



PAIN MANAGEMENT 1st course

Neck pain and management



Sawa University

College of health and medical techniques

Department of Anesthesia

Fourth stage

- جامعة ساوة الاهلية
- كلية التقنيات الصحية والطبية
- قسم تقنيات التخدير
- المرحلة الرابعة

الجانب العملي

Practical

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Week 8 Lecture

Neck Pain: Diagnosis, DDX & Management Procedures

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Neck pain

- Classification of neck pain: acute vs chronic
 - Occupational risk factors: posture, repetitive strain



DDX of Neck Pain — Full List

- Musculoskeletal strain (most common)
 - Cervical spondylosis / facet arthropathy
 - Cervical disc herniation with radiculopathy
 - Myofascial pain syndrome
 - Cervical myelopathy
 - Infectious causes: discitis, epidural abscess
 - Inflammatory arthritis: RA, ankylosing spondylitis
 - Vascular causes: carotid/vertebral dissection
 - Referred pain: cardiac, esophageal, shoulder pathology
 - Neoplastic causes

Most Common DDX (Musculoskeletal & Facet)

- Muscle strain: overuse, poor posture
 - Facet joint pain: sharp, localized, worse with extension
 - Tenderness on palpation of paraspinal muscles
 - Responds well to physiotherapy and trigger point injections

Cervical Disc Herniation — Key Features

- Neck pain radiating to arm following dermatome
 - Sensory deficits, reflex changes
 - MRI indicated when symptoms persist

Myofascial Pain Syndrome

- Trigger points in trapezius/levator scapulae
 - Referred pain patterns
 - Effective management with TPI + stretching

Myofascial pain syndrome

Myofascial Pain Syndrome

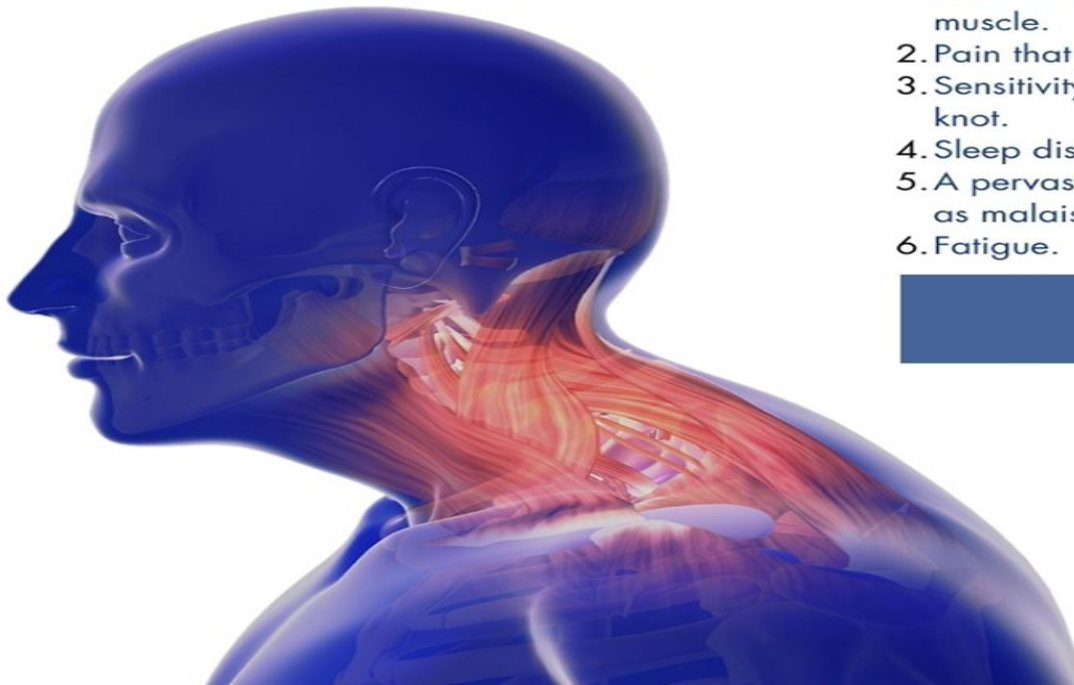
Myofascial pain syndrome is a chronic condition that manifests as the formation of trigger points or knots in different areas of your body, causing acute or chronic pain.

Symptoms

1. Persistent, throbbing discomfort within a muscle.
2. Pain that persists or intensifies over time.
3. Sensitivity in a muscle, often forming a tender knot.
4. Sleep disturbances attributable to pain.
5. A pervasive sense of unwellness, referred to as malaise.
6. Fatigue.

Treatments

1. Diet modification
2. PT for stretching
3. Good posture
4. Light therapy
5. Dry needling
6. Trigger point injections
7. Electrical stimulation
8. OTC pain relievers
9. TENS therapy



myofascial pain syndrome

- Myofascial pain syndrome is a chronic pain condition that causes pain in the muscles and fascia (the connective tissue that surrounds them) due to the presence of "trigger points"—tender, hyperirritable spots that can cause pain in the immediate area and/or referred pain to other parts of the body. The pain can be constant or intermittent and is often associated with stiffness, reduced range of motion, and fatigue. Treatment options include a combination of approaches like physical therapy, trigger point injections, stretching, massage, and pain medication.

symptoms

- Muscle pain
- Muscle spasms
- Feeling of having knots or being tight
- Neck pain
- Back pain
- Limited movement
- Headaches
- Numbness or Weakness
- Balance problems

Red Flags in Neck Pain

- Neurologic deficits
- Fever / infection signs
- Cancer history, weight loss
- Night pain

Clinical Examination

- Inspection: posture asymmetry
 - ROM assessment: flexion, extension, rotation
 - Neurological exam: dermatomes C5–T1

Imaging Approach

- X-ray for trauma & degenerative change
 - MRI for radiculopathy/myelopathy
 - CT for fractures
 - Ultrasound for guiding injections

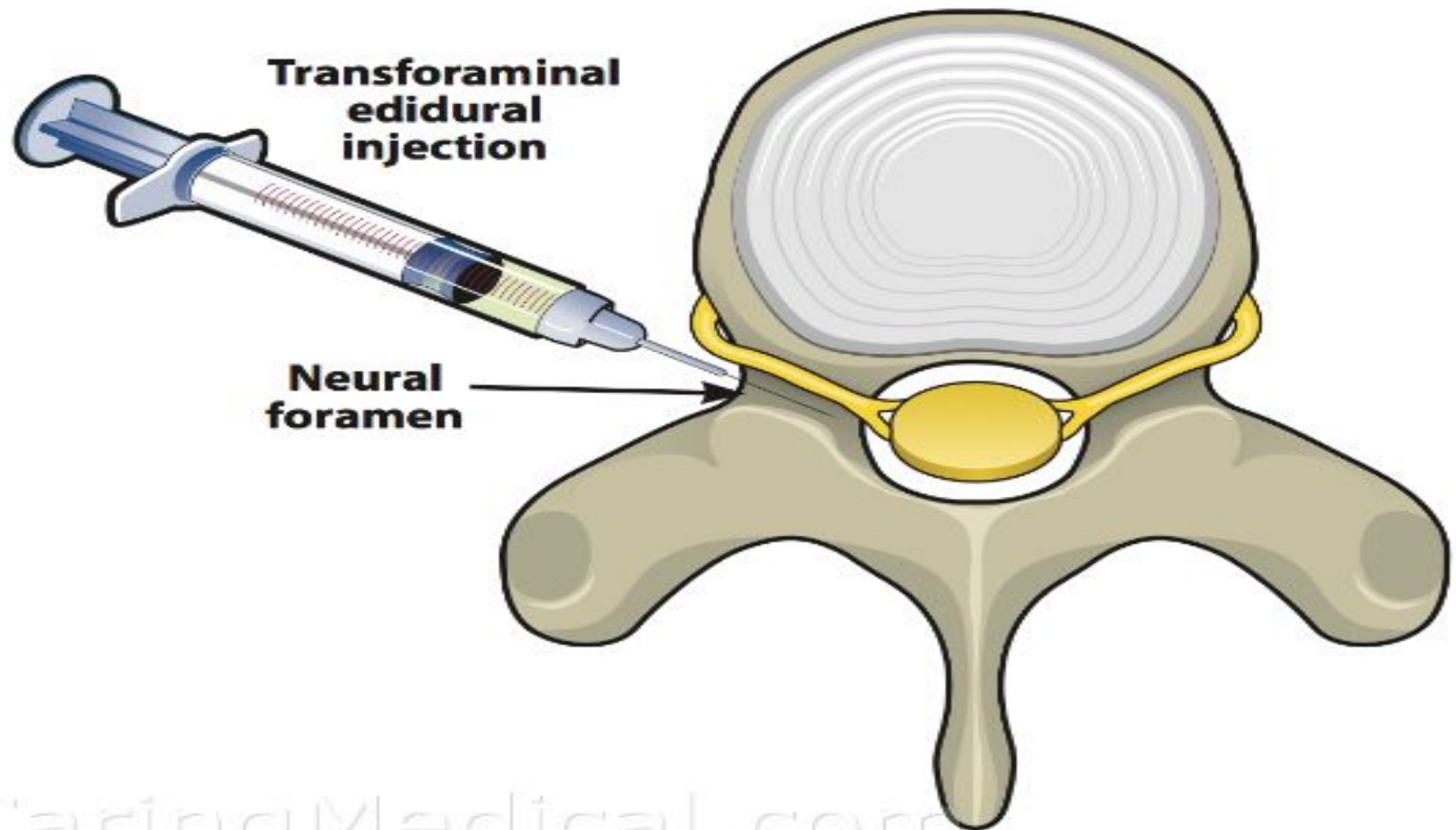
Conservative Treatment

- Analgesics: NSAIDs, acetaminophen
 - Muscle relaxants for acute strain
 - Physiotherapy protocols
 - Cervical collar

Injection Procedures

- Trigger Point Injection:
 - Facet Joint Injection
 - Cervical Epidural Steroid Injection: interlaminar vs transforaminal

Transforaminal epidural injection. A transforaminal epidural requires the very precise placement of the needle into the spinal canal from the side. This allows the injected solution to travel to the area of nerve entrapment.





Conditions That Benefit from Cervical Epidural Injections



Arthritis in your neck



Compression fractures



Degenerative disc disease in your neck



Herniated discs



Muscle spasms



Neck injuries



A pinched nerve



Stenosis in your neck

Radiofrequency Ablation (RFA)

- Patient selection using diagnostic blocks
 - Lesioning parameters & technique
 - Complications and prevention:
 - The risk of complications from RFA is very low. On occasion, permanent nerve damage or pain can occur. In some people, their original pain may get worse. Other complications, including infection and bleeding at the needle insertion site, are uncommon

Ultrasound-Guided Blocks

- Advantages: no radiation, direct visualization
 - Sonoanatomy of major neck landmarks
 - Technique for deep cervical plexus block

Advanced Management Techniques

- Prolotherapy: concept and evidence
 - PRP injections: indications & outcomes
 - Neuromodulation for refractory pain

prolotherapy for neck pain

- Indications
- Chronic neck pain: Especially conditions like chronic whiplash-associated disorder (WAD) and facet-mediated neck pain.
- Degenerative changes: Can be used for neck pain caused by degenerative disc disease or facet joint arthropathy.
- Outcomes
- Pain reduction: Studies show significant improvements in pain levels, with some patients experiencing over 50% pain relief.
- Improved function: Patients often report decreased disability, with many exceeding MCID for functional improvement.
- Long-term efficacy: Some research suggests PRP may offer more sustained pain relief over time compared to corticosteroid injections.
- Safety: The procedure is generally considered safe, with no major complications reported in some studies.
- Potential for soreness: Some patients may experience temporary increased pain or soreness for 24-48 hours after the injection, which can be managed with pain medication.

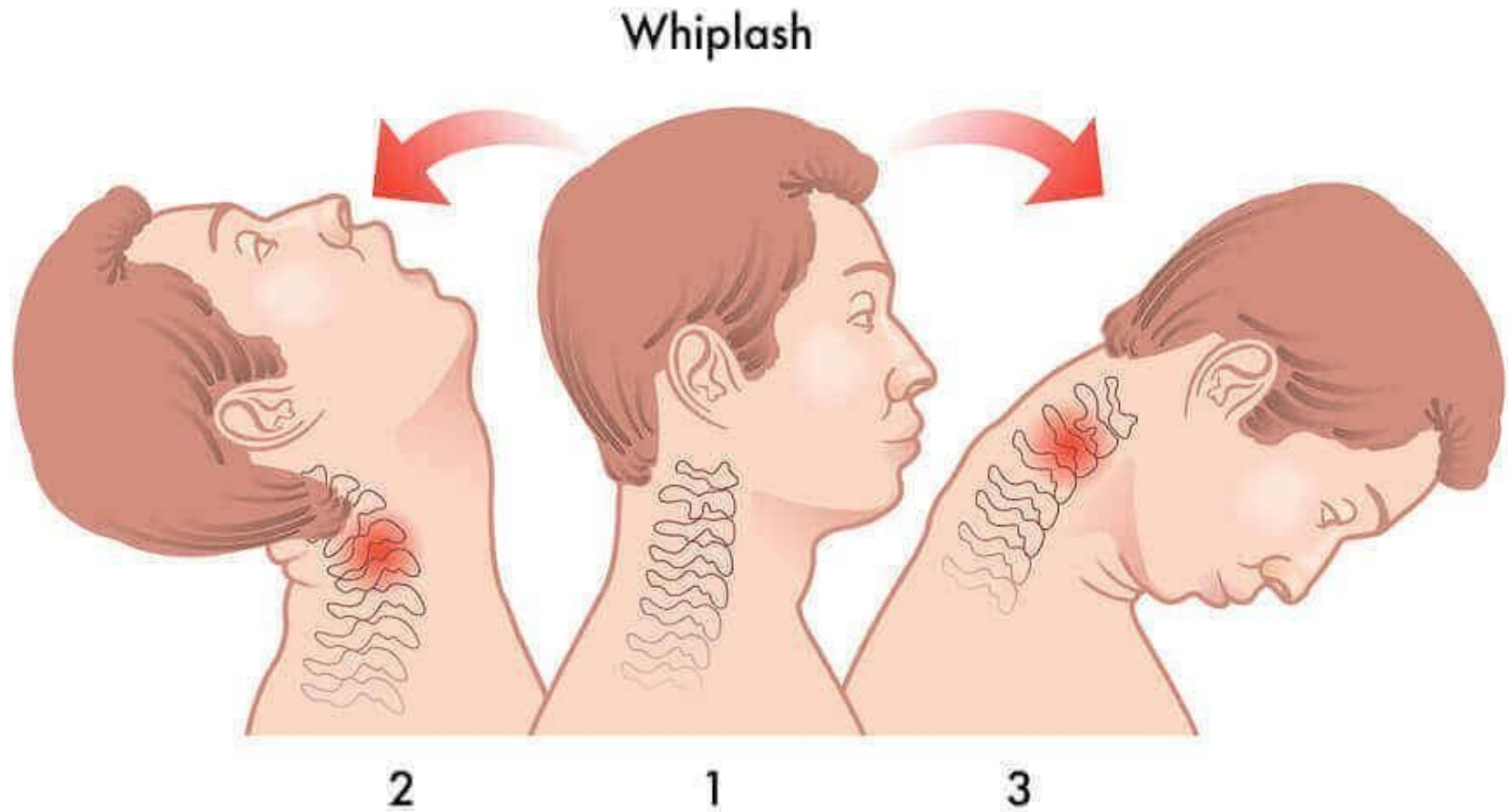
Complications & Safety Considerations

- Vascular injury prevention
 - Neurologic complications
 - Infection control
 - Radiation safety principles

Whiplash injury of neck

- Definition
- A soft-tissue acceleration–deceleration injury of the cervical spine, typically caused by sudden hyperextension followed by hyperflexion (most classically in rear-end motor-vehicle collisions). It primarily affects muscles, ligaments, facet joints, discs, and sometimes nerve roots.
- Mechanism
- 1. Rear impact → torso suddenly accelerated forward.
- 2. Head lags → cervical hyperextension.

Whiplash injury



Summary Slide

- DDX must always be structured
 - Most common cause is musculoskeletal strain
 - Advanced interventional techniques improve outcomes
 - Tailored management is essential