

PAIN MANAGEMENT 1st course



Sawa University

College of health and medical techniques

Department of Anesthesia

Fourth stage

الجانب العملي

Practical

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Prolotherapy and Acupuncture Therapy for Pain Management



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- Level: 4th Year – College of Medical Technology

Introduction



- Pain management includes pharmacological and non-pharmacological approaches.
- Prolotherapy and acupuncture are regenerative and neuromodulatory therapies.

Learning Objectives



- 1. Define prolotherapy and acupuncture.
- 2. Understand mechanisms of action.
- 3. Identify indications and contraindications.
- 4. Recognize advantages, limitations, and evidence base.

Prolotherapy – Definition



- Regenerative injection therapy stimulating healing of ligaments, tendons, and joints.
- Involves irritant solution injection to promote repair.

Mechanism of Action (Prolotherapy)

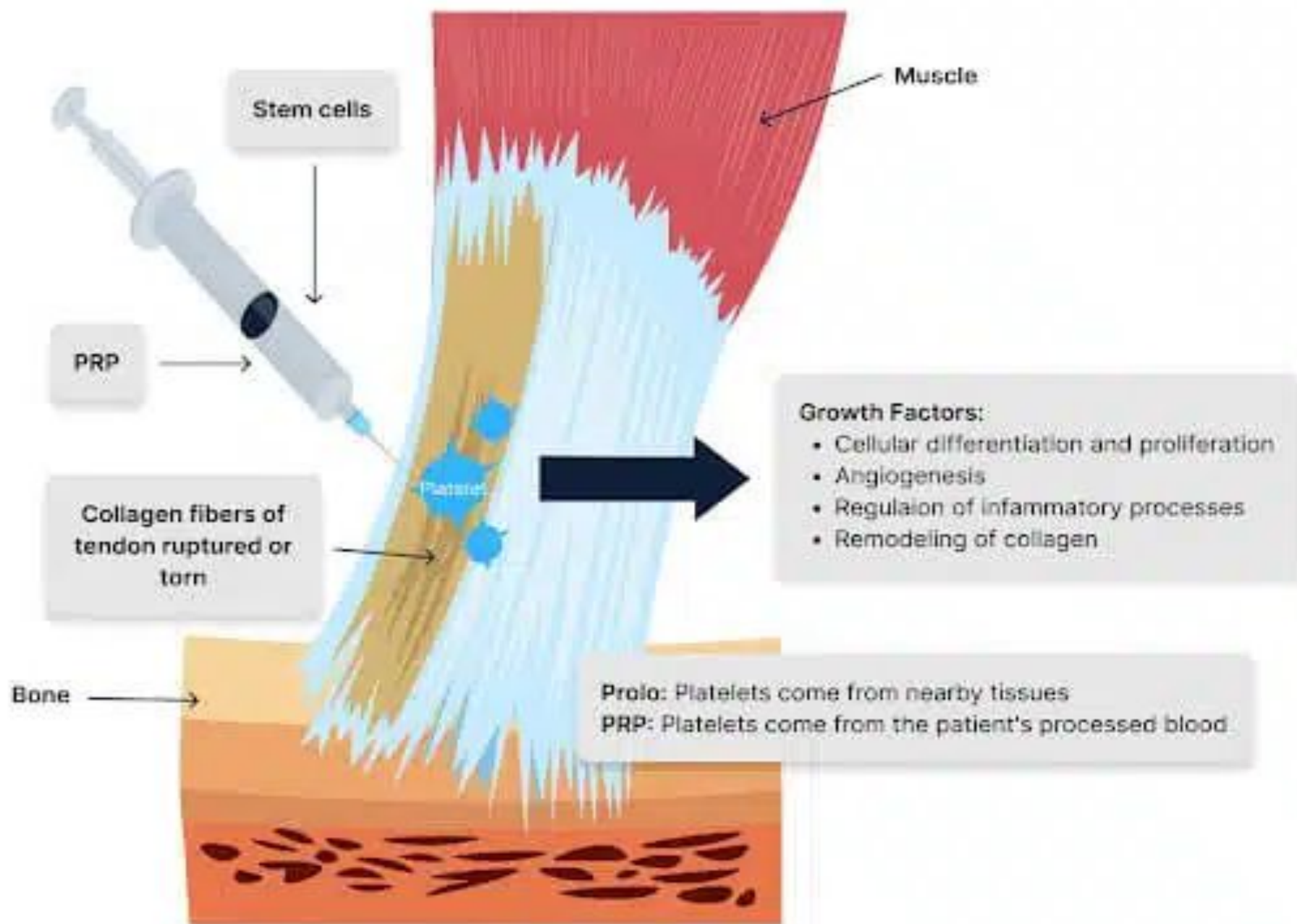


- Induces mild localized inflammation.
- Stimulates fibroblast proliferation and collagen deposition.
- Enhances joint stability and reduces chronic pain.

Common Prolotherapy Solutions



- • Dextrose (12.5%–25%)
- • Lidocaine or procaine
- • Phenol-glycerin-glucose (older formula)



Indications for Prolotherapy



- • Chronic low back pain
- • Knee osteoarthritis
- • Lateral epicondylitis
- • Shoulder instability
- • Sacroiliac joint dysfunction

Contraindications for Prolotherapy



- • Active infection
- • Uncontrolled diabetes
- • Coagulopathy
- • Immunosuppression
- • Poor general health



Complications of Prolotherapy

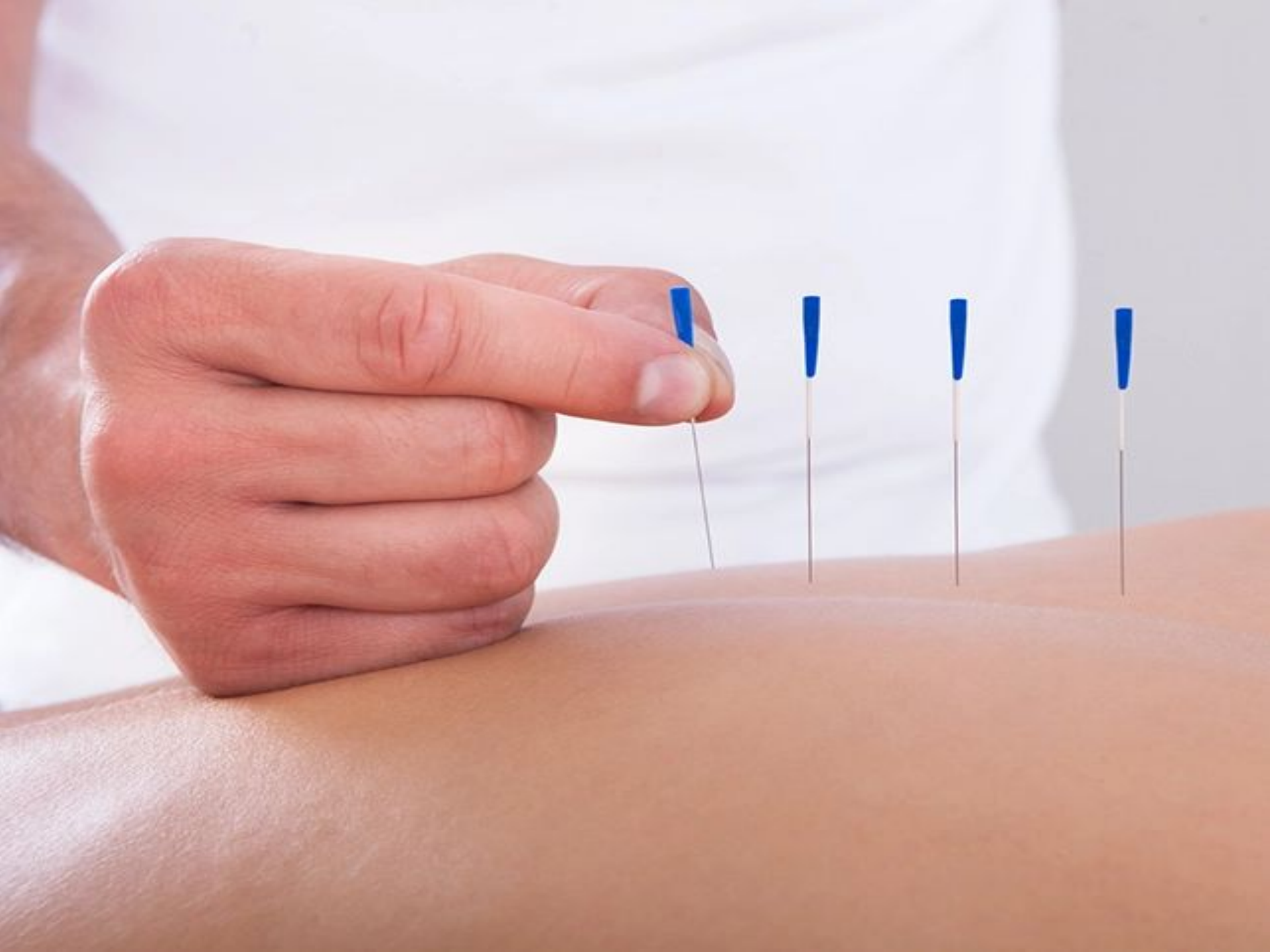


- • Local pain or swelling
- • Bleeding or bruising
- • Infection
- • Temporary pain increase

Acupuncture – Definition



- Traditional Chinese therapy using fine needles in specific body points (acupoints) to modulate pain pathways.



Mechanism of Action (Acupuncture)



- Stimulates release of endogenous opioids.
- Activates descending inhibitory pathways.
- Improves blood flow and reduces muscle tension.

Indications for Acupuncture



- • Chronic headache and migraine
- • Low back pain
- • Osteoarthritis
- • Myofascial pain
- • Postoperative pain control

Facial acupuncture



Contraindications for Acupuncture



- • Bleeding disorders
- • Local infection
- • Pregnancy (avoid lower abdomen)
- • Severe needle phobia

Advantages of Acupuncture



- • Non-pharmacologic
- • Reduces analgesic needs
- • Cost-effective
- • Safe and low risk

Complications of Acupuncture



- • Minimal bleeding
- • Rare infection
- • Dizziness
- • Rare needle breakage

Comparison Table



- Prolotherapy: Regenerative, injection-based, for joints.
- Acupuncture: Neuromodulatory, acupoint-based, for chronic pain.

Evidence and Efficacy



- Moderate evidence supports both in chronic musculoskeletal pain.
- Combination with physiotherapy improves outcomes.

Summary



- Prolotherapy and acupuncture are adjunctive, minimally invasive pain management tools.
- Aim to restore function and reduce chronic pain.

References



- 1. Waldman SD. Pain Management, 6th Ed.
- 2. Fishman SM. Bonica's Management of Pain, 5th Ed.
- 3. Chou R. Evidence-based Nonpharmacologic Therapies for Chronic Pain.