

## Module 2: Cervical Degeneration

### Case presentation: *Cervical degeneration–assessment*

Participants should discuss the clinical assessment and natural history of patients presenting with cervical degeneration. The natural history, symptoms, and examination findings associated with this process should be discussed.

Indications for and interpretation of radiological investigations should be discussed. The identification of red flags, myelopathy, tumors, and instability should be covered along with the differential diagnosis of shoulder pathology, fibromyalgia, MS, etc.

Nonoperative treatments, physical therapy, etc and the evidence-based indications for surgical intervention and the influence of psychological issues and compensation should be discussed.

Conclude the discussion with a brief summary of key points and take-home messages.

### Learning outcomes

- Describe the natural history of cervical degenerative disease
- Obtain a relevant history and perform a screening clinical examination for cervical degenerative disease
- Exclude or differentiate symptoms related to cervical degeneration from other non-spine pathology
- Use and interpret appropriate diagnostic tools to assess cervical degenerative disease
- Outline the role and indications for the use of other diagnostic tools such as EMG and injections
- Correlate investigation findings with clinical features

### Case presentation: *Cervical radiculopathy*

Participants should discuss the clinical assessment of patients presenting with cervical nerve root compression along with the natural history, symptoms, and examination findings associated with this condition.

Indications for, and interpretation of radiologic investigations should be discussed. The identification of red flags, myelopathy, progressive neurological loss and differentiation for other conditions (eg, tumors, brachial neuritis, and peripheral nerve syndromes) should be covered.

Nonoperative treatments, physical therapy, and the evidence-based indications for surgical intervention should be discussed. Surgical options, ACDF, and TDR should be discussed without being prescriptive.

Conclude the discussion with a brief summary of key points and take-home messages.

**Learning outcomes**

- Identify patients with cervical nerve root or spinal cord compression due to localized cervical spine pathology—disc protrusions predominantly, but also spondylosis leading to foraminal stenosis
- Correlate diagnostic tests with clinical features
- Implement appropriate nonoperative treatments in the management of cervical nerve root compression
- Describe the natural history and indications for surgical intervention
- Outline the appropriate surgical procedures to manage this condition

**Case presentation: *Cervical myelopathy***

Participants should discuss the clinical assessment of patients presenting with cervical myelopathy. The natural history, symptoms, and examination findings associated with this process should be discussed with an emphasis on identifying factors indicating a poor clinical outcome with ongoing nonoperative treatment.

Indications for, and interpretation of radiographic investigations should be discussed. The identification of red flags, tumors, and instability should be covered along with the differential diagnosis of shoulder pathology, fibromyalgia, MS, etc. Also discuss the influence of comorbidities such as rheumatoid disease, diabetes, osteoporosis, and respiratory and cardiac disease on the management of this condition.

The evidence-based indications for surgical intervention should be discussed. It may be useful to present different scenarios, eg, gradual onset of myelopathy with stenosis and signal change on MRI and a case of myelopathy in a patient with rheumatoid arthritis and osteoporosis and/or OPLL to bring out points related to each of these pathologies if relevant to the region where the course is being delivered.

Also discuss surgical options and provide guidelines for anterior vs posterior surgery without being prescriptive. Also discuss possible complications of treatment such as C5 nerve root palsy with laminoplasty, nonunion, and implant failure.

Conclude the discussion with a brief summary of key points and take-home messages.

**Learning outcomes**

- Describe the natural history of cervical myelopathy and the indications for surgical intervention
- Outline the principles for surgical intervention, surgical options, and possible complications

**Discussion**

Review relevant points and discuss topics identified during discussion that warrant further emphasis or clarification.