



# Peripheral Neuropathy

The term peripheral neuropathy (PN), or polyneuropathy, refers to generalised damage to, or disease of, the peripheral nerves. Peripheral neuropathy can be a manifestation of systemic illness but there are a wide range of other possible causes. Most commonly PN presents as numbness or paraesthesia in the feet. It is likely that registrars will not have much experience with assessing patients with PN, and supervisors can therefore support the development of a careful and systematic approach.

<p><b>TEACHING AND LEARNING AREAS</b></p> 	<ul style="list-style-type: none"> <li>• <a href="#">Anatomy and physiology of the peripheral nerves</a></li> <li>• Common general practice causes of peripheral neuropathy – systemic, nutritional, <a href="#">medications</a>, toxins, genetic, idiopathic</li> <li>• Clinical presentation – common symptoms and signs, and atypical features</li> <li>• Clinical examination of the peripheral nervous system, including <a href="#">upper limbs</a> and <a href="#">lower limbs</a></li> <li>• Appropriate investigations, including <a href="#">nerve conduction studies</a></li> <li>• Treatment options, especially for neuropathic pain</li> <li>• Indications and local pathways for referral</li> <li>• Screening for PN in patients at high risk e.g. diabetes</li> </ul>						
<p><b>PRE-SESSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Read the 2015 AFP article – <a href="#">Paraesthesia and peripheral neuropathy</a></li> </ul>						
<p><b>TEACHING TIPS AND TRAPS</b></p> 	<ul style="list-style-type: none"> <li>• The most common treatable causes of PN are diabetes, hypothyroidism and B12 deficiency</li> <li>• PN is usually symmetrical and initially involves the lower limbs– consider compression or vasculitic causes in atypical presentations</li> <li>• Autonomic nervous system involvement can results in less common symptoms e.g. urinary symptoms, postural hypotension</li> <li>• It is important to ask the patient about risks from occupations and hobbies</li> <li>• Rapidly progressive polyneuropathy requires urgent review</li> <li>• Electro-diagnostic studies (NCS and EMG) can help differentiate axonal from demyelinating conditions</li> <li>• Ask the registrar to perform a peripheral nerve examination for upper and lower limbs</li> </ul>						
<p><b>RESOURCES</b></p> 	<table border="1"> <tbody> <tr> <td data-bbox="327 1727 438 1861"><b>Read</b></td> <td data-bbox="438 1727 1493 1861"> <ul style="list-style-type: none"> <li>• <a href="#">Neuropathic pain: current definition and review of drug treatment</a></li> <li>• 2015 Mayo Clinic Proceedings article <a href="#">Peripheral Neuropathy: A Practical Approach to Diagnosis and Symptom Management</a></li> </ul> </td> </tr> <tr> <td data-bbox="327 1861 438 1921"><b>Watch</b></td> <td data-bbox="438 1861 1493 1921"> <ul style="list-style-type: none"> <li>• YouTube <a href="#">Lower Limbs Peripheral Nerve Examination</a></li> </ul> </td> </tr> <tr> <td data-bbox="327 1921 438 1984"><b>Listen</b></td> <td data-bbox="438 1921 1493 1984"> <ul style="list-style-type: none"> <li>• NPS MedicineWise podcast <a href="#">Treatment of neuropathic pain</a></li> </ul> </td> </tr> </tbody> </table>	<b>Read</b>	<ul style="list-style-type: none"> <li>• <a href="#">Neuropathic pain: current definition and review of drug treatment</a></li> <li>• 2015 Mayo Clinic Proceedings article <a href="#">Peripheral Neuropathy: A Practical Approach to Diagnosis and Symptom Management</a></li> </ul>	<b>Watch</b>	<ul style="list-style-type: none"> <li>• YouTube <a href="#">Lower Limbs Peripheral Nerve Examination</a></li> </ul>	<b>Listen</b>	<ul style="list-style-type: none"> <li>• NPS MedicineWise podcast <a href="#">Treatment of neuropathic pain</a></li> </ul>
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<p><b>FOLLOW UP &amp; EXTENSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Registrar to complete the clinical reasoning challenge and discuss with supervisor</li> </ul>						



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## ANSWERS

### QUESTION 1

What are the MOST IMPORTANT areas of history to explore? List as many as appropriate.

- Occupational history (risk of exposure to toxins and BBVs)
- Lifestyle (risk of exposure to toxins and BBVs, nutrition)
- Alcohol use
- Medications (prescribed, OTC and CAMS)
- Family history

### QUESTION 2

Further history taking is unremarkable and examination shows a mild loss of light touch in both feet. What investigations should be requested at this point? List as many as appropriate.

BMJ Best Practice recommends the following as initial testing:

- FBC
- EUC/LFT
- Fasting glucose level
- Lipids
- TSH
- Vitamin B12 levels
- Serum and urine immuno-electrophoresis
- Hepatitis B and C, HIV and syphilis serology
- ESR, antinuclear antibodies (including SS-A and SS-B), extractable nuclear antibodies
- Nerve conduction studies and needle EMG