1. Abstract

Physical Therapy (PT) is a cornerstone of rehabilitative medicine, focusing on the restoration of function, the mitigation of pain, and the optimization of movement through evidence-based interventions. This document outlines the standard phases of physical therapy—from initial evaluation to discharge—while highlighting the physiological mechanisms behind therapeutic exercise and manual therapy.

2. Introduction to Physical Therapy

Physical therapy is a healthcare profession dedicated to improving a patient's quality of life through prescribed exercise, hands-on care, and patient education. Unlike pharmacological interventions that may mask symptoms, PT seeks to address the root cause of musculoskeletal, neurological, and cardiovascular impairments.

The primary goals of any PT program include:

Restoration of Mobility: Improving range of motion (ROM) and flexibility.

Pain Management: Reducing reliance on opioids or NSAIDs through non-invasive techniques.

Injury Prevention: Educating patients on proper mechanics to avoid future trauma.

Functional Independence: Enabling patients to return to daily activities (ADLs) or high-level athletics.

3. The Initial Evaluation (IE)

The foundation of successful physical therapy is a thorough initial evaluation. This phase is critical for establishing a baseline and setting "SMART" goals (Specific, Measurable, Achievable, Relevant, and Time-bound).

A. Subjective Assessment

The therapist conducts a clinical interview to understand the patient’s history, pain levels (using the VAS scale), and personal goals. This helps identify "red flags" that might require a referral to a different specialist.

B. Objective Measurement

During the physical exam, the PT records data on:

Goniometry: Measuring joint angles in degrees to assess ROM.

Manual Muscle Testing (MMT): Grading muscle strength on a scale of 0 to 5.

Palpation: Identifying areas of tenderness, edema (swelling), or trigger points.

Special Tests: Clinical tests (e.g., Lachman’s for ACL integrity) to diagnose specific conditions.

4. Core Therapeutic Modalities
Once a diagnosis is reached, the therapist develops a Plan of Care (POC) involving several key modalities.

Therapeutic Exercise
This is the most critical component of PT. It is categorized into:

Passive Range of Motion (PROM): The therapist moves the limb for the patient.

Active-Assistive (AAROM): The patient moves with help.

Resistive Training: Using bands, weights, or gravity to build hypertrophy and endurance.

Manual Therapy
Manual therapy includes joint mobilization, soft tissue massage, and myofascial release. These techniques aim to reduce muscle guarding and improve joint gliding.

Neuromuscular Re-education
This focuses on the "brain-body connection." It includes balance training (proprioception) and gait training to ensure the patient moves efficiently and safely.

Passive Modalities (Adjuncts)
While less effective than exercise, these can help with acute pain:

Cryotherapy/Thermotherapy: Using cold or heat to manage inflammation.

Electrical Stimulation (TENS/NMES): Using current to decrease pain or "re-wake" a dormant muscle.

Ultrasound: Using sound waves to promote deep tissue heating and blood flow.

5. The Role of the Home Exercise Program (HEP)
Research consistently shows that the success of physical therapy is directly proportional to patient adherence. A patient may spend two hours a week in the clinic, but there are 166 other hours in the week where progress can be made or lost.

A standard HEP includes:

Frequency: How often to perform the exercises (e.g., 2x daily).

Dosage: Sets and repetitions (e.g., 3 sets of 10).

Visual Aids: Diagrams or videos ensuring the patient maintains proper form to avoid compensatory movements.

6. Measuring Progress and Outcome Measures
To justify the medical necessity of treatment to insurance providers, PTs use validated "Outcome Measures." These are standardized questionnaires or tests that show functional improvement over time.

Lower Extremity Functional Scale (LEFS): Used for knee/hip/ankle injuries.

Oswestry Disability Index (ODI): The gold standard for measuring low back pain impact.

DASH (Disabilities of the Arm, Shoulder, and Hand): For upper extremity progress.

7. Discharge Planning and Long-Term Wellness
Discharge occurs when the patient has met their goals or reached a plateau in progress. The goal is to transition the patient from a "clinical" setting to a "wellness" setting.

Discharge Criteria:

Pain is managed and stable.

Strength and ROM are within functional limits.

The patient is independent in their HEP.

The patient can perform all necessary daily tasks without significant assistance.

8. Conclusion
Physical therapy is a dynamic, evolving field that bridges the gap between acute medical care and long-term health. By focusing on biomechanics, physiology, and patient psychology, PTs empower individuals to take control of their own recovery. As the healthcare landscape shifts toward value-based care, the role of the PT in preventing surgery and reducing long-term disability becomes increasingly vital.