CLINICAL SKILLS: CEREBELLAR EXAMINATION

- **Wash hands**
- **Introduce self**
- **Ask permission**
- **Expose patient - down to underwear**

Inspect

- No resting tremor
- For truncal ataxia - patient can't sit or stand unsupported, and tends to fall backwards - if a midline cerebellar lesion
- Truncal tremor - constant jerking of trunk and head
- Scars (e.g.: from previous surgery)

Gait

- Ask patient to walk to end of room, turn and walk back
- Inspect for:
    - Slowness of movement
    - Wide based gait
    - Feet spread apart
    - Very unsteady
    - Walks towards side of lesion
- Ask patient to walk heel-toe, i.e.: 'as though walking on a tight rope'
    - Patient should find this difficult to do. Don't examine this if the first test was abnormal (due to risk of a fall)

Romberg's test

- Differentiates between sensory ataxia and corticospinal lesions from cerebellar lesions
- Ask the patient to stand with their feet together
- Stand by the patient ready to steady them should they lose balance (in an examine, you risk being failed if you let a patient fall/hurt themselves!)
- Now ask the patient to close their eyes
- If they now lose balance and require you to keep them up then this is a positive Romberg's test
- A positive Romberg's is indicative of a disruption in proprioception (ie a spinal lesion - dorsal columns) and not a cerebellar lesion
- In cerebellar dysfunction a patient may wobble more when they close their eyes, but they will not fall if unsupported.

Assess for nystagmus

- As by asking the patient to hold their head still and focus their eyes on the tip of your index finger, held out about 40cm from their eyes
- Move your index finger horizontally in either direction so that their eyes are moved to the lateral extents of their visual fields. Watch for a fast-slow flickering of the eyes, especially at the extents of field. This is nystagmus. More than 2 beats is abnormal usually
- The fast 'beats' of the nystagmus will be towards the lesion

Assess speech

- Ask the patient to repeat 'baby hippopotamus' and 'British constitution'. there are multiple different manifestations of cerebellar speech difficulties:
    - Slurred, may alter syllables - sounds as though the patient is drunk
    - Staccato speech is very disjointed as each syllable is uttered separately
    - Scanning dysarthria is heard when syllables of words are separated by noticeable pauses
    - Jerky, explosive and loud; irregular syllables

Assess upper limb tone

- For hypotonia - this can be assessed as per the Upper Limb Motor Examination with general assessment of tone over the upper limb joints

Assess for rebound phenomenon

- Ask the patient to put their arms in front of them and close their eyes. Then press down on one arm and warn the patient you will stop doing so, asking them to keep their arm steady. In a cerebellar lesion the patient's arm will overshoot when trying to reposition their arm. This will lead to the arm appearing to oscillate up and down

Assess for intention tremor and dysdiadochokinesia

- Test for past pointing and an intention tremor
- Ask them to move their index finger between their nose and the tip of your index finger (held about 50-60cm from their nose). You can gently move your finger back and forth and from side to side in order to have more sensitivity in picking up abnormalities
- Past-pointing occurs when their finger is moved **beyond** your finger
- Intention tremour occurs **at the end of their movement path** and is seen as a tremour of their hand as they try to touch your finger

Assess upper and lower limb reflexes

- For pendular reflexes - the joint moves back and forth for a few beats after the reflex is elicited
- This is usually best demonstrated with the patellar tendon reflex at the knee

To end my examination, I would like to:

- Check fundi for papilloedema (will occur in a space occupying lesion at cerebello-pontine angle) and optic atrophy (from demyelinating disease, e.g. Multiple Sclerosis)
- Assess temperature (abscess in cerebellum could cause cerebellar signs)
- Visual fields for a left sided hemianopia, which can occur with a right posterior circulation stroke
- Check the drug chart as lithium, phenytoin and carbamazepine can cause cerebellar signs

OSCE-Aid Tips

Think you've forgotten something? Use the **DANISH** checklist in your head to ensure you have tested for all the important parts of the cerebellar exam:

- **D**ysdiadochokinesia
- **A**taxia
- **N**ystagmus
- **I**ntention tremor
- **S**lurred speech
- **H**ypotonia