**Rehabilitation technique**: The act or skill used in helping a person who has suffered an illness or injury restore lost skills and regain maximum self-sufficiency[near normal]. eg, **rehabilitation** work after a stroke may help the patient walk and speak clearly again.

**Orthopaedic rehabilitation** helps you recover from fractures, bone or joint surgery and is delivered by specialist health care professionals within the hospital. **Rehabilitation** after fractures or surgeries is an important process to help you get back to doing what you love.

**Orthopedic conditions** are injuries and **diseases** that affect the musculoskeletal system. This body system includes the muscles, bones, nerves, joints, ligaments, tendons, and other connective tissues. Damage to any of these tissues or structures can come from chronic **orthopedic diseases** or from an injury.

**Rehabilitation techniques**

-conservative or nonsurgical

-surgical

* Conservative methods include-;

Splinting- using orthotics

Casting

Traction-skin skeletal traction

Physiotherapy

Occupational therapy

* Surgical

The act of surgery or operating on a patient.

**Anterior Cruciate Ligament (ACL)**the ligament, located in the center of the knee, that controls rotation and forward movement of the tibia (shin bone)

**Arthritis**inflammation of a joint, usually accompanied by pain, swelling, and sometimes change in structure

**Arthrogram**an x-ray to view bone structures following an injection of a contrast fluid into a joint area. When the fluid leaks into an area that it does not belong, disease or injury may be considered, as a leak would provide evidence of a tear, opening or blockage

**Arthroscopy**a minimally-invasive diagnostic and treatment procedure used for conditions of a joint. This procedure uses a small, lighted optic tube (arthroscope) which is inserted into the joint through a small incision in the joint. Images of the inside of the joint are projected onto a screen; used to evaluate any degenerative and/or arthritic changes in the joint; to detect bone diseases and tumors; to determine the cause of bone pain and inflammation

**Bursa**
a sac filled with fluid between a bone and a tendon or muscle

**Bursitis**repeated small stresses and overuse that cause the bursa to swell and become irritated

**Bunion**an inflammation and thickening of the bursa in the joint of the big toe

**Carpal Tunnel Syndrome**
a condition in which the median nerve is compressed as it passes through the carpal tunnel in the wrist, a narrow confined space. Since the median nerve provides sensory and motor functions to the thumb and three middle fingers, many symptoms may result

**Cartliage**
a smooth material that covers bone ends of a joint to cushion the bone and allow the joint to move easily without pain

**Cast**
a cast holds a broken bone in place as it heals, prevents, or decreases muscle contractions, or provides immobilization, especially after surgery. Casts immobilize the joint above and the joint below the area that is to be kept straight and without motion

**CAT Scan**
a diagnostic imaging procedure that uses a combination of x-rays and computer technology to produce cross-sectional images (often called slices), both horizontally and vertically, of the body. A CT scan shows detailed images of any part of the body, including the bones, muscles, fat and organs. CT scans are more detailed than general x-rays

**Contusion** - bruise

**Dislocation**
a dislocation occurs when extreme force is put on a ligament causing the two bone ends to separate. Dislocations can also affect a joint, the point where two or more bones come together. The joint is created as a “ball-and-socket”. A dislocated joint causes the head of the bone (ball) to partially or completely come out of the socket

**Electromyogram (EMG)**a test to evaluate nerve and muscle function

**Femur** - thighbone

**Fracture**
a break in a bone

**Ganglion Cysts**
non-cancerous, fluid-filled cysts are common masses or lumps in the hand and usually found on the back of the wrist

**Gout**
a result of a defect in body chemistry (such as uric acid in the joint fluid), this painful condition most often attacks small joint, especially the big toe. It can usually be controlled with medication and changes in diet

**Heel Spur**
a bone growth on the heel bone

**Humerus**
the bone of the upper arm

**Inflammation**
a normal reaction to injury or disease, which results in swelling, pain, and stiffness

**Joint**
where the ends of two or more bones meet

**Lateral Epicondylitis (also known as tennis elbow)**
pain caused by damage to the tendons that bend the wrist backward away from the palm

**Ligaments**
a white, shiny, flexible band of fibrous tissue that binds joints together and connects various bones and cartilage

**Magnetic Resonance Imaging (MRI)**
a diagnostic procedure that uses a combination of large magnets, radio frequencies, and computer to produce detailed images of organs and structures within the body

**Medial Epicondylitis (also know as golfer’s elbow, baseball elbow, suitcase elbow, or forehand tennis elbow)**
pain caused by damage to the tendons that bend the wrist toward the palm

**Menisci**
two crescent-shaped discs of connective tissue between the bones of the knees that act as shock absorbers to cushion the lower part of the leg from the weight of the rest of the body

**Musculoskeletal System**
the complex system involving the body’s muscles and skeleton, and including the joints, ligaments, tendons, and nerves

**Myelogram**
involves the injection of a dye or contrast material into the spinal canal; a specific x-ray study that also allows careful evaluation of the spinal canal and nerve roots

**Orthopaedic Surgeon (also called an Orthopaedist)**
a physician who diagnoses, treats, manages the rehabilitation process, and provides prevention protocols for patients who suffer from injury or disease in any of the components of the musculoskeletal system

**Orthopaedic Surgery (also called Orthopaedics)**
the medical specialty devoted to the diagnosis, treatment, rehabilitation, and prevention of injuries and diseases of the body’s musculoskeletal system

**Osteoarthritis**
a condition caused by wear and tear that causes inflammation of the joint, causing swelling, pain, and stiffness

**Osteoporosis**
a condition that develops when bone is no longer replaced as quickly as it is removed

**Overuse Conditions**injuries due to minor trauma involving soft-tissue injuries - injuries that affect the bone, muscles, ligaments, and/or tendons

**Patella** - kneecap

**Plantar Fascia**a long band of connecting tissue running from the heel to the ball of the foot

**Prosthesis**
an artificial body part replacement

**Radius**
the shorter of the two bones of the forearm

**Rheumatoid Arthritis**
an inflammatory disease that involves the lining of the joint (synovium). The inflammation often affects the joints of the hands and the feet and tends to occur equally on both sides of the body

**R.I.C.E.** - Rest, Ice, Compression and Elevation

**Scoliosis**
a lateral, or sideways, curvature and rotation of the back bones (vertebrae), giving the appearance that a person is leaning to one side

**Shin Splints**
damage to one of the two groups of muscles along the shin bone that causes pain

**Soft Tissues**
the ligaments, tendons, and muscles in the musculoskeletal system

**Sprain**
a partial or complete tear of a ligament

**Strain**
a partial or complete tear of a muscle or tendon

**Stress Fracture**
a bone injury caused by overuse

**Synovial Fluid**
a clear, sticky fluid that is released by the synovial membrane and acts as a lubricant for joints and tendons

**Tendon**
the tough cords of the tissue that connect muscles to bones

**Tendonitis**
an inflammation in a tendon or the tendon covering

**Tibia**
shin bone or larger bone of the lower leg

**Trigger Finger**
an irritation of the digital sheath that surrounds the flexor tendons of the finger. When the tendon sheath becomes thickened or swollen it pinches on the tendon and prevents it from gliding smoothly. In some cases, the tendon catches and then suddenly releases as though a trigger were released

**Ulnar Bone**
the longer of the two bones in the forearm

**Ultrasound**
a diagnostic technique which uses high-frequency sound waves to create an image of the internal organs

**X-Ray**
a diagnostic test which uses invisible electromagnetic energy beams to produce images of internal tissues, bones, and organs onto film

**Rehabilitation measures and outcomes**

Rehabilitation measures target body functions and structures, activities and participation, environmental factors, and personal factors.

 96World report on disability Box 4.1. **What is rehabilitation?**

This Report defines rehabilitation as “a set of measures that assist individuals who experience, or are likely to experience, disability to achieve and maintain optimal functioning in interaction with their environments”.

 **Habilitation**- aims to help those who acquire disabilities con-genitally or early in life to develop maximal functioning.

 **Rehabilitation**-help those who have experienced a loss in function to regain maximal functioning.

 “rehabilitation” covers both types of intervention. Although the concept of rehabilitation is broad, not everything to do with disability can be included in the term. Rehabilitation targets improvements in individual functioning – say, by improving a person’s ability to eat and drink independently. Rehabilitation also includes making changes to the individual’s environment – for example, by installing a toilet handrail. But barrier removal initiatives at societal level, such as fitting a ramp to a public building, are not considered rehabilitation in this Report.Rehabilitation reduces the impact of a broad range of health conditions. Typically rehabilitation occurs for a specific period of time, but can involve single or multiple interventions delivered by an individual or a team of rehabilitation workers, and can be needed from the acute or initial phase immediately following recognition of a health condition through to post-acute and maintenance phases.

**Rehabilitation process**

Identify problems and needs

Relate problems to modifiable and limiting factors

Define target problems and target mediators, select appropriate measures

lan, implement and coordinate interventions

Assess effects.

broad outcomes/aims/indications/functions of rehabilitation:

 ■ prevention of the loss of function

■ slowing the rate of loss of function

 ■ improvement or restoration of function

■ compensation for lost function

 ■ maintenance of current function.

Rehabilitation is divided into three categories:

 ■ rehabilitation medicine

■ therapy

■ assistive technologies.

**Rehabilitation medicine**- is concerned with improving functioning through the diagnosis and treatment of health conditions, reducing impairments, and preventing or treating complications .

**Therapy**- is concerned with restoring and compensating for the loss of functioning, and preventing or slowing deterioration in functioning in every area of a person’s life.

Therapists and rehabilitation workers include therapists, orthotists, physiotherapists, prosthetists, psychologists, rehabilitation and technical assistants, social workers, and speech and language therapists. Therapy measures include:

 ■ training, exercises, and compensatory strategies

■ education

■ support and counselling

**Assistive technologies** - defined as “any item, piece of equipment, or product, whether it is acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities” (59). Common examples of assistive devices are: ■ crutches, prostheses, orthoses, wheelchairs, and tricycles for people with mobility impairments

■ hearing aids and cochlear implants for those with hearing impairments

■ white canes, magnifiers, ocular devices, talking books, and software for screen magnification and reading for people with visual impairments

■ communication boards and speech synthesizers for people with speech impairments

 ■ devices such as day calendars with symbol pictures for people with cognitive impairment.

**Rehabilitative aids**

 Wheelchairs

 scooters

 **walkers**

 **canes**,

crutches1

 prosthetic devices

 orthotic devices

 **Hearing aids** to help people hear or hear more clearly.

**Indications of orthopedic technology services**

help in management of musculoskeletal problems or pathologies like

 fractures

joint injuries

deformities

they also assist orthopedic surgeons in management of musculoskeletal injuries .