

## Therapeutic Exercise

**Name:** Maleeha Shahbaz

**Id:** 14732

**Instructor:** Dr. M jaffar

**Q:1(a) Define Therapeutic Exercise? Discuss the aims of Therapeutic Exercise?**

**Ans: Therapeutic Exercise:** It is defined as to return an injured patient to a fully functioning pain free state.

**Example:** It incorporates the use of multiple parameters such as balance, strength, and ROM for a functional activity. e.g. lifting, closed kinetic chain activity, throwing, catching and swinging.

**Aims:**

- Enable ambulation.
- Release contracted soft tissue.
- Mobilise joints.
- Improve circulation.
- Improve respiratory capacity.
- Decrease stiffness.
- Improve muscle strength.
- Improve balance.

**Q:1(b) what is ROM? Why we use ROM?**

**Ans: ROM:** It is a measurement of the distance and direction a joint can move to its full potential. There are a few joints in the body which do not support movement, such as skull. A common joint movements include flexion, extension, adduction and abduction.

**Use of ROM:** It helps improve joint function. ROM is how far you can move your joints in different directions. Movement of joints keeps them flexible, reduces pain, improves balance and strength. Also strengthens bones and cartilage and improves fitness level.

**Q:2 what is aquatic exercises? Discuss the properties of water and its clinical significance?**

**Ans: Aquatic Exercises:** It is a multi depth immersion pool or tank that facilitates the application of various established therapeutic interventions including stretching, strengthening, joint mobilization, balance and gait training and endurance training.

**Indication:** it improves range of motion, provides relaxation, initiates resistance training, minimizes risk of injury.

**Properties of Water:** its include buoyancy, Hydrostatic pressure, viscosity and surface tension.

- I. **Buoyancy:** it is a upward force that work opposite to gravity.  
Clinical significance: its relatively weightlessness and joint unloading active motion with increased three dimensional access to the patient.
- II. **Hydrostatic Pressure:** it is a Pressure exerted on immersed object.  
Clinical significance: it reduces or limits effusion,centralized peripheral blood flow,assists venous return,avoid DVT. The proportional of depth and pressure allows patient to perform exercise more easily when closer to the surface.
- III. **Viscosity:**it is friction occuring between molecules of liquid resulting in resistance to flow.  
Clinical significance: creates resistance with all active movement. Increasing the surface area moving through water increases resistance.
- IV. **Surface Tension:** the surface of fluid acts as membrane under tension.

**Q:3 Define Maitland joint mobilization Grading base on amlitude of movement?**

**Ans:**Grading based amplitude of movement and where within available ROM force is applied.

- **Grade 1:** SARO means small amplitude rhythmic oscillation. SARO at the beginning of range of movement, it manage pain and spasm.
- **Grade 2:** LARO means large amplitude rhythmic oscillation. LARO within mid-range of movement. Not reaching the limit manage pain and spasm.
- **Grade 3:** LARO up to point of limit of the available motion and are stressed into the tissue resistance within range restricted point. It is use to gain motion within the joint.
- **Grade 4:** SARO at very end range of movement. It use to gain resistance limits movement in absence of pain.
- **Grade 5:** small amplitude, quick thrust at end of range.
  - \_ Accompanied by popping sound.
  - \_ Velocity vs. force.
  - \_ Requires training.
  - **Grade 1 and 2** is primarily used for pain.
  - **Grade 3 and 4** primarily used for increase motion.

