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Q1: What is the therapeutic exercises? Discuss aims of therapeutic exercises?

b) What is ROM? Why we use ROM?

Answer:

### **THERAPEUTIC EXERCISE:**

Therapeutic exercises are of different form what most people think of exercises. Therapeutic exercises are specific exercises meant for correcting specific problems. The focus of therapeutic exercises is on regaining flexibility, strength and endurance related to specific physical problems.

"Therapeutic exercises is the systematic and planned performance of body movements or exercises which aims to improve and restore physical function. Exercise is defined as activity that is performed or practiced to develop or improve a specific function or skill to develop and maintain physical fitness

### AIMS OF THERAPEUTIC ECERCISES:

 The ultimate goal of a therapeutic exercise program is the achievement of an optimal level of symptoms free movement during basic to complex physical activities.

- 2) To restore and improve physical functions.
- 3) To prevent loss of function.
- 4) To enhance a patient functional capabilities.
- 5) To prevent and decrease impairment and disability.
- 6) To improve overall health status, fitness and sense of well-being.

### a) What is ROM?

### **ANSWER:**

### ROM:

#### **DEFINITION**:

Range of motion is described / defined as the range through which a joint can be moved, usually its range of flexion and extension as determined by the type of joint its articular surfaces, and that allowed by regional muscles, tendon, ligaments, and joints. Ranges of motion is the extent of movement of a joint measured in degrees of a circle. It is the joint movement (active, passive, or a combination of both) carried out to assess, preserve, or increase the arc of joint motion.

#### **Measuring ranges of motion:**

Devise to measure range of motion in the joints of the body include the

### GONIOMETER

### INCLINOMETER

#### **Types:**

- 1) Passive range of motion
- 2) Active-assistive range of motion

### 3) Active range of motion

### b) Why we use ROM?

**ANSWER:** We use range of motion to perform different activates.

- 1) We use it to maintain stability of joint.
- 2) We use it to assist circulation.
- 3) We use it to decrease pain.
- 4) We use it to minimize the effects of the formation of contractures.
- 5) We use it to minimize ill-effects of immobilization.

# Q2) what is aquatic exercises? Discuss the properties of water and its climatic significance. ANSWER:

### **AQUATIC EXERCISES:**

Aquatic exercises is defined as the low impact activity that takes the pressure off your bones, joints and muscles. Water also offers natural resistance which can help strengthen your muscles. Aquatic exercise can also have several health benefits such as improved heart health reduce stress, and improved muscular endurance and strength. Exercising in the water can be a great way to include physical activity into your life. You can even do aquatic exercise if you don not know how to swim.

#### b) Discuss the properties of water and its clinical significance.

### **PROPERTIES OF WATER AND ITS CLINICAL SIGNIFICANCE:**

#### **BUOYANCY:**

It is defined as an upward force that work opposite to gravity.

#### **<u>Clinical Significance:</u>**

- 1) Relative weightlessness and joint unloading.
- 2) Active motion increased.
- 3) Three-dimensional access to the patient

# **HYDROSTATIC PRESSURE:**

It is defined as a pressure exerted immersed object.

# Clinical Significance:

- 1) It reduces or limits effusion
- 2) It centralizes peripheral blood flow.
- 3) It assist venous return avoid
- Its significance is that the proportional of depth and pressure allows patient to perform exercise more easily when closer to the surface.

# **VISCOSITY:**

It is defined as the friction occurring between molecules of liquid resulting in resistance

to flow.

# **Clinical Significance:**

- 1) It creates resistance with all active movements.
- 2) If increases the surface area moving through water increases resistance.

# Q3) Describe Maitland joint mobilization grading based on amplitude movement.

# **ANSWER:**

# **MAITLAND JOINT MOBILIZATION GRADING SCALE:**

The grading based on amplitude of movement and where within available range of motion the force is applied.

### Maitland Concept:

There are five grades. Grade 1, Grade 2, Grade 3, Grade 4, Grade5.

### Grade 1:

Small amplitude rhythmic oscillating mobilization in early range of movement. Managing the pain and spasm in muscles.

# Grade 2:

Large amplitude rhythmic oscillating mobilization in midrange of movement. Manages pain and spasm.

### Grade 3:

Large amplitude rhythmic oscillating mobilization to point of limitation in range of movement. Used to gain motion within the joint.

### Grade 4:

Small amplitude rhythmic oscillating mobilization at end of available rang of movement.

Used to gain motion within the joint. It is used when resistance limits movement in absence of

pain.

### **Grade 5 (thrust manipulation):**

Small amplitude, quick thrust at the end of available range of movement.

### Grade 1 and 2:

Primarily used for pain, pain most be treated prior to stiffness, limit pain perception.

### Grade 3 and 4:

Primarily used to increase motion.