

SENSORY NEUROLOGICAL EXAMINATION HANDOUT

1. Visual Acuity and Color Vision (Visual field was covered in anatomy)

Visual Acuity

Purpose: Assesses clarity of vision (central vision).

Method:

- Use a Snellen chart at 6 meters.
- Test each eye separately (cover one eye).
- Corrected vision (glasses/contact lenses) should be used if available.
- Record as a fraction (e.g., 6/6 is normal; 6/12 means the patient sees at 6m what a normal person sees at 12m).

Color Vision

Purpose: Assesses the ability to differentiate colors (tests for color blindness).

Method:

- Use Ishihara plates to test for red-green color blindness.
- The patient is shown plates with numbers embedded in colored dots.
- Ask the patient to identify the numbers.

2. Auditory Weber and Rinne Tests

Rinne's Test

Purpose: Compares air conduction (AC) and bone conduction (BC).

Method:

- Place the vibrating tuning fork on the mastoid process (bone conduction).
- Once the patient can no longer hear it, move it in front of the ear (air conduction).
- Ask if they can still hear it.
- Normal (Rinne positive): $AC > BC$ (air conduction is better).
- Conductive hearing loss (Rinne negative): $BC > AC$.
- Sensorineural hearing loss: $AC > BC$ but both are reduced.

Weber's Test

Purpose: Differentiates conductive from sensorineural hearing loss.

Method:

- Place a vibrating tuning fork (512 Hz) on the patient's forehead.
- Ask the patient where the sound is heard best:
- Normal: Heard equally in both ears.
- Conductive hearing loss: Sound localizes to the affected ear.
- Sensorineural hearing loss: Sound localizes to the unaffected ear.

3. Vibration and Position Sense of Upper Limbs

Vibration Sense

Purpose: Assesses posterior column function (e.g., in peripheral neuropathy, vitamin B12 deficiency).

Method:

- Use a 128 Hz tuning fork over the sternum and ask the patient do you feel the buzzing?)
- Place it on bony prominences (e.g., distal interphalangeal joint, wrist, elbow).
- Ask if they feel the vibration and when it stops.
- If impaired, move proximally (indicates peripheral neuropathy).

Joint Position Sense (Proprioception) of upper limb

Purpose: Assesses posterior column pathway.

Method:

- Explain the procedure with eyes open
Hold the sides of the patient's finger (avoid pressure cues).
- Move it up or down and ask the patient to identify the direction with eyes closed.
- If impaired, test more proximal joints.

4. Touch Sensation of Upper Limbs

Method:

- Use a cotton wisp and lightly touch the skin.
- Ask the patient to say "yes" when they feel it.
- Compare both sides and different dermatomes.

5. Two-point discrimination:

Method:

- Use school compass to apply two points on the skin of fingers and back.
- change the distance between two points on the skin.
- Ask the patient if they feel one or two points.
- Impaired in parietal lobe lesions or peripheral nerve damage.

6. Stereognosis and Graphesthesia

Stereognosis

Purpose: Tests higher cortical function (parietal lobe).

Method:

- Place a familiar object (coin, key) in the patient's hand.
- Ask them to identify it with eyes closed.

Graphesthesia

Purpose: Assesses the ability to recognize numbers or letters drawn on the skin.

Method:

- Ask the patient to close their eyes.
- Use a blunt object or your fingers to draw numbers or letters on their palm.
- Ask them to identify the number/letter.

(Ref: Macleod's clinical examination)

Best Wishes,
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