PHYSIOTHERAPY IN SURGICAL CONDITIONS

[PT 310]

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LECTURE NOTES FOR 3rD GRADE BPT STUDENTS

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PHYSIOTHERAPY IN SURGICAL CONDITIONS

COURSE OBJECTIVES

- Understand the surgical conditions that commonly require physiotherapy intervention.
- Learn the principles of preoperative & postoperative physiotherapy care.
- Develop the skills to assess & treat surgical patients in the rehabilitation process.
- Master pain management techniques & postoperative mobility rehabilitation.
- Gain proficiency in creating individualized rehabilitation plans for surgical conditions.

Introduction to Physiotherapy in Surgical Conditions

LECTURE OUTLINE

- Learning objectives
- Common surgical conditions
- Role of physiotherapy in surgical recovery
- Physiotherapy assessment techniques in surgical patients
- Understanding the multidisciplinary approach to patient care in surgery
- General principles of post-surgical rehabilitation
- Review
- Reading resources/additional materials

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LEARNING OUTCOMES

At the end of this lecture, the students should be able to:

- Know the common orthopaedic/spinal surgeries managed by physiotherapist
- Define the role of physiotherapy in the surgical pathway.
- Describe assessment tools used in the surgical rehabilitation process.
- Understand the importance of team collaboration in managing surgical patients.

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Role of physiotherapy in surgical recovery

Physiotherapy:

- Helps restore function & improve mobility post-surgery.
- Aims to reduce postoperative complications (e.g., DVT, pulmonary issues).
- Provides pain management through modalities & techniques (e.g., TENS, electrotherapy).
- Encourages early mobilization to promote tissue healing & prevent stiffness.
- Improves cardiopulmonary fitness to aid recovery after surgery.

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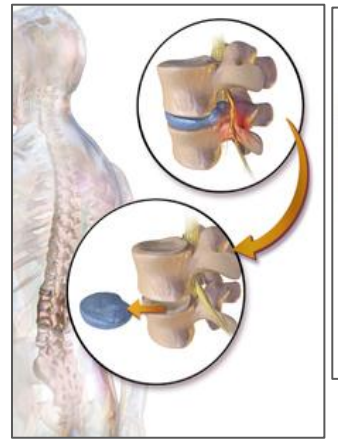
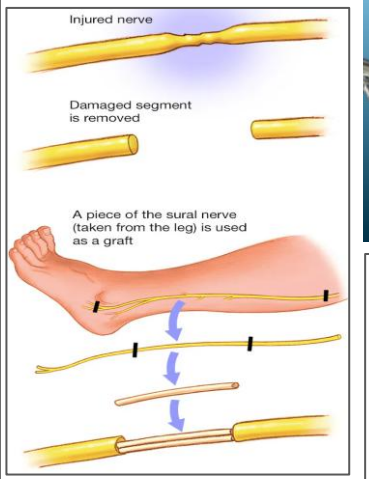
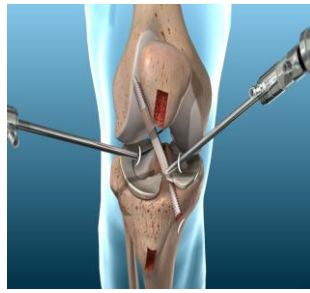
Common surgical conditions

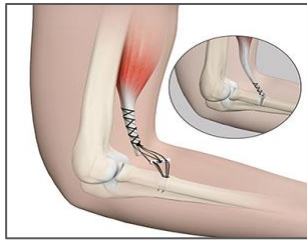
Common orthopaedic/spinal surgeries managed by Physiotherapist:

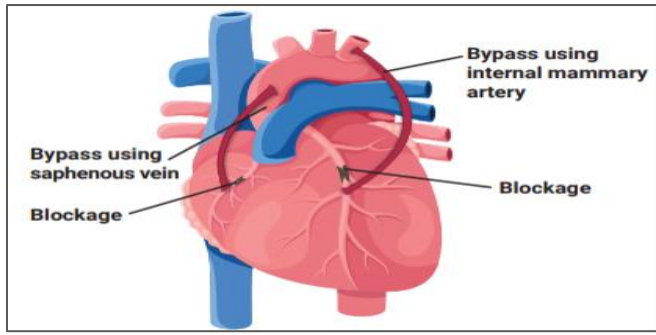
- Joint reconstructions surgery e.g. ACL/PCL reconstruction etc.
- Joint replacement/arthroplasty e.g. THR, THR, shoulder arthroplasty etc.
- Fractures e.g. LL & UL fractures
- Tendon release surgeries
- Peripheral nerve surgeries e.g. nerve grafts
- Spinal surgeries e.g. discectomy, laminectomy, fusion
- Cardiothoracic surgeries e.g. Coronary Artery Bypass Grafting (CABG), lobectomy etc.











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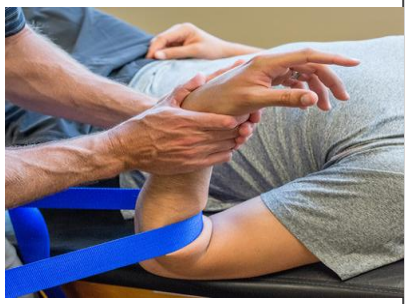
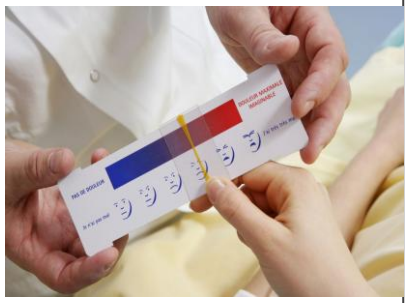
Physiotherapy assessment techniques in surgical patients

Preoperative assessment

- Subjective assessment
- Assess musculoskeletal function (ROM, strength, mobility & function).
- Evaluate cardiopulmonary fitness (e.g., walking tests, respiratory function).
- Psychosocial factors (e.g., anxiety, motivation).





Postoperative assessment

- Range of motion (ROM) & joint stability.
- Strength testing (manual muscle testing or dynamometry).
- Functional tests (e.g., Timed Up and Go, 6-minute walk test).
- Pain evaluation (visual analog scale, other pain questionnaires).

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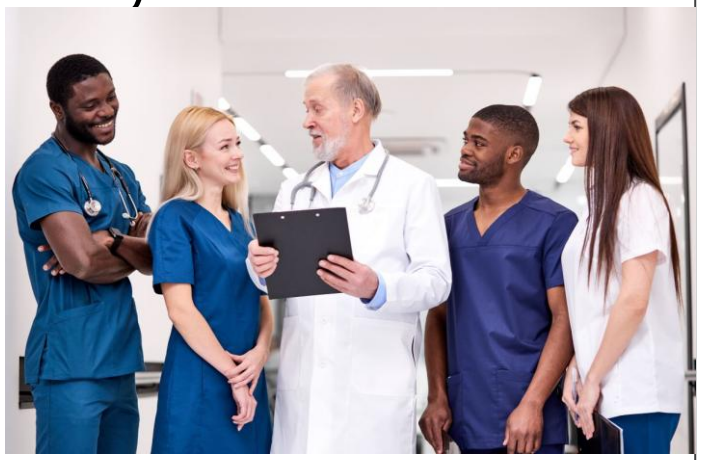
Multidisciplinary approach to patient care in surgery

Definition

- Collaboration between healthcare professionals to provide comprehensive care

Team members

- Surgeons: Perform surgeries and manage post-surgical recovery
- Nurses: Manage patient care and monitor recovery
- Physiotherapists: Focus on mobility, strength, pain management, & rehabilitation
- Occupational Therapists: Focus on functional independence & daily activities
- Dietitians: Ensure nutritional needs are met to support recovery
- Psychologists: Provide mental health support to patients



Benefits

- Holistic patient care
- Reduces risk of complications
- Speeds up recovery

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General principles of post-surgical rehabilitation

Phase 1 (acute phase)

- Pain management
- Reduction of swelling
- Early mobilization (if medically stable)

Phase 2 (subacute phase)

- Strengthening exercises
- Improving endurance, & increasing functional mobility
- Emphasis on improving joint stability & preventing muscle atrophy

Phase 3 (chronic phase)

- Full return to functional activities (e.g., work, sport)
- Ongoing strength training & aerobic conditioning.

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Early mobilization and prevention of complications

Importance of early mobilization

- Prevents DVT (deep vein thrombosis) & pulmonary complications (e.g., pneumonia).
- Reduces muscle atrophy & joint stiffness.
- Improves cardiovascular & respiratory function.

Key strategies

- Gentle movement & passive range of motion exercises.
- Bed mobility & standing reeducation as soon as the patient is stable.

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Pain management techniques in post-surgical réhabilitation

Means/methods

- Thermal modalities (hot & cold packs, LASER).
- TENS, interferential therapy.
- Massage therapy for muscle relaxation and pain reduction.
- Gentle exercises to improve joint mobility and reduce discomfort.

Key consideration

- Use graded exercises to avoid exacerbating pain.
- Patient education on pain management strategies.

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Exercise strategies in post-surgical réhabilitation

Strengthening exercise

- Isometric (static) & isotonic (dynamic) exercises
- Focus on proximal muscle groups (core, hips, shoulders)

Stretching and flexibility exercise

- Increase joint range of motion & muscle flexibility

Functioning training

- Balance training
- Gait retraining
- Activities of daily living (ADLs) training

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Take home message

- Physiotherapy plays a crucial role in promoting recovery & preventing complications post-surgery.
- Assessment of physical function, pain & psychosocial factors is essential.
- Collaboration in a multidisciplinary team is vital for comprehensive care.
- Post-surgical rehabilitation follows structured phases & include strategies such as
  - Education
  - Mobilization
  - Stretching
  - Strengthening
  - Functional training (balance, gait and ADL training)

QUESTIONS AND COMMENTS

REVIEW

OTHER READING SOURCES

TEXT

1. *O'Shea, J. (2019). Principles of physiotherapy in surgery and rehabilitation. Cambridge University Press.*
2. *Dutton, M. (2017). Orthopaedic examination, evaluation, and intervention (3rd ed.). McGraw-Hill Education.*

THANKS FOR LISTENING