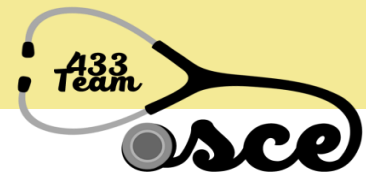


Nervous System



Motor Examination

WIPE:

- Wash hands
- Introduce self
- Confirm patient details (name/DOB)
- Explain examination
- Gain consent
- Ensure privacy
- Expose the area involved (Upper limb exam: both upper limbs up to deltoid muscle; Lower limb exam: Both lower limbs up to groin)

Inspection	
Procedure	Indications
** Make sure you look at all the aspects (anterior, lateral, posterior) and at both arms and compare!	
Look for SWIFT & Deformities, Abnormal posture, Abnormal movement, striae.	S: scars W: wasting of muscles I: involuntary movements F: fasciculation T: tremors
patient's general face appearance	(masked face? Loss of creases? Ptosis? Etc.)
Ask patient to put his/her hands straight out in front of them (dorsum up) and spread their fingers and turn them over (palm up), and then close their eyes and turn them over again (dorsum up)	Looking for pronator drift (it's a rapid screening test)
Items around the bed	like walking canes and/or wheel chairs.

Tone (passive)

Procedure

Indications

** ask the patient to relax

Try to shake patients hands with pronating and supinating the hand slightly then suddenly supinate or pronate the hand strongly. In foot, dorsiflex the foot then plantar flex in light movements with sudden jerking of the foot in either direction.

Assessing for spastic catch (Upper limb)/clonus (Lower limb) → for clonus, you MUST ask the patient if he/she has DVT. If so, then it's a contraindication as this could dislodge a clot leading to a pulmonary embolism

Perform the ranges of motion fully of the joints (start proximal to distal or opposite) → especially in elbow make sure you fully extend and flex

To show if there's any cogwheel rigidity or lead pipe rigidity (parkinsonism).

Leg rolling on the thigh but looking the foot



To assess lower limb tone

Pull the leg up then down at the knee joint (while patient is sitting over the edge of the bed)

To further assess the knee joint/leg tone

Power: (Active)

Procedure:

Nerve supply:

Ask patient to resist your movements

Shoulder abduction	C5/C6
Shoulder adduction	C6/C7/C8
Elbow flexion	C5/C6
Elbow extension	C7/C8 (mostly all extension C7/C8)
Wrist flexion (against gravity)	C6/C7
Wrist extension	C7/C8
Finger extension/flexion	C7/C8
Finger abduction/adduction	C8/T1
Thumb abduction/opposition (do like letter "O") controlled by median nerve.	C8/T1
Thumb adduction controlled by ulnar nerve	C8/T1

* With power, tell the patient to raise his limb against gravity, if he can, apply pressure. If not, that means he has an MRC score of less than 3.

No contraction	0
Flicker of contraction	1
Active movement with gravity eliminated	2
Active movement against gravity	3
Active movement against gravity and resistance	4
Normal power	5

Reflexes:

Procedure:	Indication:
For reinforcement: Upper limb reflexes → ask pt. to close eyes firmly Lower limb reflexes → ask pt. to pull hands against each other or clench teeth	
- Babinski's sign (LL) → going from lateral to medial and upwards (towards big toe), look at the toes for a reaction.	Exclude UMNL Normally, the patient will have down-going plantar, but in UMNL, he/she will have up-going plantar (toes going up and fanning out)
- Hoffman sign (UL) → hold the DIP of the middle finger and flick the finger. Observe thumb and index fingers for reaction. Twitching is a positive sign.	Exclude UMNL
- Biceps reflex (C5&6) → ask the patient to relax by distracting them, place your thumb on the biceps tendon, and tap the hammer on your thumb	
- Triceps jerk (C7&8) → Hold the patient's arm like your swinging it. (Patient's arm should be relaxed and fully supported by yours) → Here you tap directly on the tendon	
- Brachioradialis (supinator) jerk (C5&6) → Tap your finger on the distal junction of the lower and middle thirds of the forearm. (In a position that is in between pronation and supination)	DIFFERENTIATE BETWEEN IT AND THE PRONATOR TERES REFLEX! (in the video)
- Finger jerk (C5) → place palm up and have fingers slightly flexed, place your fingers over the patient's and tap on your own	
- Knee reflex (patellar) (L3&4) → support knee and directly tap under the patella, the quadriceps will contract normally resulting in knee extension	
- Ankle reflex (S1&2) → Tap on the Achilles tendon (of the gastrocnemius muscle), normally plantar flexion will result.	
- Plantar reflex (S1&2 or L5&S1&2) = Babinski's sign. (Explained earlier)	

To complete my examination I will:

- Do a sensory exam
- Examine cranial nerves
- Perform a gait exam
- If Upper Limb was examined, tell the examiner that you'll do the Lower Limb, and the opposite as well.

Helpful videos:

- UL reflexes: https://www.youtube.com/watch?v=9o4_8Ps5Mlw
- Hoffman's sign: <https://www.youtube.com/watch?v=xfguBiqsoDk>
- LL reflexes: <https://www.youtube.com/watch?v=K7FEm8JnV-s>
- Geeky medics UL exam: <https://www.youtube.com/watch?v=0hhcxaeOCYs>
- Geeky medics LL exam: https://www.youtube.com/watch?v=-7ERNH_o5Ss
- Babinski reflex: <https://www.youtube.com/watch?v=kOq5Np0eZ6A>
- Romberg and Pronator drift exam: <https://www.youtube.com/watch?v=Yq8WgPhSdOM>