What is sport rehabilitation

- Sports Rehabilitation is **the process of deciding when an injured player may safely return to practice or competition**. Injuries can occur in any sporting activity, and sports injury rehabilitation is a very important part of the athletes sport life.
- Sport Rehabilitators **help people suffering from pain, injury or illness involving the musculoskeletal system**. They help people of all ages and all backgrounds to maintain their health and fitness, recover from and prevent injury and reduce pain using exercise,

What is sport injure

- A sports injury involves **damage to part of your body due to sports, exercise or athletic activities**. A sports injury can be acute (sudden) or chronic (develop over time).
- It is the injuries the physical alignment that hinders sport performance and prevent him/her performing



Types of Sports Injuries



Classification

Grade I (Mild): stretched of ligament or to direct blow to a muscle

- tearing some fiber
- there is swallowing and felt at the end of full range
- There is no loss of function

Grade II (Moderate): stretching of ligament and tearing of some fiber

- It impairs the ability of the muscle to contract
- It is slightly affect the performance of player.

Grade III (Severe): Complete tearing of tissue.

- It is the result of sever over stretch of a ligament causing a full tear of the injured structure
- There is significant swelling, bruising with sever pain even at rest.

Macro trauma

- it is the sudden blow the heath muscle and tissue of the body
- It is also called one time injure
- When macro trauma is not treated proper and the athlete continues to do ,then it will turn into micro trauma

Micro trauma

- It is Over used injure
- Generally given to repeated small injury

Acute injuries

- happen suddenly stress on the body with sever pain.
- such as when a person falls, receives a blow, or twists a joint, like ankle sprain, strained back occurs suddenly during activity .

chronic injuries

- usually result from overuse of one area of the body and develop gradually over time.
- Example tennis elbow

Hard tissue injuries

- involve damage to the bones or teeth and cartilage are caused as a direct result of force applied to the body, resulting in fractures, dislocations and other breakages.

Soft tissue injure

- The term “soft tissue injury” is used to describe one of the common injuries to the soft tissues (in the skin) of the body, rather than the harder bones.
- The most common soft tissues injured are muscles, tendons, and ligaments. These injuries often occur during sports and exercise activities, but sometimes

Minor injure

- Such as bruises and cut and these are common in the contact nature of sport

Major injure

- Injuries which can affect performance of the athlete like fracture tear of ligament etc.

Extrinsic injure are Which derived from External force of caused by outside impact or its external to the individual and can include variables

- such as the type of sport, exposure to the sport, training, and surface
- playing environment;- cooled with inadequate warm up
- equipment;- poor footwear unsuitable training sole

Intrinsic injure concerned with make up of the individual person .

- inadequate sport technique,
- inadequate nutrition
- the belief that athletes must tolerate pain
- Poor fitness level
- Chronic fatigue Muscle stiffness

Abrasion;-It is the injure that occur fell on the hard surface that cause other layers of the skin to rub off.

- in this the skin is partially damage or scraped especially over the area where the bone is very close to the skin.

contusion ;-is an injury to the soft tissue often produced by a sever blow to the muscle.

- Contusion can cause bleeding from ruptured small capillary that blow to infiltrate muscle tendon and other soft tissue
- Ankle sprain are most common contusion

Laceration;- a wound of the skin caused by a (not) relatively sharp object,

- It is jagged or clean break in the skin

Incision;-it is a wound of the skin caused by a sharp object,

- **Laceration is more danger than incision**

Hematoma;- It is the injure in which there is a Collection of blood with in the tissues

COMMON SPORTS INJURIES

Soft tissue injury	Bone injury	Joint injuries
Sprain	Fractures	Dislocation
Strain	Greenstick — *Simple*	Luxation
Bruising	Transverse — *Simple*	Sub-Luxation
Pulls	Oblique — *Simple*	
Blisters		
	Comminuted — *compound*	
Cuts	Impacted — *compound*	
	spiral — *compound*	

What is the soft tissue injure aim

- The aim is **to reduce the bleeding and damage within the joint**.
- Reduce local tissue and metabolic demand
- Mange pain
- Minimize inflammation
- Protect the tissue from future injure
- Maintain general level of cardiovascular and muscoskeletelal fitness and activity
- Tendon –strean
- Ligament –sprine

Bone injury

- Fracture are very common bone injure it is is a break or discontinues of a bone.
- In fracture there is **a complete or partial or complete break of bone**
- There is classified as the following

1. **Closed fracture** : in this the bone breaks but there is no open wound on the skin, it's called a closed fracture.
2. **Greenstick**;- fracture an incomplete fracture in which the bone is bent. this is mainly occur in children .
3. **Oblige fracture**;- a fracture in which bone slop
4. **Transverse fracture**;-it is a fracture at right angle to the bones axis

Greenstick



Closed Fracture



Oblique



Transverse

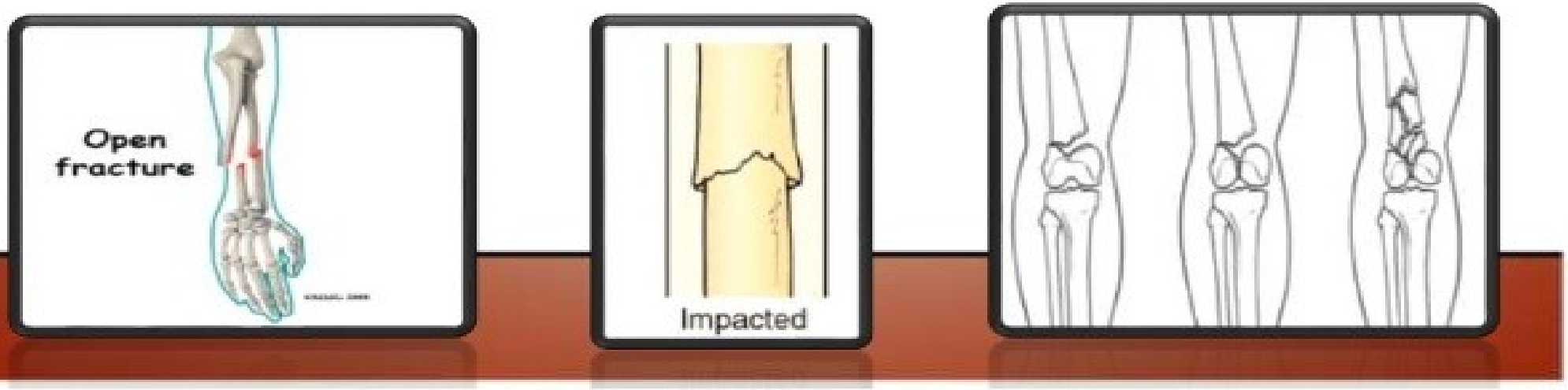


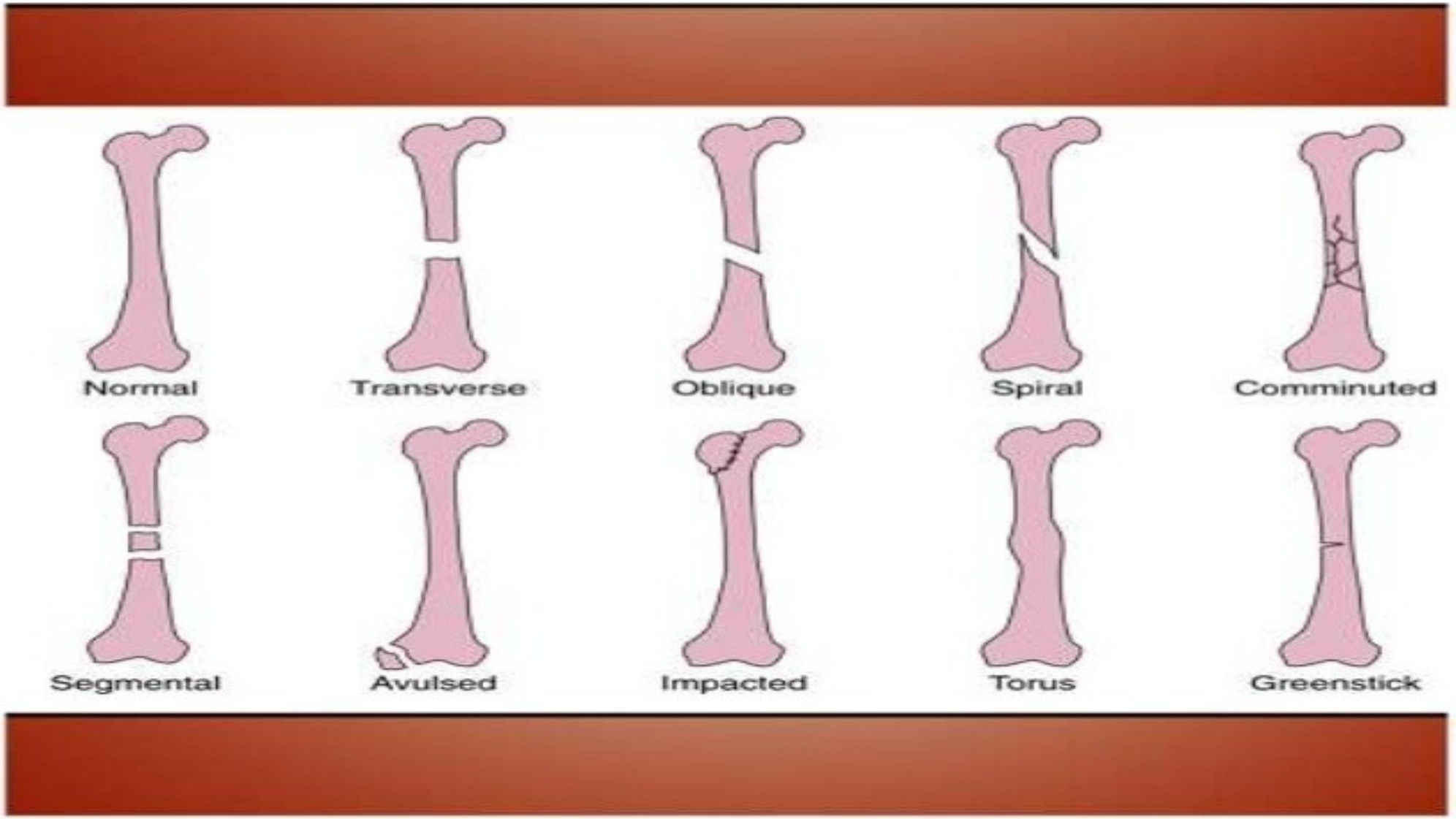
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Open Fracture : A fracture in which the bone is sticking through the skin. There is an associated open wound in the area of the fracture.

Impacted Fracture : An impacted fracture is one whose ends are driven into each other .This is commonly seen in arm fractures in children .

Comminuted fracture : It is a fracture in which bone fragments in several parts.



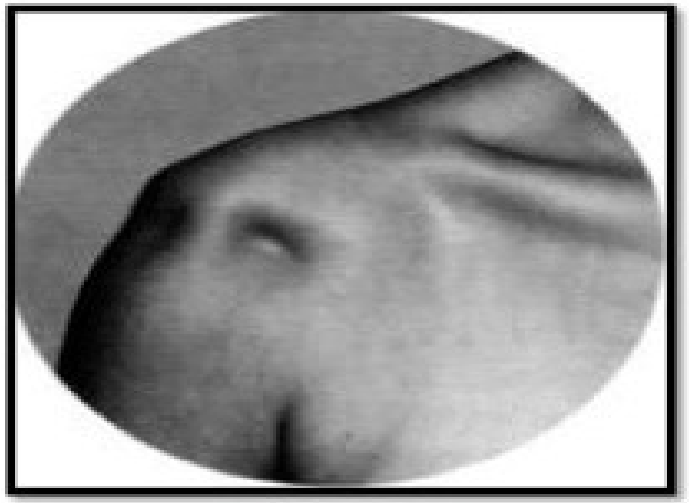

Normal
Transverse
Oblique
Spiral
Comminuted
Segmental
Avulsed
Impacted
Torus
Greenstick

Contd...

Joint injuries : A joint is the area where two bones are attached for the purpose of motion of the body parts.

Sub Luxation : It is a partial dislocation. In acute sprain when the ligament finally tears, the joint subluxates either by slipping of the bone ends.

Luxation :-It may be defined as an actual displacement of the opposing contiguous surfaces make up of a joint.





The cause of sport injure

- Over use
- Imbalance training
- Poor training method
- Overtraining
- Improper use of equipment
- Improper warm up
- Carless
- Improper rehabilitation
- Muscle imbalance
- Structural abnormality
- Poor nutrition
- Over use
- Environmental factor
- Lack of knowledge
- Lake of physical fitness

Prevention of sport injure

- **Use recommended safety equipment.**
- Emphasize proper technique and guidelines
- **Strengthen your core**
- **Maintain flexibility**
- Know the Rules of the Sport
- **Proper fitness**
- Warm Up
- **Stretch**
- Progress properly
- Cool Down
- **Listen to your body**
- Rest and Recover

Treatment of sport injure

- You can treat many minor injuries at home with **rest, ice, compression, elevation and over-the-counter pain medications**.
- But some injuries require medical treatment, such as immobilization, physical therapy and surgery.
- Non surgical
- Surgical
- Physiotherapy and rehabilitation

Treatment for non surgical

P – Protect : It includes immoblisation with slings , tapes etc.sling may mobilize an arm and shoulder.

R – Rest : Rest should be done to avoid further injury as it decreass blood flow.

I – Ice : Ice is to be applied to decrease swellig n metrabolism , blood circulation.

It enhances heeling process.

It decreases inflammation

C – Compression: it can stop bleeding as we can use adhesive and non adhesive splints etc . It decreases edema.

It promote lymphatics fluids.

External compression incerase efectiveness of muscle and pump in aiding venous return

E – Elevation : elevate the injured part while being compressed.

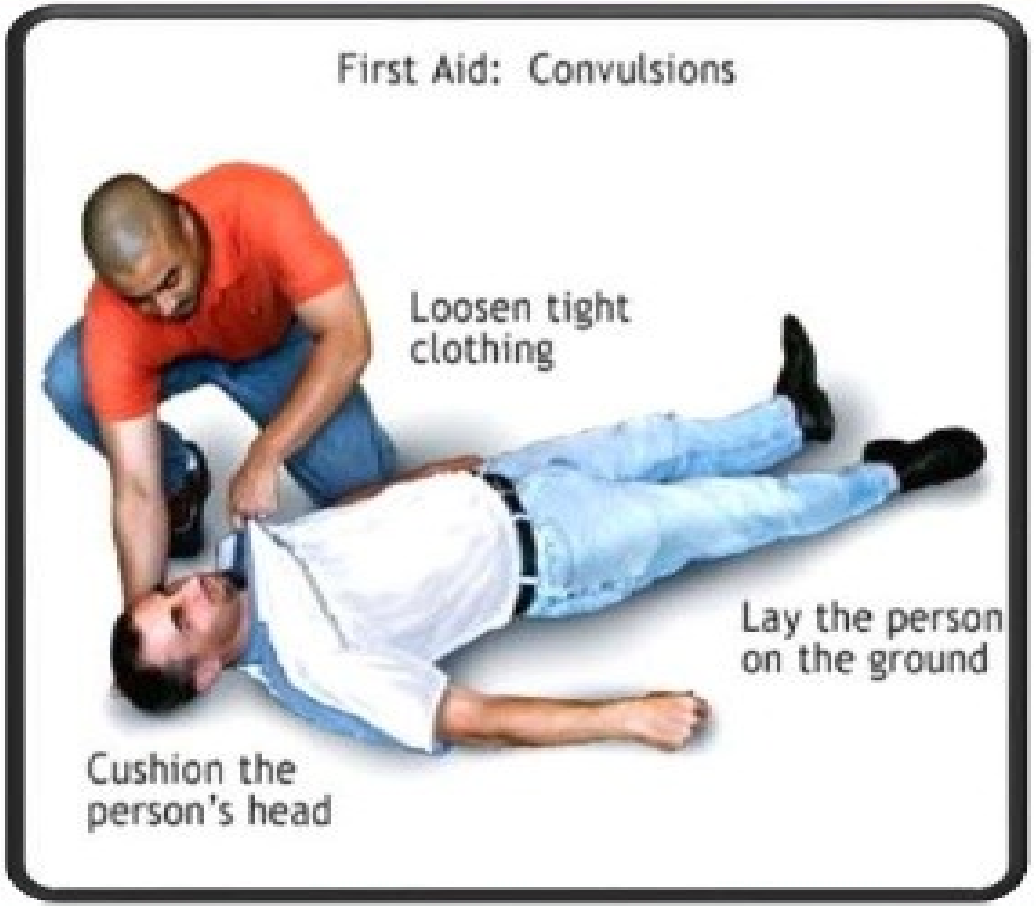


Management of sports injuries

- ***Early Diagnosis***
- ***First aid***
- ***Immediate management***
- ***Later management***

First aid

- ***D*** - *Danger*
- ***R*** – *Response*
- ***B*** - *Breathing*
- ***A*** – *Airway*
- ***C*** – *Circulation*



First aid

- First aid refers to medical attention that is usually administered immediately after the injury occurs and at the location where it occurred.
- It often consists of a one-time, short-term treatment and requires little technology or training to administer.
- It gives you tools to prevent the situation from becoming worse

Rehabilitation of Injuries

Therapeutic exercise:

1. Passive
2. Assisted
3. Active
4. Resisted

Rehabilitation is also through :

Heat therapy

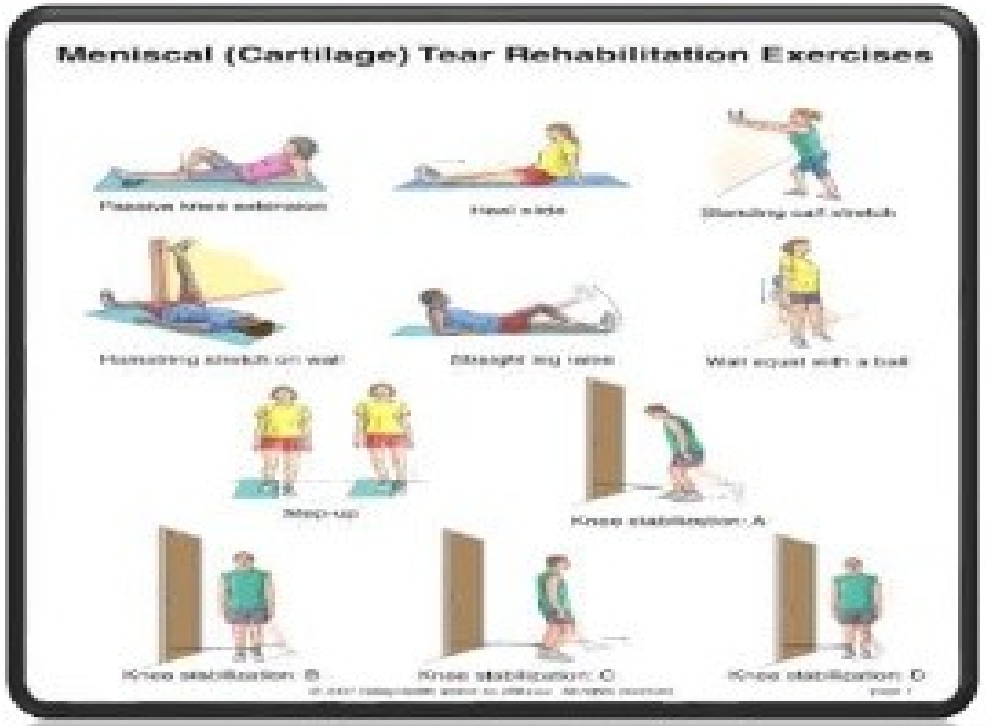
Electro therapy

- ***Ultrasound***
- ***Shortwave***
- ***microwave***

Tens

Hydrotherapy

Massage





- Sports rehabilitation is **a type of physical therapy that treats people of all ages who have musculoskeletal system pain, injury, or illness**.
- With the use of exercise, movement, and therapeutic interventions, sports rehabilitation helps maintain health and fitness and helps you recover from injury and reduce pain.

PSYCHOLOGICAL BUILD UP OF THE ATHLETES.

1. Treat with visualization and observation.
2. Response of the Athlete depression, Tension, Anger, Anxiety
3. Elimination of negative thoughts.
4. Stress management.
5. Relaxation goal setting, prioritization.
6. To over come nervousness, Fatigue & Exhaustion.
7. To achieve beyond physical standard .
8. Control of pain by relaxation techniques.

What is massage

- Massage therapy is the manipulation of the body's soft tissues, such as muscles, tendons, ligaments and skin, by using various degrees of pressure and movement
- Massages are also a must for injury prevention and they speed up rehabilitation.
- After heavy workouts or competitions, athletes turn to private massages to relax the muscles, which help to a quicker recovery.

Benefit of massage

- Stimulates the Circulatory System
- Reduces Pain and Inflammation
- Promotes Relaxation
- It Boosts Immunity
- Boosts Recovery from an Injury
- Enhance your mood
- Decrease stress from work

Massage therapy equipment

- Massage table.
- Massage chair
- Pillows, linens, and towels,.
- Massage oils, lotions, and creams.
- Music

Most common type of massage

1.Deep tissue massage

2. Swedish Massage

3 sport massage

4. Myofascial release

Techniques of massage

- Effleurage
- Petrissage
- Friction
- Vibration (Shaking)
- Tapotement

- Therapeutic exercise as bodily movement prescribed to correct an impairment, improve musculoskeletal function, or maintain a state of well-being

Goal of therapeutic exercise

- ✓ Release contracted muscles, tendons, and fascia
- ✓ Mobilize joints
- ✓ Improve circulation
- ✓ Improve respiratory capacity
- ✓ Improve coordination
- ✓ Improve balance
- ✓ Improve muscle strength
- ✓ Improve exercise performance and
- ✓ functional capacity (endurance)