

The background features a dark blue gradient with faint, light blue technical diagrams. On the left, a large circular scale with tick marks and numbers (40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) is visible. Several circular diagrams with arrows and partial arcs are scattered across the background, suggesting a technical or scientific theme.

Pain Management for Head And Neck Malignancies

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HEAD AND NECK MALIGNANCIES

- Types: Oral, laryngeal, pharyngeal, thyroid cancers, etc.
- Common symptoms: somatic pain, odynophagia, neuropathic pain.

PATHOPHYSIOLOGY OF PAIN

•Tumor-Related Pain

- Direct invasion of nerves (e.g., trigeminal, glossopharyngeal)
- Bone invasion
- Inflammation and Tissue Damage
- referred pain.

•Treatment-Related Pain

- Post-surgical pain
- radiation-induced fibrosis
- chemotherapy-related mucositis.

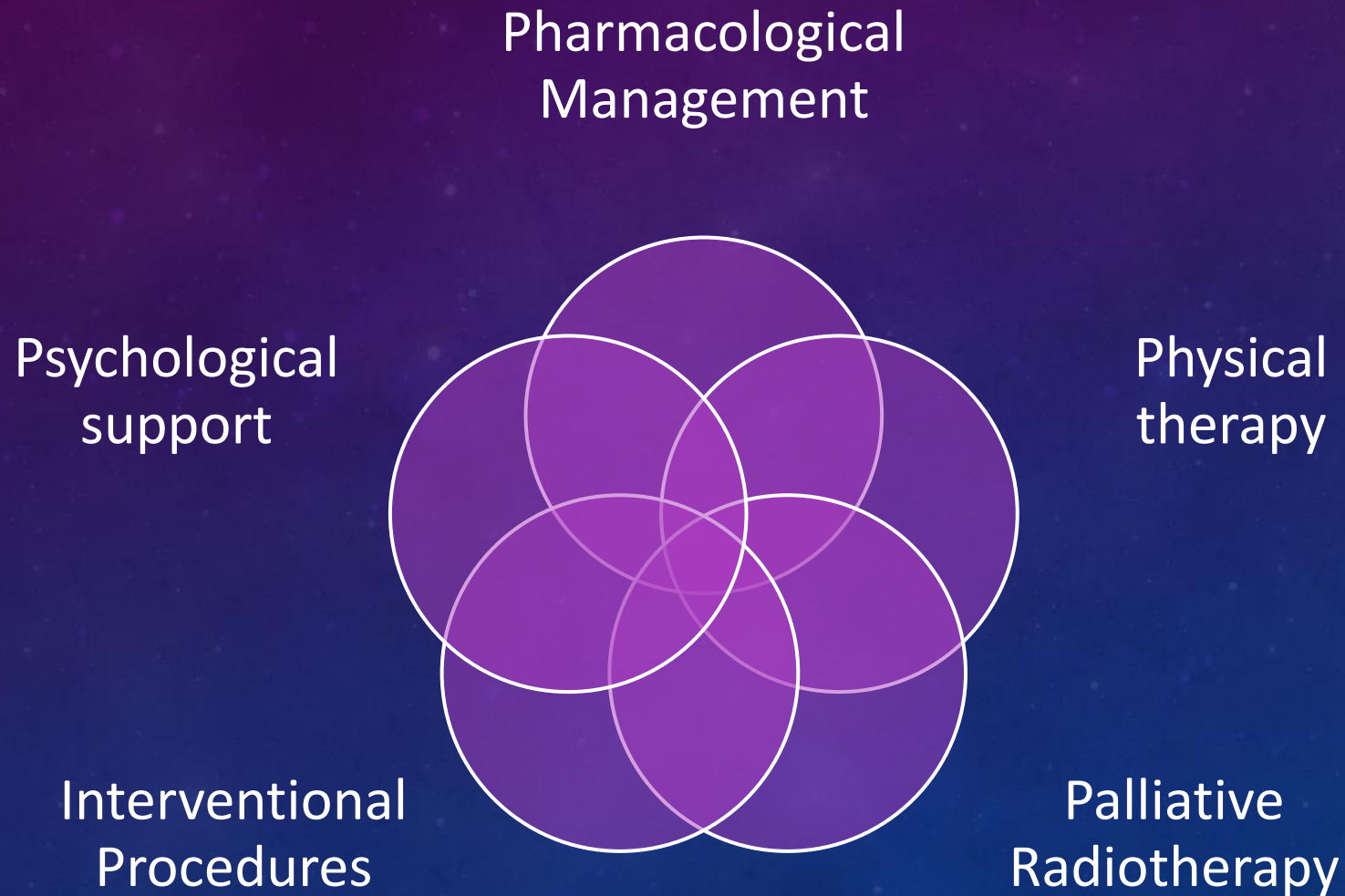
PAIN ASSESSMENT

- **Multidimensional Pain Assessment**
 - Visual Analog Scale (VAS), McGill Pain Questionnaire
 - Assessing function, psychological aspects (depression, anxiety)
- Differentiating Pain Types
- Using Pain Scales
- Patient-Reported Outcomes
- Breakthrough and Incident Pain
- Impact on Quality of Life (even quality of dying ...)

NEUROPATHIC VS. NOCICEPTIVE COMPONENTS

- **Nociceptive pain**
 - due to tissue damage from tumors or surgical procedures
 - presents as aching, throbbing, or pressure-like discomfort
 - often localized to the surgical site or areas affected by tumor growth.
- **Neuropathic pain** burning, electric shocks, or tingling
 - Because of nerve injury or chemotherapy/ radiotherapy
 - might involve areas like the jaw, tongue, or throat.
 - (NSAIDS, oxycodone... vs Anticonvulsants, methdone)

MULTIMODAL PAIN MANAGEMENT APPROACH



PHARMACOLOGICAL TREATMENTS

Opioids: management of opioid-induced side effects.

Adjuvants: Gabapentinoids, antidepressants, steroids.

Topical analgesics (LA, Cannabis, capsaicin, opioids)

Radiation Therapy for Pain Relief

- **Tumor invasion of nerves or bones** to reduce pressure and pain
- **Palliative treatment** in advanced cancer to shrink tumors
- **Post-surgical pain** to target residual tumor
- **Localized metastatic lesions** in areas like the skull base or cervical spine

PSYCHIATRIC CONSIDERATIONS

- **Anxiety and Depression in Cancer Pain is bi-directional**
- **Interdisciplinary Approach**
 - Cognitive Behavioral Therapy (CBT)
 - Mindfulness-Based Stress Reduction (MBSR)
 - Acceptance and Commitment Therapy (ACT)
 - Supportive Psychotherapy
 - Relaxation Techniques
 - Antidepressant Medications

CERTAIN PAIN CONDITIONS

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Review Article

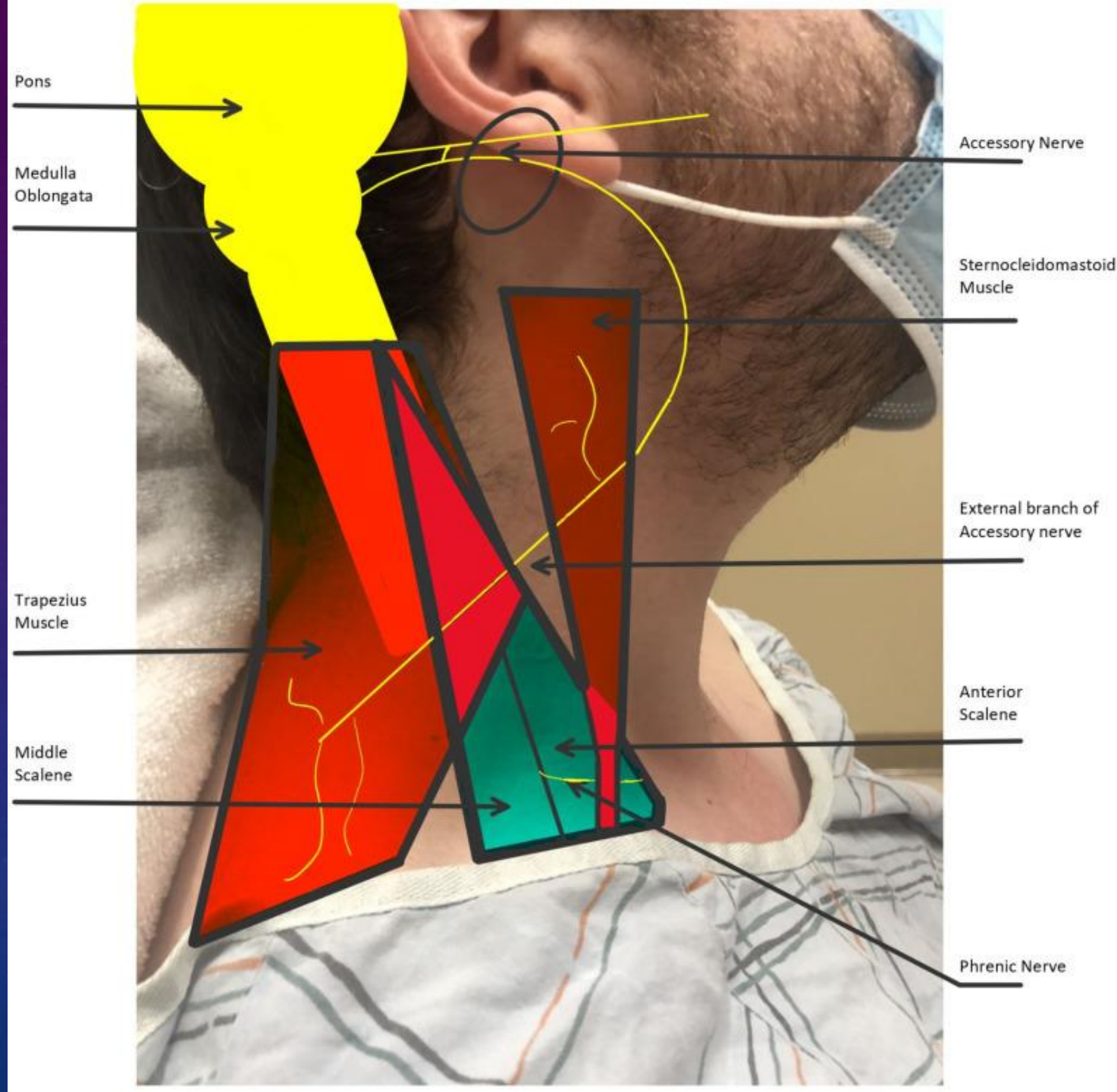
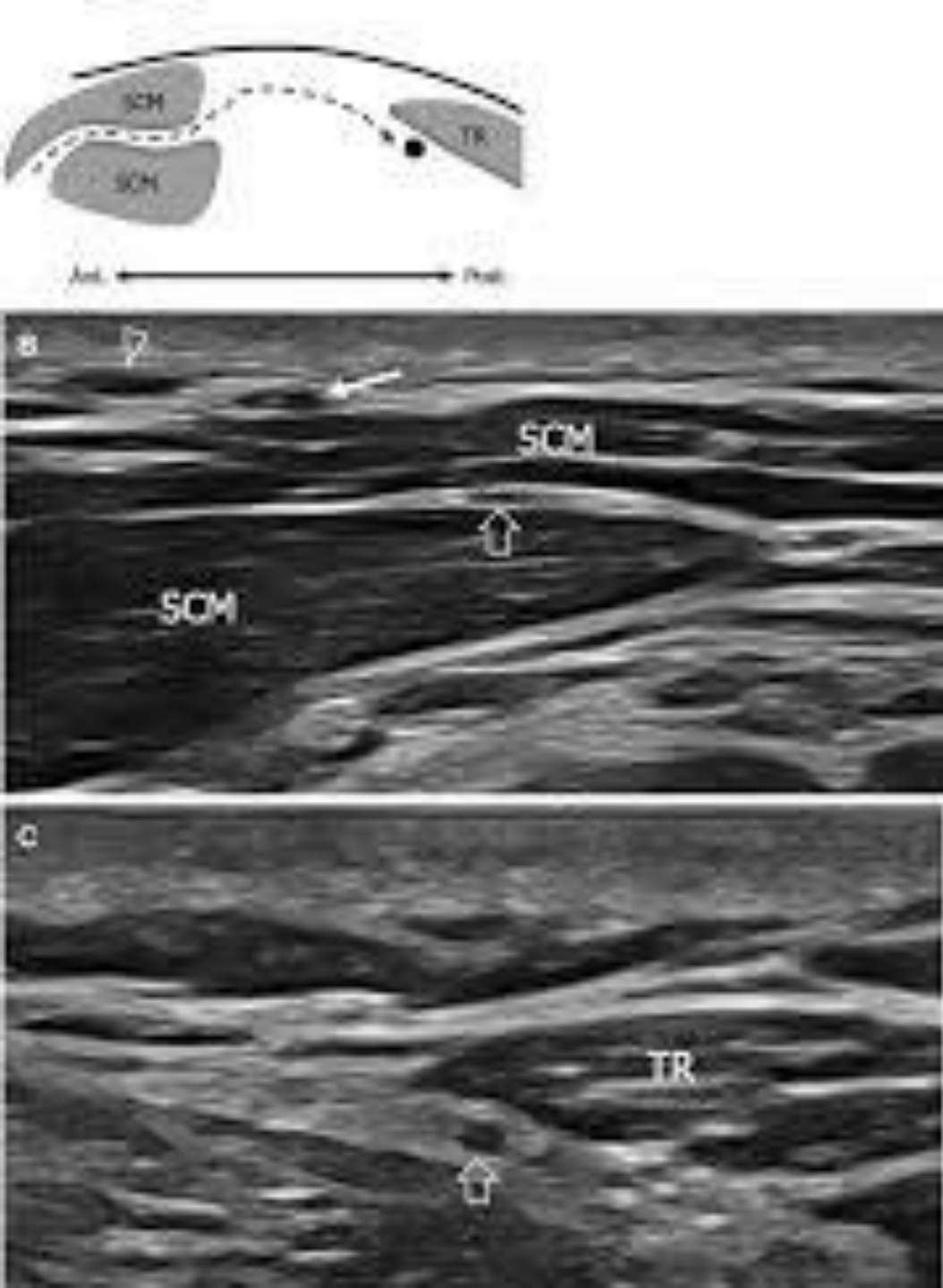


**A Narrative Review on Pain Management in Head and Neck Cancer:
Integrating Multimodal Analgesia and Interventional Procedures**

SHOULDER PAIN AFTER RADICAL NECK SURGERY

- Pharmacological Options: NSAIDs.
- Pain Procedures:
 - Spinal accessory nerve block (SANB) for pain of trapezius m.
 - Trigger point injections
 - Ipsilateral stellate ganglion block (SGB) for refractory shoulder pain.
 - Physical therapy: restoring ROM, muscle strengthening, and postural alignment.

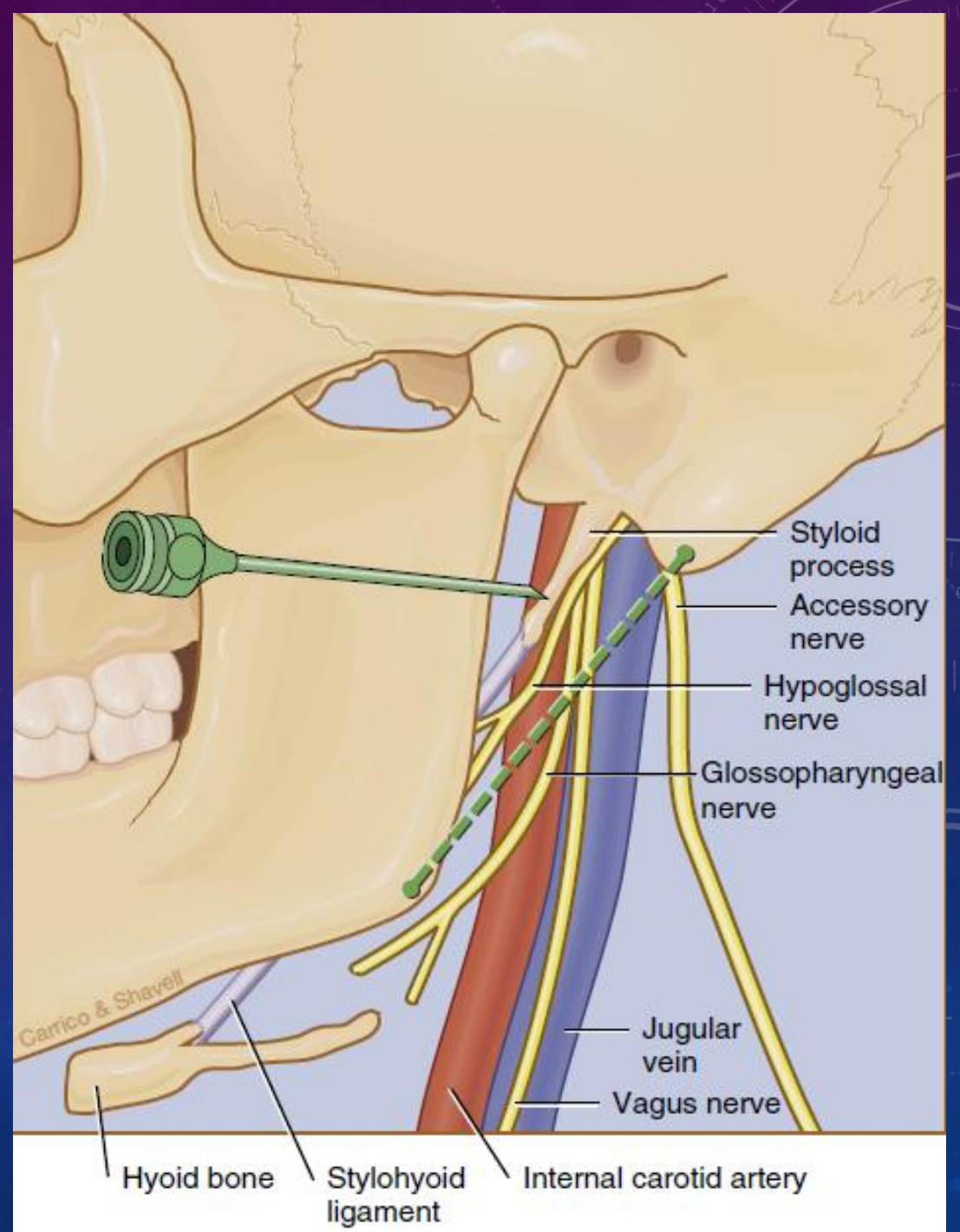
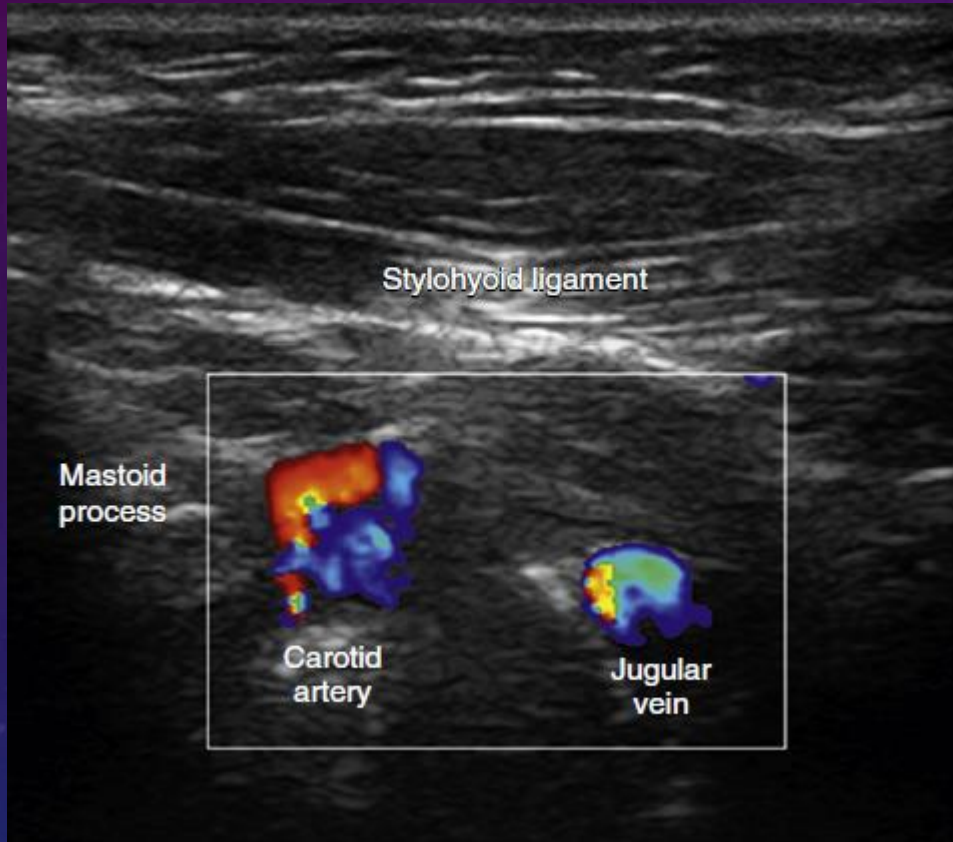




GLOSSOPHARYNGEAL NEURALGIA

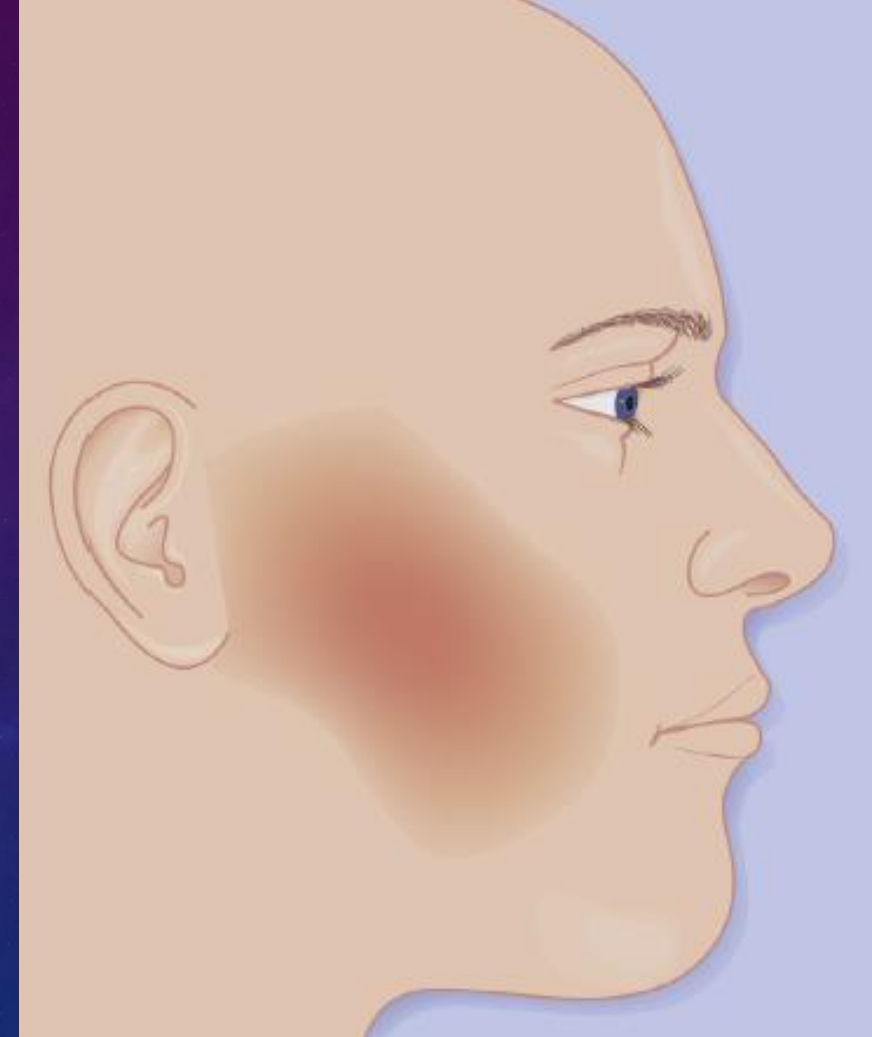
- **Pharmacological Options:** carbamazepine/gabapentin...
- **Pain Procedures:**
 - Glossopharyngeal nerve block for targeted pain relief.
 - Neuromodulation techniques such as pulsed radiofrequency.
 - Radiosurgery using Gamma Knife for refractory cases.

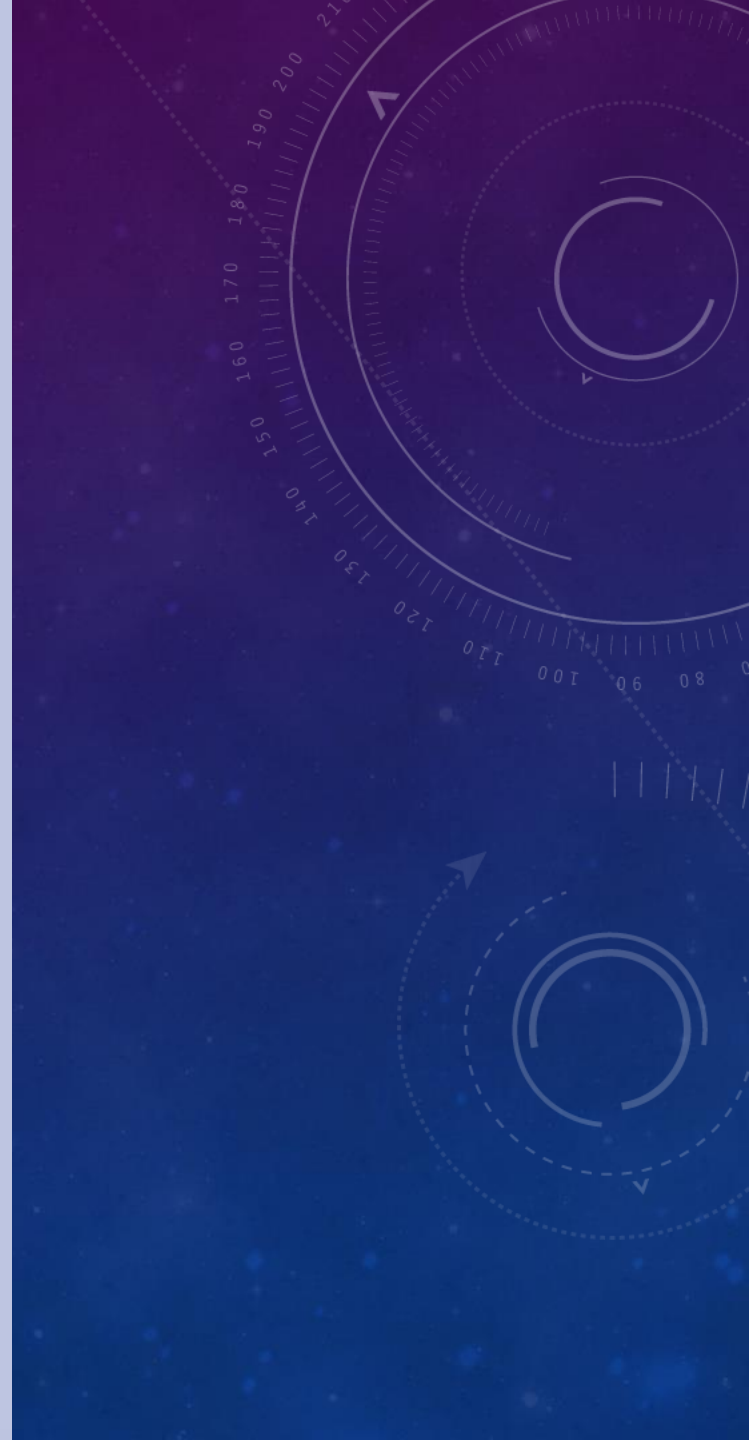
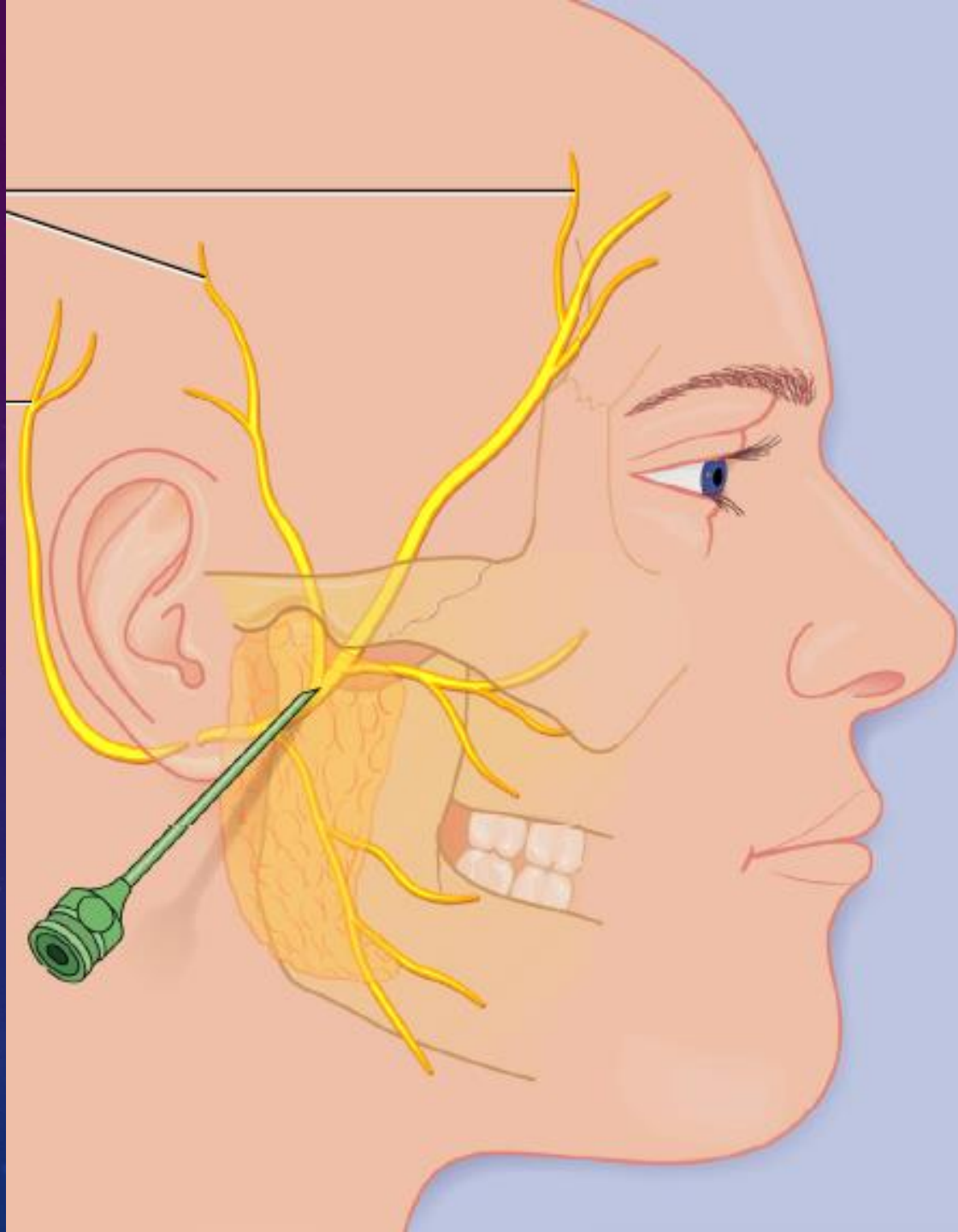




Frey Syndrome (Auriculotemporal Syn.)

- Unilateral hyperhidrosis and flushing
- Pain occurs when eating or drinking (DD: TMJ/trismus)
- occurs 2 to 13 months after surgery (in 5% of patients)
- **Management :**
- topical scopolamine
- intradermal injection of botulinum toxin
- Auriculotemporal nerve block





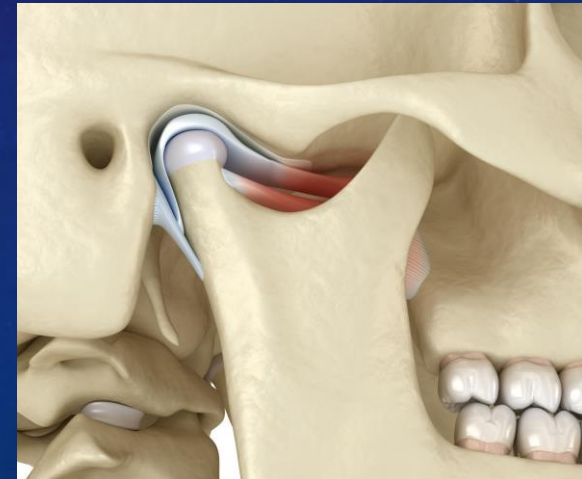
FIRST BITE SYNDROME

- **Baseline Treatments:** Dietary modifications (soft diet) and analgesics.
- **Pharmacological Options:** Anticholinergic agents, TCA, and anticonvulsants.
- **Pain Procedures:**
 - Intra-parotid Botulinum toxin A injection to reduce salivation and pain.
 - Blockade or ablation of trigeminal nerve branches for refractory cases.

Trismus and Radiation-induced Fibrosis

- Pharmacological interventions, like analgesics (e.g., gabapentin, amitriptyline)
- topical agents (e.g., lidocaine patches)
- Physical therapy including Jaw exercises and low-level laser
- Botulinum toxin injection into the masseter muscle

- *Once I missed TMJ involvement!*



SURGICAL SITE PAIN

- **Pharmacological :**

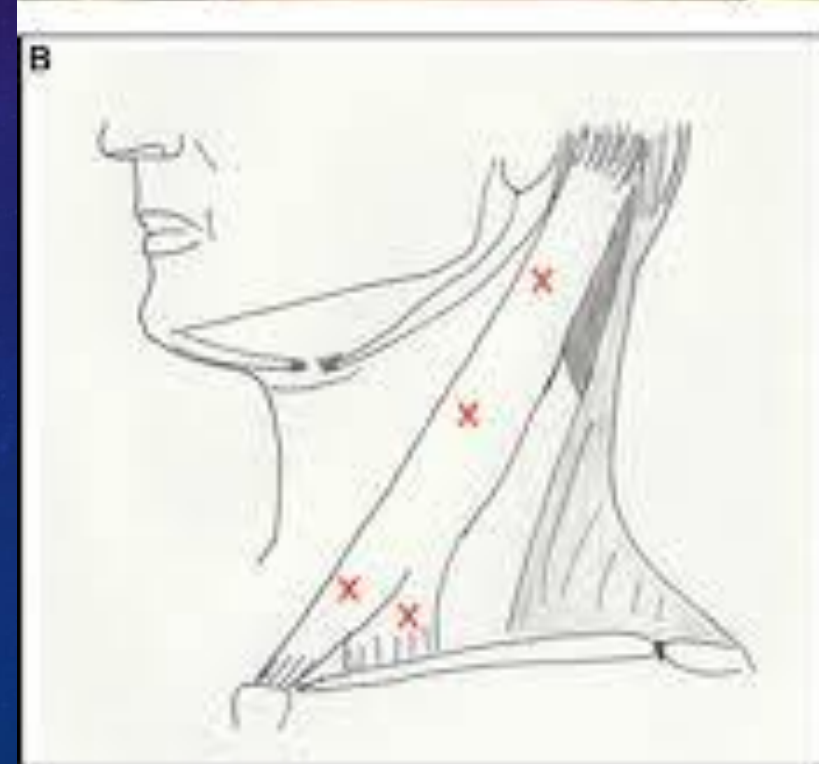
- Local anesthetics: LA, Cannabis
- Systemic medications: NSAIDs, opioids

- **Physical therapy:** exercises & manual therapy

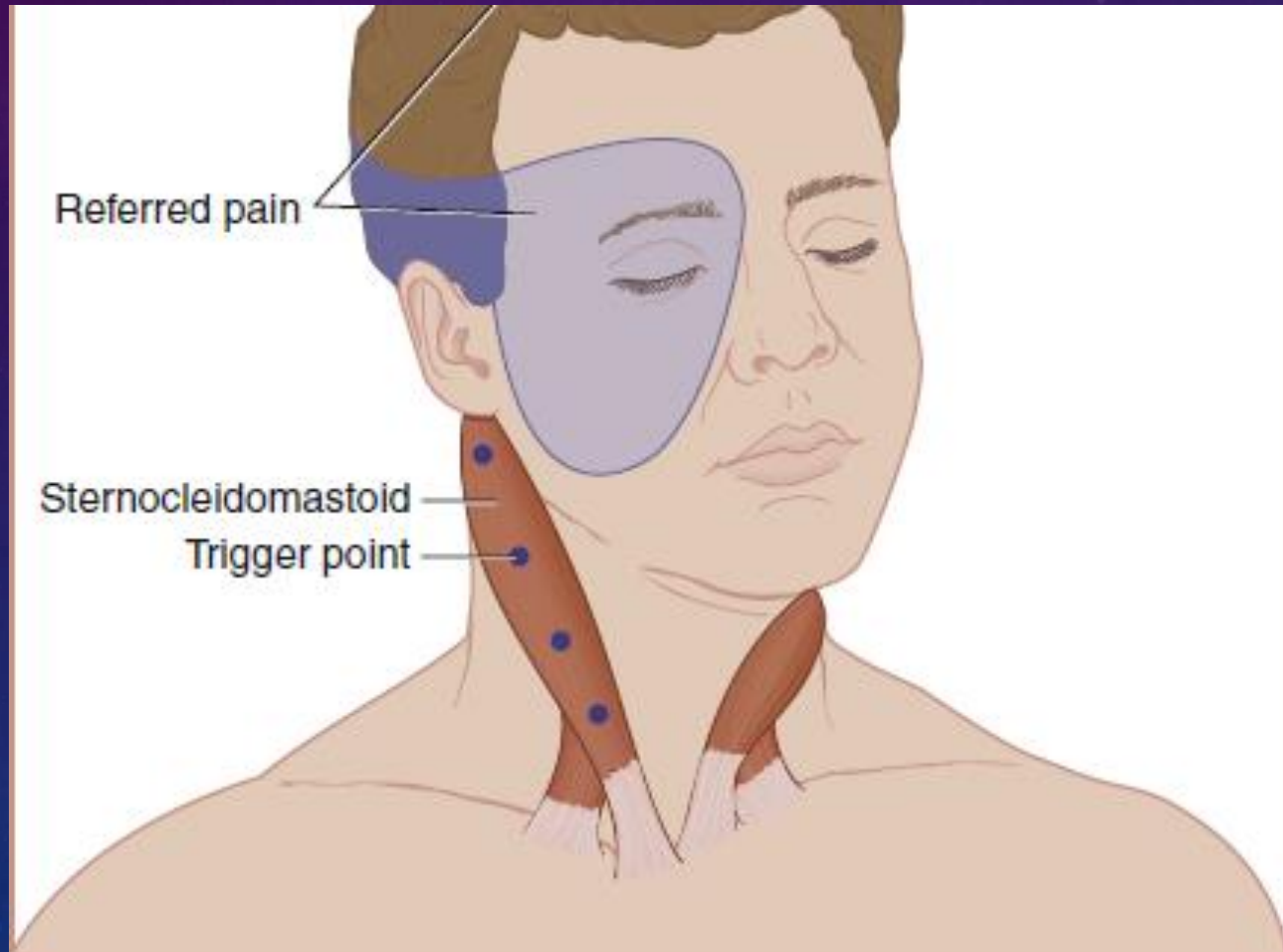
- **Pain Procedures:** cervical epidural blockade/ Blocks/ local anesthetic infiltration

Sternocleidomastoid Spasm and Fibrosis

- Botulinum toxin injections
- Heat therapy and physical therapy techniques.



Don't Be Confused With SCM Syndrome (A Myofascial Pain Syndrome)



CHEMO/RADIOTHERAPY-INDUCED MUCOSITIS

- **Pharmacological Options:** Mucosal coating agents, topical anesthetics, oral NSAIDs, corticosteroids, nasal spray of fentanyl?
- **Supportive Therapies:** Cryotherapy during radiation sessions to mitigate mucosal damage.
- Low-level laser therapy to accelerate healing?
- Nutritional support for tissue repair (high protein, C/D/E/zinc/ Hydration)

Chemo(radiotherapy)-induced Neuropathic Pain

- **Pharmacological:** TCA, anticonvulsants, ketamine, methadone, SSRI
- **Pain Procedures:**
 - Nerve blocks or neurolytic techniques for localized pain relief.
 - Sympathetic blocks like sphenopalatine and stellate ganglion blocks.
- **Neuromodulation techniques:**
 - Peripheral nerve field stimulation (TENS, PNS)
 - SCS
 - Transauricular vagal nerve stimulation (taVNS).

CHEMOTHERAPY-INDUCED PAIN

- Peripheral Neuropathy
 - Gabapentinoids/ duloxetine/topical agents (lidocaine, capsaicin)
- Oral Mucositis
 - oral hygiene, sucralfate, ice chips, ...
- Myalgias and Arthralgias
 - NSAIDs, acetaminophen, physical therapy, warm compresses, and in some cases, corticosteroids
- Bone Pain after G-CSF
 - NSAIDs, antihistamines (loratadine), acetaminophen, or opioids for severe cases

SPECIAL CONSIDERATIONS

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Opioid Tolerance and Hyperalgesia

- Opioid Rotation
- NMDA Receptor Antagonists (Ketamine, memantine, dextromethorphan, ...)
- Multimodal Analgesia

CULTURAL AND ETHICAL CONSIDERATIONS

- Considering Cultural Beliefs
 - Beliefs About Pain (آزمون الهی- فضیلت تحمل درد)
 - Communication Styles (under-reporting or non-verbal)
 - Use of Traditional Practices (OK) (شامل تقریبا همه اقدامات)
 - Involve Family

Patient Preferences in Pain Control

- Informed Consent
- Balancing Pain Relief with Side Effects (opioids, interventions)
 - اعتیاد!؟... بی اختیاری!؟
- Equity in Access to Pain Management
- End-of-Life Decisions (صحبت درباره مرگ تابو است)
 - appropriate pain relief and support in accordance with the patients' values and wishes.

FURTHER MODALITIES

The background is a dark blue gradient with a field of small white dots. On the right side, there are several technical diagrams. One is a large circular scale with numerical markings from 80 to 210 and an arrow pointing counter-clockwise. Below it is a smaller circular diagram with concentric circles and an arrow. In the bottom left, there is another circular diagram with an arrow pointing clockwise. The overall aesthetic is clean, modern, and technical.

Intrathecal Drug Delivery Systems (IDDS)

- **Indication:** For severe, refractory/ or diffuse pain
- direct administration of opioids, LA into the CSF
- **Benefits:**
 - excellent pain control with less side effects like sedation and GI issues.
 - Rarely available



SPINAL CORD STIMULATION (SCS)

- **Indication:** more commonly in non-cancer chronic pain
- May be indicated in resistant cases
- **Benefits:** Offers non-destructive pain relief/ really expensive



Regenerative Medicine

- Stem cells, tissue engineering, and biomaterials
 - promotes healing and regeneration of tissues
- Stem cell therapy
 - Hematopoietic Stem Cells regenerate damaged tissues
 - Mesenchymal Stem Cells (MSCs): anti-inflammatory properties
- PRP
 - neuropathic pain, and promoting healing in oral and maxillofacial surgeries
- Neurostimulation Techniques (TENS, PNS) may promote nerve healing!

THANKS FOR YOUR ATTENTION

The background is a dark blue gradient with a field of small white stars. On the right side, there are several technical diagrams. One is a large circular scale with numerical markings from 80 to 210 and an arrow pointing left. Below it is a smaller circular diagram with concentric circles and an arrow pointing right. In the bottom left corner, there is another circular diagram with concentric circles and an arrow pointing left.



Painful
 Painless

