

Neurodevelopmental Assessment of a Baby/ Infant

- For neurodevelopmental assessment of a baby, describe the examination as you go as there are many things to assess. The sentences in *Italic* are examples of what you should be describing. For the purpose of learning, the patient's name is David)
 1. **General observation** (*I note that there is a Tumble Form chair next to the bed*)
 2. **Lie the baby supine** (*David is moving all 4 limbs, there is antigravity movement of all 4 limbs. He has hand regard, and he is playing with his foot. He is visually active. He attempts to roll. He has abnormal movement / muscle wasting etc*)
 - Moro reflex
 - Asymmetric tonic neck reflex
 3. **Top to toe examination:**
 - Head:** Palpate the patient's head. Comment on head shape. Check rooting reflex if young enough (*I would like to measure the head circumference at the end of my examination*)
 - Eyes:** (*He is visually alert, he fixes and follows 180 degrees, and there is no nystagmus/strabismus*)
 - Face:** (*There is no obvious dysmorphism. There is no facial asymmetry. He is smiling at me. He has just opened his mouth and there is no visible cleft palate. He is vocalising and cooing. He is turning towards noise*)
 4. **Exposure:** Examine skin (*He has no neurocutaneous stigmata*)
 5. **Upper Limb:**
 - Tone
 - Power as mentioned
 - Offer something for patient to hold. If patient does not transfer → get permission from examiner whether it is ok to ask mother question → ask mother whether patient transfer
 - Reflexes – biceps, triceps and supinator reflexes
 - Primitive reflex: Grasping reflex
 6. **Lower Limb:**
 - Tone
 - Power as mentioned
 - Reflexes – Knee reflex, ankle reflex
 - Clonus
 - To test if reflex is brisk :
 - Crossed Adductor Reflex – Tap left thigh and there is response on right leg
 - Tap lower leg – get reflex
 7. **Sit patient up** by pulling the hands and watch for head lag
 - Sit by support?

- Whether there is any attempt of the child to hold his trunk back to position
- Sideward parachute (push patient laterally and observe whether he repositions himself)

8. Stand patient up by getting parents to hold him up

- If young enough- test for stepping reflex
- Downward parachute reflex (6 months old)

9. Lie patient prone:

- Head above midline?
- Support himself on forearm/ armstraight?
- Check spine for kyphoscoliosis, meningomyelocoele, sacral pit
- Watch movement of legs

I would like to complete the examination by:

- Performing a fundoscopic examination
- Measure head circumference and plot it on a centile chart
- Measure blood pressure

After examination, you can give a short summary of your positive findings.

After presenting and if there is abnormality and depending on what the abnormality is, you can say:

The cause of this could be congenital or acquired which could be due to trauma, infection meningitis/ encephalitis), endocrine (hypothyroidism), nutritional (Vitamin B12 deficiency), tumour, neurometabolic (mucopolysaccharidosis, glycogen storage disorder), epilepsy, Rett syndrome.

Notes:

If examination is abnormal, 2 questions to ask mother:

- Was he born premature?
- Did he regress?

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