, limbs and head.						

# REFLEXES AND REACTIONS

	Score 3	Score 2	Score 1	Score 0	sc	comment
<b>Tendon Reflexes</b>	easily elicitable biceps, knee, ankle	mildly brisk biceps, knee, ankle	brisk biceps, knee, ankle	clonus or absent biceps, knee, ankle		
<b>Arm protection</b> Pull the infant by one arm from the supine position (steady the contralateral hip) and note the reaction of arm on opposite side.	arm & hand extend 		arm semi flexed 	arm fully flexed 		
<b>Vertical suspension</b> hold infant under axilla making sure legs do not touch any surface - you may "flickle" feet in surface.	kicks symmetrically 		poor kicking 	no kicking even if stimulated forcefully 		
<b>Lateral tilting</b> (describe side held) hold infant up vertically near to hips and tilt sideways towards the horizontal. Note response of trunk, spine, limbs and head.						
<b>Forward parachute</b> Hold infant up vertically and quickly tilt forward. Note reaction.						

### SECTION 2 MOTOR MILESTONES (not scored; note asymmetries)

Head control	Unable to maintain head upright	Wobbles	Maintained upright all the time			Please note age at which maximum skill is achieved
	3m					
Sitting	Cannot sit	With support at hips  normal at 4m	Props  normal at 6m	Stable sit  normal at 7-8m	Pivots (rotatory)  normal at 9m	Observed: Reported (age): Observed:
Voluntary grasp	No grasp	Uses whole hand	Index finger and thumb but immature grasp	Pincer grasp		Reported (age):
Ability to kick in supine	No kicking	Kicks horizontally but legs do not lift	Upward (vertically)  normal at 3m	Touches leg  normal at 4.5m	Touches toes  normal at 5-6m	Observed: Reported (age):
Rolling	No rolling	Rolling to side  (normal at 4m)	Prone to supine  (normal at 6m)	Supine to prone  (normal at 6m)	Rolls through what aids  (normal at 7m)	Observed: Reported (age):
Crawling (C), or bottom shuffling	Does not lift head  (BS)	On elbow  (normal at 9m)	On extended hand  (normal at 10m)	Crawling flat on abdomen  (normal at 11m)	Crawling on hands and knees  (normal at 12m)	Observed: Reported (age):
Standing	Does not support weight	Supports weight  (normal at 4m)	Stands with support  (normal at 7m)	Stands unaided  (normal at 12m)		Observed: Reported (age):
Walking		Bouncing  (normal at 8m)	Cruising (walks holding on)  (normal at 12m)	Walking independently  (normal by 15m)		Observed: Reported (age):

### SECTION 3 BEHAVIOUR (not scored)

	1	2	3	4	5	6	Comment
State							
State							
State							
State							
State							
State							