

## CHECKLIST FOR LOWER LIMB NEUROLOGICAL EXAMINATION – UNDERGRADUATE GUIDE

Ones in BLACK must do or comment on, Ones in BLUE must comment on only if present or applicable to patient. Content in blue should be in back of your mind so say when you are practising but not during exam unless seen on the patient in the exam.

### FOLLOW THIS CHECKLIST IN PUBLISHED ORDER

| <b>Stage 1 – Pre Exam Checklist</b>  |  |
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| 1. Alcohol Gel and bare below elbows   |  |
| 2. Introduction – “Shake hands/ hello my name is.....”   |  |
| 3. Consent – “Will it be okay if I examine the nerves in your legs?”   |  |
| 4. Positioning – patient is lying on bed and check if they are comfortable in that position. Expose patient’s legs up to waist but <i>preserve dignity!</i>  |  |
| <b>Stage 2 – General inspection</b>  |  |
| NB: POSITION YOURSELF TO THE RIGHT SIDE IF NOT ALREADY DONE SO AS ALL EXAMINATION SHOULD BE PERFORMED FROM THE RIGHT SIDE OF PATIENT   |  |
| 1. Take a step back to end of the bed  |  |
| 2. Comment on patient (obvious only) <ul style="list-style-type: none"> <li>• Comfortable at rest or not</li> <li>• Obvious discomfort/ pain</li> <li>• Look for muscle wasting, tremor and fasciculation</li> <li>• Positioning of legs - ?pyramidal pattern, contractures</li> </ul> |  |
| 3. Comment on surroundings <ul style="list-style-type: none"> <li>• Walking aids, wheelchair</li> <li>• Or say “there are no other obvious clues around the bed”</li> </ul>  |  |
| <b>Stage 3 - Tone</b>  |  |
| 1. Check for pain – “do you have any pain in your legs at all?”  |  |
| 2. Say “I’m just going to move your legs for you. Can you let your legs go floppy/ relaxed” <ul style="list-style-type: none"> <li>• Roll leg side to side</li> <li>• Briskly lift knee into flexed position &amp; watch heel</li> <li>• Compare both sides!</li> </ul>                |  |
| 3. Ankle clonus: briskly dorsiflex foot and hold, >5 beats is abnormal   |  |
| <b>Stage 4 – Power</b>   |  |
| 1. Say “I’m just to check the power in your legs <ul style="list-style-type: none"> <li>• Hip flexion L1, 2/ extension L5, S1</li> </ul>   |  |

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| <ul style="list-style-type: none"> <li>• Knee flexion S1/ extension L3-L4</li> <li>• Ankle plantar flexion S1-2 / dorsiflexion L4-5</li> <li>• Toe flexion S1-2/ extension L5, S1</li> </ul> <p>Remember to isolate the joint if possible and compare both sides<br/>Describe power according to MRC scale (0-5)</p>   |  |
| <b>Stage 5 - Co-ordination</b>   |  |
| 1. Heel-shin test: ask patient to run one of their heels up and down the shin of their other leg   |  |
| <b>Stage 6 – Reflexes</b>  |  |
| 1. Ask the patient to let their legs “go floppy” and explain that you are going to tap their tendons with an instrument”   |  |
| <ul style="list-style-type: none"> <li>• Knee (L3, 4)</li> <li>• Ankle (L5, S1)</li> <li>• If cannot elicit reflex, use re-inforcement: Jendrassik manoeuvre, ask patients to hook flexed fingers together and pull on the count of 3, on 3 tap the tendon.</li> <li>• Extensor plantar (L5, S1, S2) – use orange stick, if great toe dorsiflexes then Babinski’s sign is positive (abnormal)</li> <li>• Remember to compare both sides</li> </ul> |  |
| <b>Stage 7 - Sensation</b>   |  |
| 1. Light touch: use a piece of cotton wool and lightly touch sternum. Then ask patient to close their eyes and respond when they feel a light touch.   |  |
| <ul style="list-style-type: none"> <li>• Compare both sides</li> <li>• Start distally and move proximally</li> <li>• Check each dermatome</li> </ul>   |  |
| 2. Superficial pain: offer to check using new Neurotip. Ask patient to distinguish between sharp and blunt   |  |
| 3. Temperature: mention that you would check using tubes of hot and cold water. Alternatively you can use a cold metallic object e.g. tuning fork  |  |
| 4. Vibration: use 128Hz and check on sternum – “can you feel the buzzing and when it stops?”   |  |
| <ul style="list-style-type: none"> <li>• Check on bony prominence i.e tip of great toe – distally then move proximally if they cannot feel it</li> </ul>   |  |
| 5. Joint position sense: hold toe at the sides, show patient what you mean by moving it “up” and “down”, then patient to close eyes and test.  |  |
| <ul style="list-style-type: none"> <li>• Check distally first!</li> </ul>  |  |

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| <b>Stage 8 - Gait/ Stance</b> If you run out of time, you can mention you will do this.<br>Alternatively, you can assess gait at the beginning of the examination   |  |
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| 1. Stance: ask patient to stand up straight with feet close together and eyes open – swaying/ lurching suggests cerebellar ataxia   |  |
| 2. Romberg’s test: ask patient to close their eyes, be prepared to support/ catch them. Repeated falling is a positive result due to sensory ataxia (proprioceptive deficit)  |  |
| 3. Gait: Ask patient to walk 10 metres, turn 180 degrees and walk back <ul style="list-style-type: none"> <li>• Use walking aid if required</li> <li>• Look at heel strike, toe off, arm swing, limping, steadiness</li> <li>• Tandem gait/ Heel-toe walking (cerebellar impairment)</li> </ul> |  |
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| <b>Stage 9 - TO FINISH OFF</b>  |  |
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| Turn to the examiner and say:<br>“To complete my examination I would like to:” <ul style="list-style-type: none"> <li>• Examine cranial nerves and upper limb neurological system</li> </ul>  |  |
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| <b>Stage 10 - COMPLETION</b>  |  |
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| <ul style="list-style-type: none"> <li>• Thank the patient</li> <li>• Offer to help get dressed and cover up</li> <li>• USE ALCOHOL GEL AGAIN AT THE END</li> </ul>   |  |
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| <b>Stage 11 - PRESENT FINDINGS</b>  |  |
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| <b>END OF EXAMINATION</b>   |  |