

PAIN MANAGEMENT 1ST COURSE



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

محاضرة رقم 1

Lecture No. 1

الجانب العملي

Practical

استاذ المادة :د.أنمار رحمن كاظم

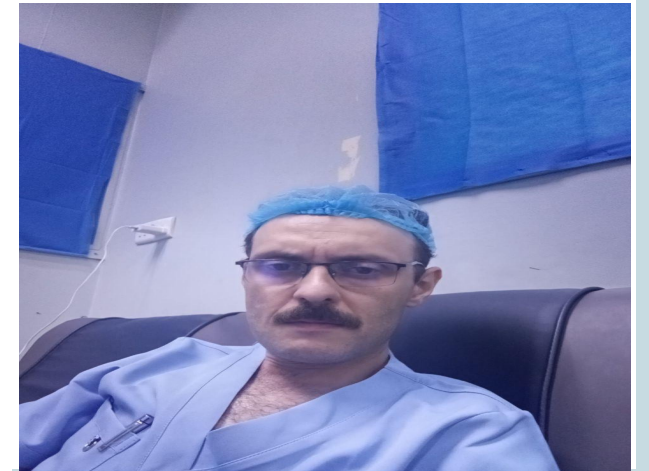
Lecture 1 – Introduction

Dr. Anmar Rahman

M.B.Ch.B

F.I.B.M.S

College of Medical Technologies,
University of Sawa



DEFINITION

REVISED IASP DEFINITION OF PAIN

An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage

What is the definition of pain?



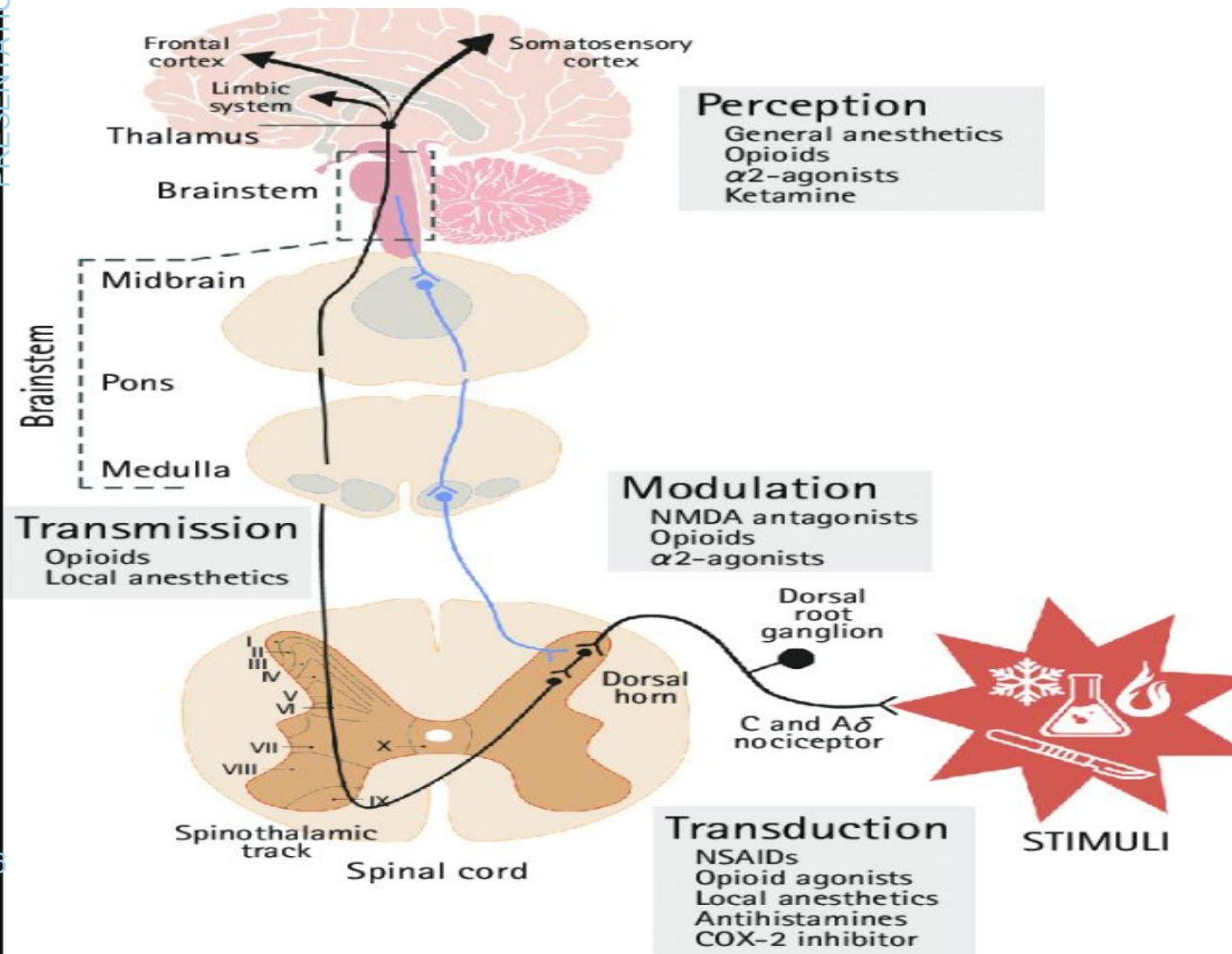
PEARLS:-

- ❖ *Pain is subjective and multidimensional (sensory + affective).*
- ❖ *Respect patient report.*
- ❖ *Assess function not only intensity.*

BASIC PAIN PATHWAY (NOCICEPTION):-

- Transmission: A δ and C fibers $\rightarrow$ dorsal horn $\rightarrow$ ascending tracts
- Transduction: nociceptor activation (TRP, chemical mediators)
- Modulation: spinal interneurons and descending controls
- Perception: thalamus and cortical integration

BASIC PAIN PATHWAY



❑ CRITERIA OF PAIN ASSESSMENT

❖ Pain assessment criteria usually follow the SOCRATES:-

❑ Site

- Where exactly is the pain located? Helps in localization to a specific organ or structure.

❑ Onset

- When did it start? Sudden vs. gradual gives clues to etiology (e.g., perforation vs. infection).

❑ Character (Quality)

- Nature of the pain: sharp, dull, burning, colicky. Different pathologies have characteristic pain qualities.

❑ Radiation

- Does the pain move from the site to another area? Example: gallstone pain to right shoulder, renal colic to groin.

□ Associated symptoms

- Nausea, vomiting, sweating, fever, dysuria, etc. These help identify systemic involvement or origin.

□ Timing (Duration, pattern, frequency)

- Is the pain continuous, intermittent, or related to meals, activity, or time of day? Provides diagnostic patterns.

□ Exacerbating/Relieving factors

- What makes it worse or better? Movement, eating, defecation, position, medications.

□ Severity (Intensity)

- Usually measured with scales (0–10 numerical, visual analogue, or faces scale in children). Guides urgency and management.

This set (SOCRATES) is widely used in clinical practice for systematic pain evaluation.

• CLASSIFICATION OF PAIN

PRESENTATION TITLE



By duration: Acute <3 months vs Chronic $\geq$ 3 months

By mechanism: Nociceptive, Neuropathic, Nociplastic

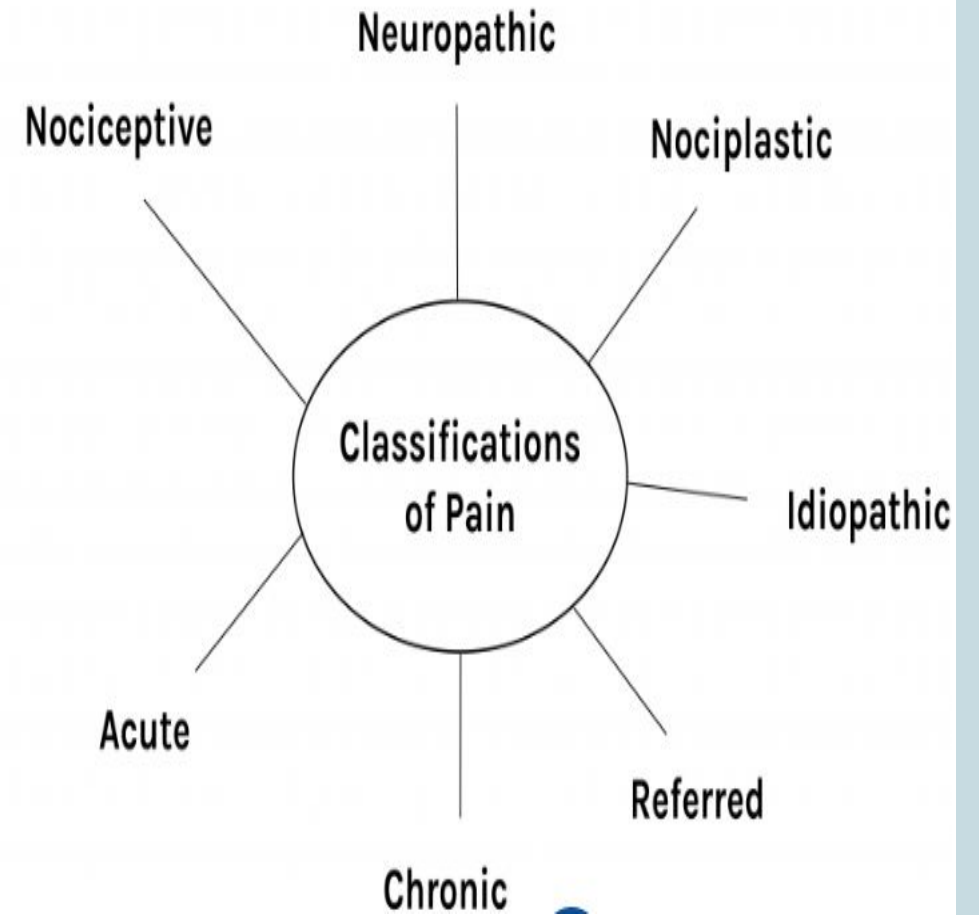
By source: Somatic, Visceral, Referred

By severity : mild , moderate , severe or by using (0-10) pain scale

CLASSIFICATION:

Pain can be classified in many ways. It is important to recognize that these are not mutually exclusive, and a person may experience multiple classifications of pain at the same time.

See **Figure** for classifications of pain.



Acute pain is **short or limited in duration** and often **caused by something specific**. Types of acute pain are surgical pain during the operative and postoperative period, a headache, bee sting, labour pains, menstrual pain, and injuries such as an ankle sprain, fracture, or burn. Although acute pain can shift into chronic pain, it typically **subsides when the cause of pain is resolved** or healed. Acute pain can last anywhere from a moment to upwards of three to six months. Beyond this timeframe, it is typically considered chronic pain.

Chronic Pain

Definitions of chronic pain have evolved and become more specific, but this kind of pain is still referred to as **pain that continues to occur and recurs** (persistent and recurrent) for about **three months or more** . Common types of chronic pain include back pain, migraines, arthritis, cancer-related pain, , and postsurgical and posttraumatic pain.

The **effects of chronic pain** typically include cognitive and social changes, such as:

1. Sleep disruptions.
2. Mood disturbances including depression.
3. Interference with daily activities.
4. Cognitive impairment including the ability to think clearly.
5. Social and relational effects

Nociceptive Pain

Nociceptive pain involves a **noxious stimulus** (mechanical, thermal, or chemical) that activates nociceptors with the potential to cause non-neural tissue injury. This is a common type of pain that many of us have experienced and is often categorized as:

- **Mechanical** (e.g., stubbing your toe, receiving a needle, straining a muscle).
- **Thermal** (e.g., touching a hot surface like a stove).
- **Chemical** (e.g., exposure to a chemical such as bleach).

Neuropathic Pain:-

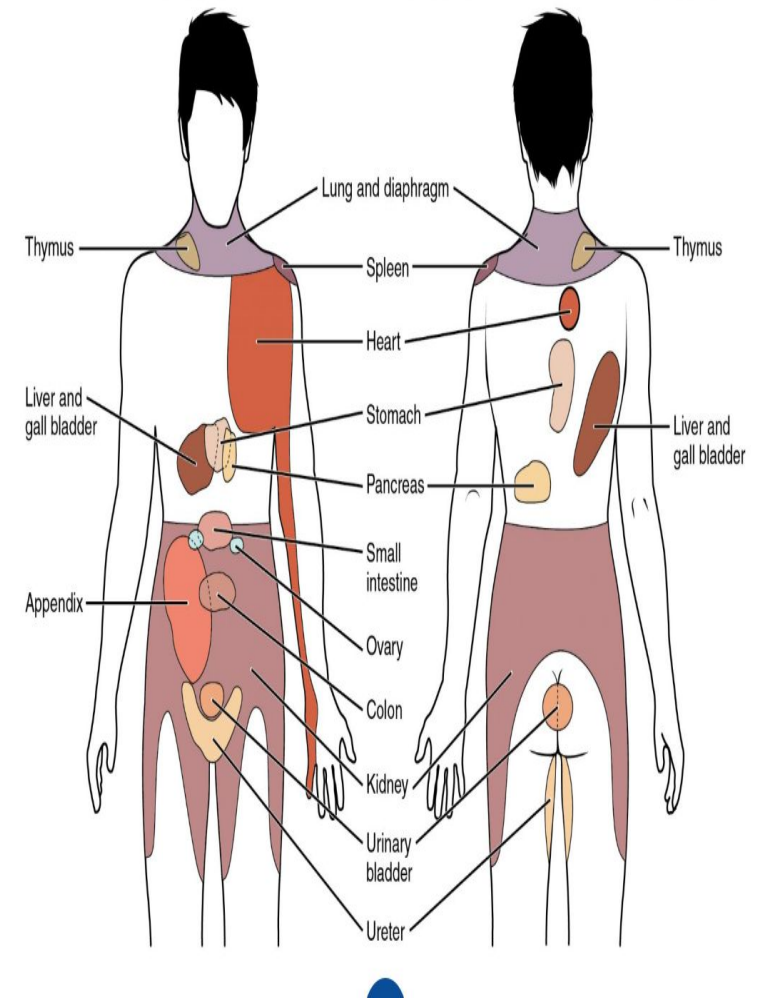
Neuropathic pain originates from a “**lesion or disease of the somatosensory nervous system**” (IASP, 2021). Neuropathic pain has a different **subjective** sensation than nociceptive pain and is often described as burning, stabbing, numbness, tingling, and shooting (electric-shock like) with sensitivity to touch and temperature. As such, the client’s qualitative description of their pain is important to assess in order to help you better understand the causative factors. Causes can be related to trauma along a nerve, conditions such as carpal tunnel syndrome, spinal cord injury, stroke, diabetes, and multiple sclerosis, and infections such as herpes simplex virus (cold sore) or varicella-zoster virus (shingles).

Idiopathic Pain

Idiopathic pain or pain of an **unknown origin** can also be considered a fourth classification. With this type of pain there is no obvious pathology. Although the origin and the cause may be unknown, the pain is very real for clients. Your assessment here becomes extremely important to help understand the client's pain. fibromyalgia, chronic headaches (like migraines), irritable bowel syndrome (IBS), temporomandibular joint disorder (TMJD), chronic back pain, and myofascial pain syndrome. These conditions are characterized by chronic pain that persists even after extensive medical evaluation, where no clear underlying cause or organic disease can be identified

Referred Pain

Referred pain is pain felt at a bodily location that is **different from the site of origin**. For example, the site of origin of cardiac ischemia (lack of oxygen to the heart muscle, commonly referred to as chest pain) is the heart. However, cardiac ischemia can be felt in referred locations such as pain down the left arm or in the jaw or neck. This kind of pain referral has a neural basis in which the site of origin shares common neural pathways with another part of the body. See the **Figure** for common pain referral pathways.



Pain Assessment Tools

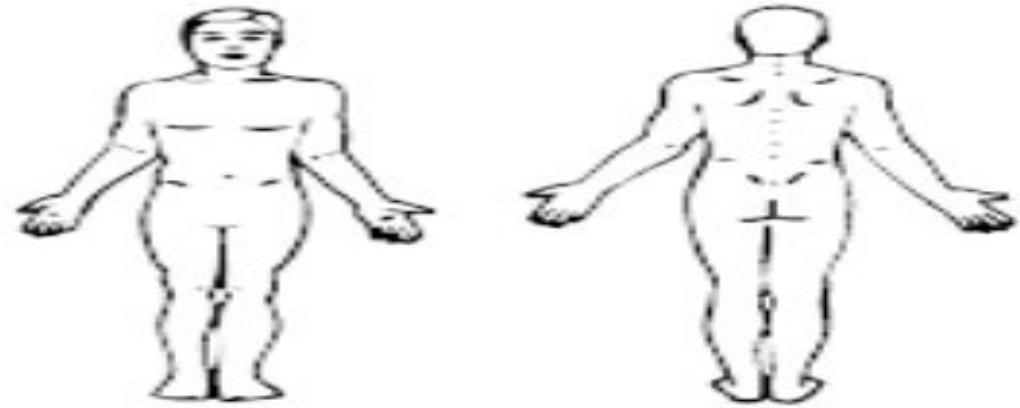
- ✓ Numeric Rating Scale (NRS) 0–10
- ✓ Visual Analog Scale (VAS) 10 cm
- ✓ Wong-Baker FACES (useful for young/limited-language patients)

1. Do you have any ongoing pain problems?

2. Do you have pain now?

If yes to either of the above:

3. Location of pain:



4. Pain intensity on a scale of 0 to 10:

5. What, if any, medications do you take for pain relief?

6. What, if any, other treatment do you receive for your pain?

7. Is your pain satisfactorily controlled now?

Numeric Rating Scale (NRS) 0–10

Patient is asked: “On a scale from 0 to 10, how severe is your pain right now?”

0 = no pain.

10 = worst imaginable pain.

Simple, fast, widely used in adults and children >7 years (who can understand numbers).

Advantage: easy to communicate, easy to record.

Limitation: not suitable for very young children or patients with cognitive/language barriers.

2. Visual Analog Scale (VAS) 10 cm

A 10 cm horizontal or vertical line is presented.

One end = “no pain” and the other end = “worst pain imaginable.”

Patient marks a point along the line that represents their pain intensity.

The clinician measures the distance (in cm or mm) from the “no pain” end to the mark.

Provides a continuous scale (more sensitive than NRS).

Advantage: precise measurement, useful in research.

Limitation: requires patient understanding and motor ability to mark the line (not ideal for children <7 or impaired patients).

3. Wong-Baker FACES Pain Rating Scale

A set of faces ranging from a happy face (no pain) to a crying face (worst pain).

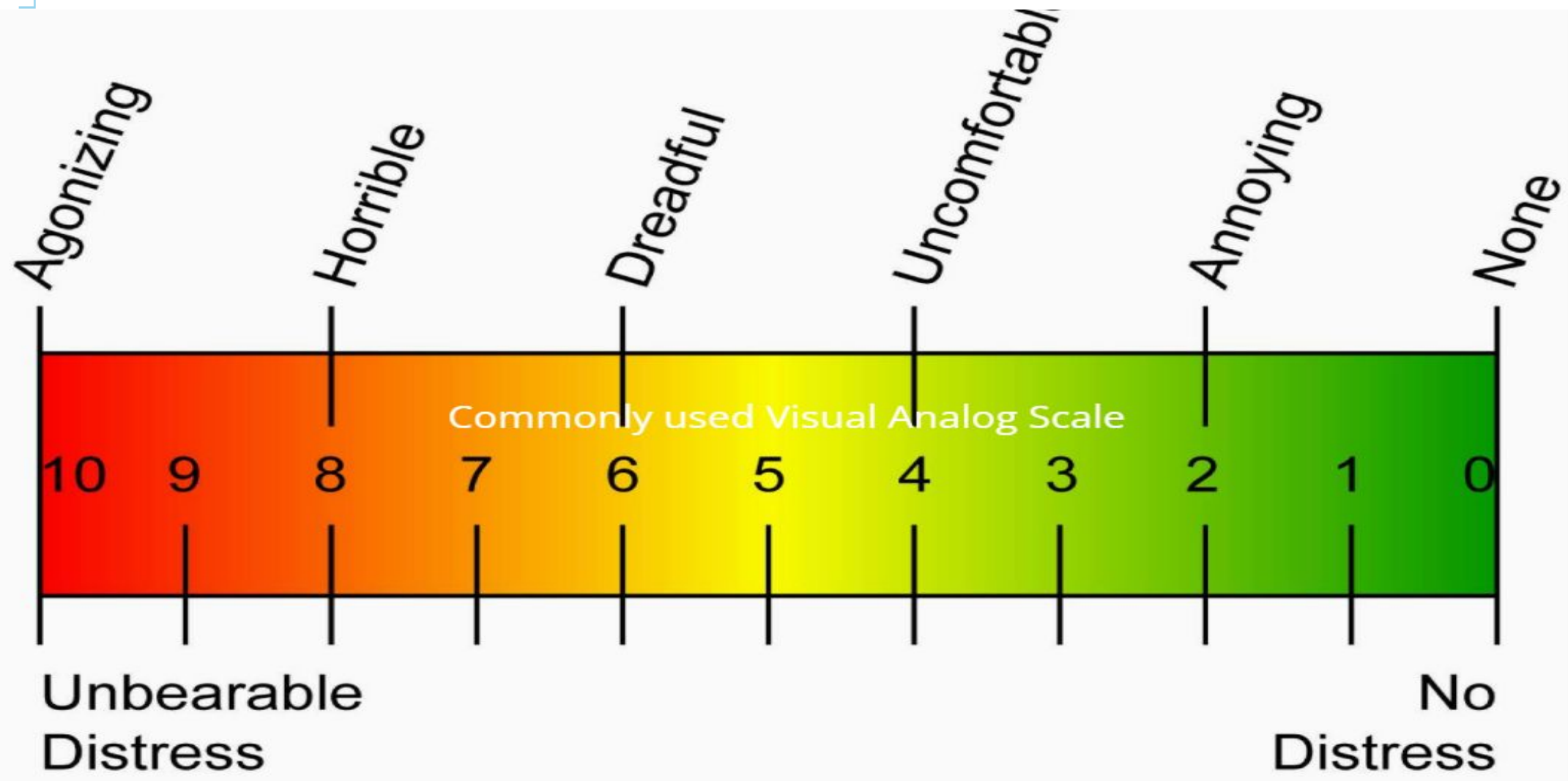
Patient is asked to point to the face that best represents their pain.

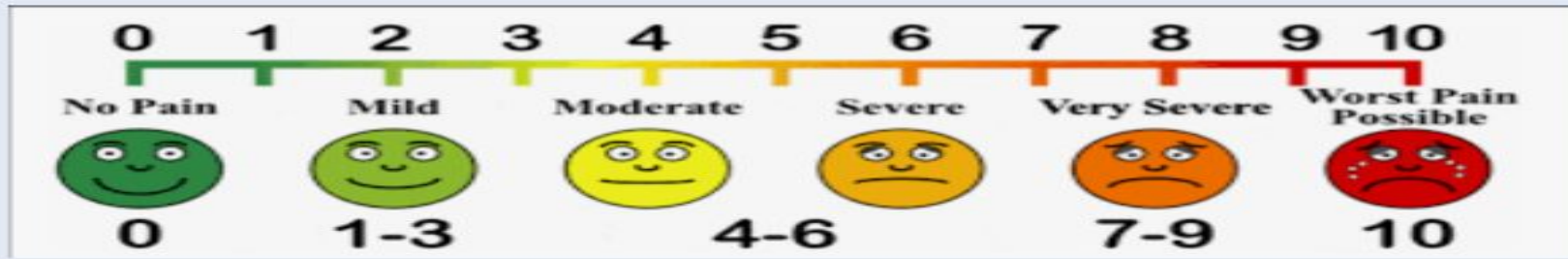
Score ranges typically from 0–10, in increments of 2 (0, 2, 4, 6, 8, 10).

Designed for children (>3 years), elderly, or patients with limited language or literacy.

Advantage: easy to use, intuitive for patients with difficulty expressing pain verbally.

Limitation: less precise than VAS, may be influenced by emotional state.

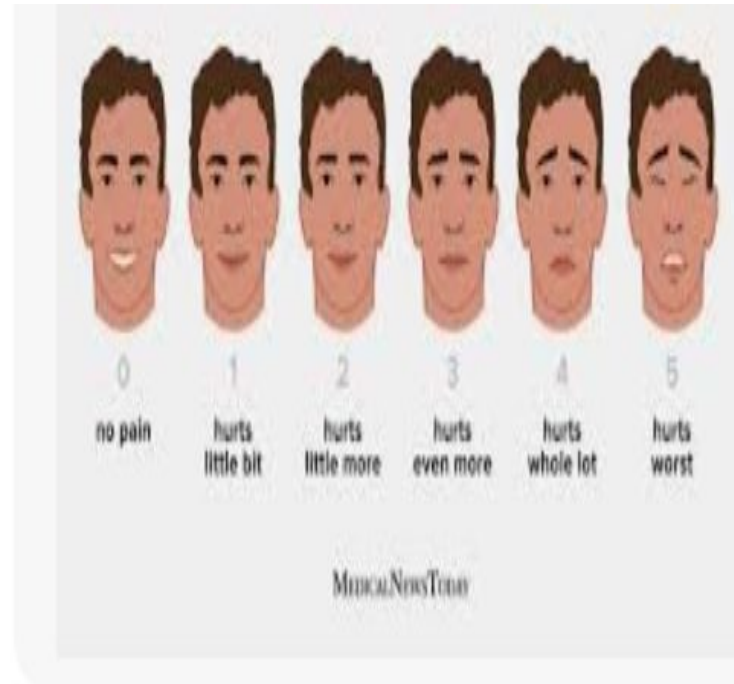
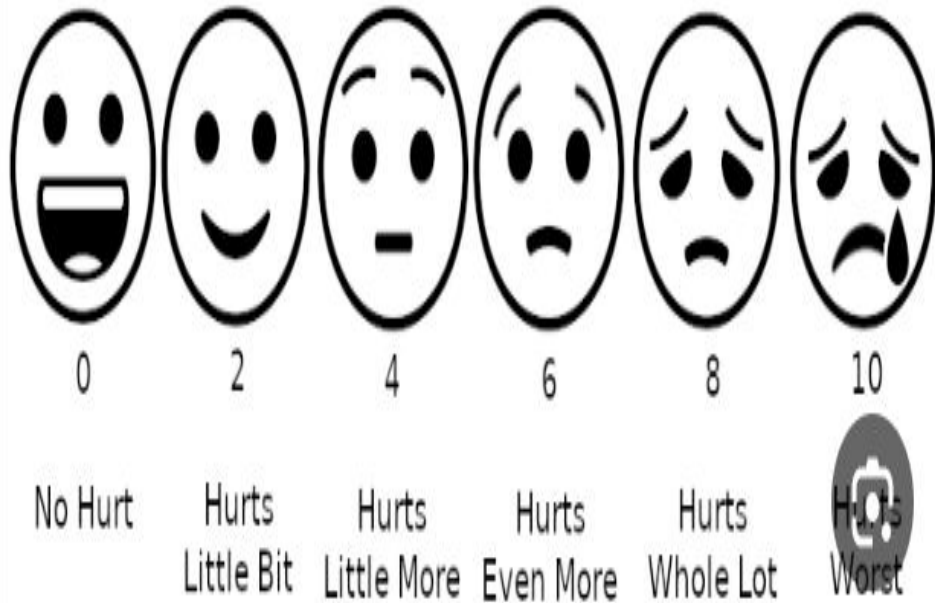




Great Brook Consulting

Visual Analog Survey Scale -- A Pain-ful Misnamed ...

PR



Non-pharmacological measures for analgesia = methods to reduce pain without drugs. Examples:

Physical methods: heat, cold packs, massage, positioning, splinting.

Cognitive/behavioral: distraction, relaxation, guided imagery, music therapy, breathing exercises.

Psychological support: counseling, reassurance, parental presence (in pediatrics).

Environmental modification: quiet room, dim lights, reducing noise.

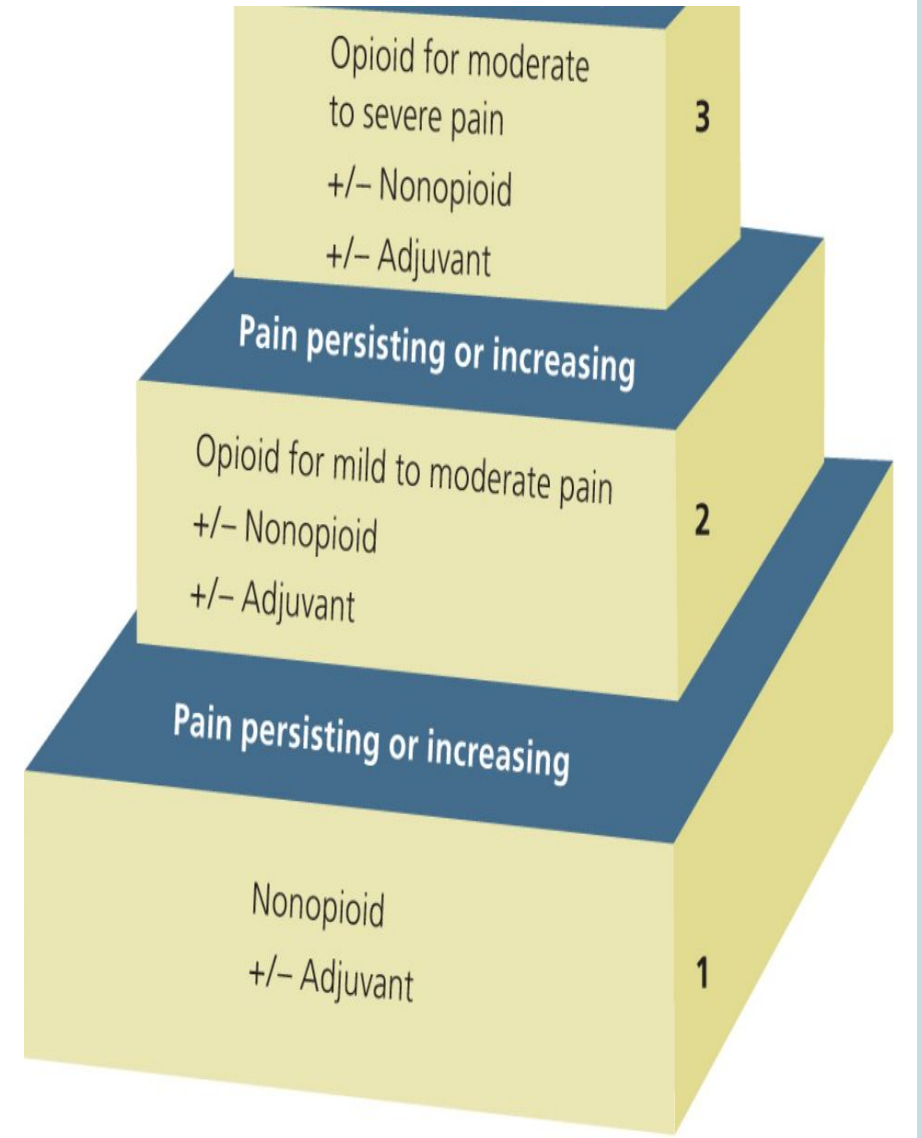
Complementary techniques: acupuncture, TENS (transcutaneous electrical nerve stimulation).

Pharmacologic Options

Non-opioids: Acetaminophen, NSAIDs
(opioid-sparing)

Adjuvants: Gabapentinoids, TCAs, SNRIs, topical
agents

Opioids: for moderate-severe nociceptive pain
with careful monitoring



EXAMPLE : POST OPERATIVE PAIN CONTROL

Pain Medications After Surgery Some of the most common types of post-surgery pain medications include:	
NSAIDs	Opioids (narcotics)
 Some examples are: • Aspirin • Ibuprofen • Naproxen sodium • Indomethacin • Ketorolac	 Including: • Hydrocodone • Oxycodone • Codeine • Fentanyl • Methadone
Topical anesthetics	Other pain medications
 Some include: • Lidocaine • Benzocaine • Dibucaine • Phenol • Pramoxine	 Like: • Nerve blocks • Post-surgery anesthesia • A patient-controlled analgesia pump • Epidurals

Regional and Procedural Analgesia

Peripheral nerve blocks (single-shot, continuous catheters)

Neuraxial: caudal, epidural; use ultrasound guidance

Regional Anesthesia



QUIZ

Case 1: 45yo with burning feet for 6 months. Qs: type, first-line meds, investigations.

Case 2: Post-op laparotomy patient with severe acute pain. Qs: plan for multimodal analgesia and regional options

Any questions?

*Thank
You*