

Occupational Pain, Its Management and Rehabilitation

Ratan Kumar Das

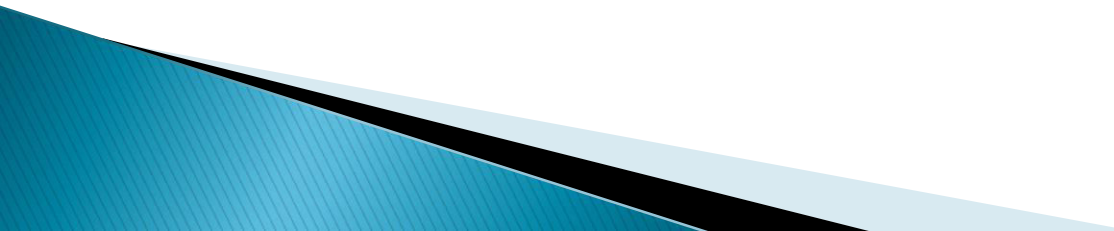
Physiotherapist

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Physiotherapist - BPATC

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Objectives

- ❖ Basic understanding about pain that Related to Work.
 - ❖ Basic understanding about Low Back Pain (LBP) -
Prevention & Treatment
 - ❖ Basic understanding about other related
musculoskeletal problems & treatment.
 - ❖ Basic understanding about Physiotherapy
- 

Modern Health Care System

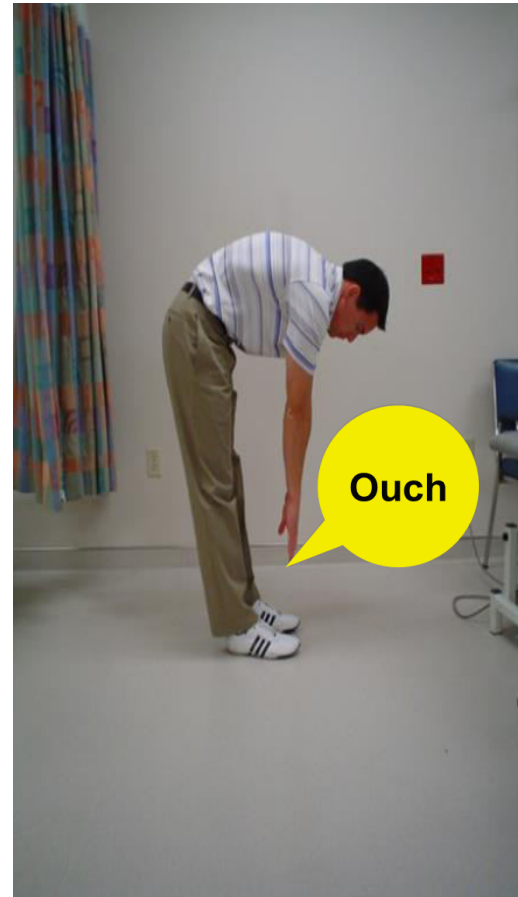
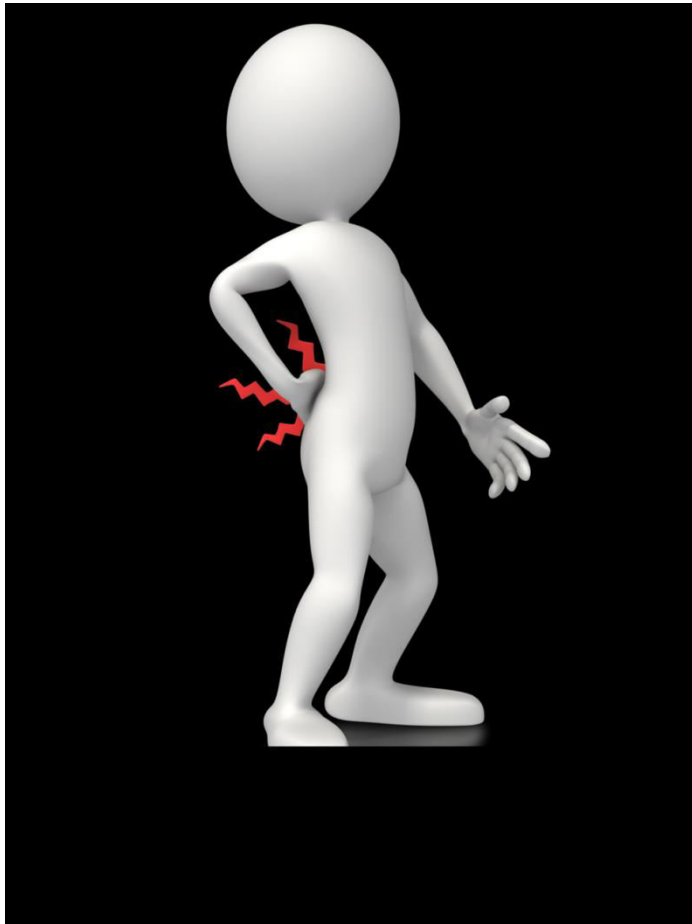


Occupational Pain

Occupational pain are a group of **painful** disorders of **muscles, tendons, and nerves**. Work activities which are **frequent** and **repetitive** which may be **painful** during **work** or at **rest**.

Body's Pain that related to work or day to day activity.

Low Back Pain



Prevalence

- ▶ 70 to 80% of the world's population at least one time in life suffer from Back pain.
- ▶ Most episodes of LBP resolve in 2-3 months (80-90%)
- ▶ Recurrence rates are about 50%
- ▶ 5-10% of people with LBP develop chronic LBP (>3 months)

About Our Back

Spine

Intervertebral
disc

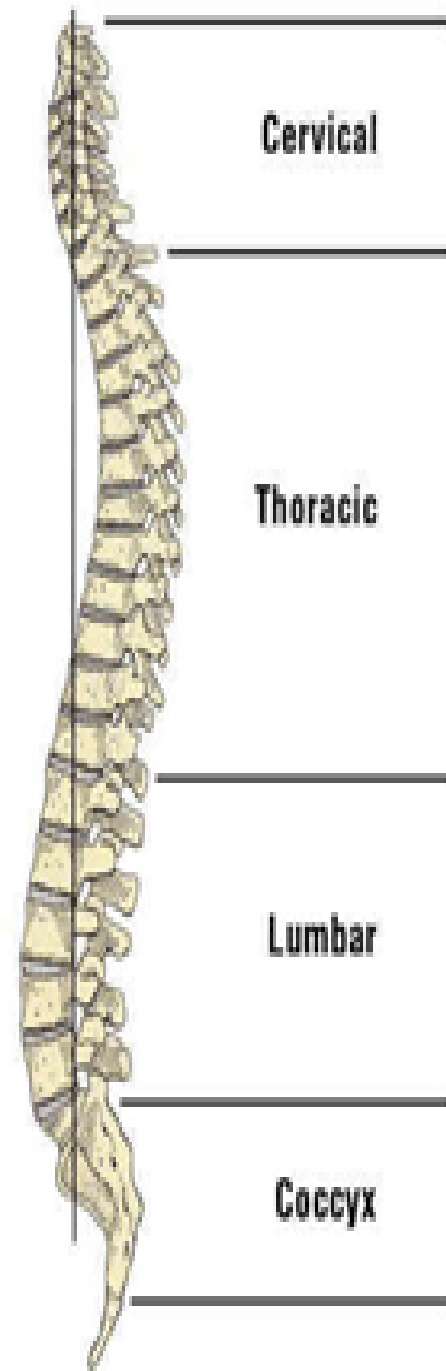
Core
muscles

Larger
muscles-
Gluteus
and
hamstrings



It Consists of three curves

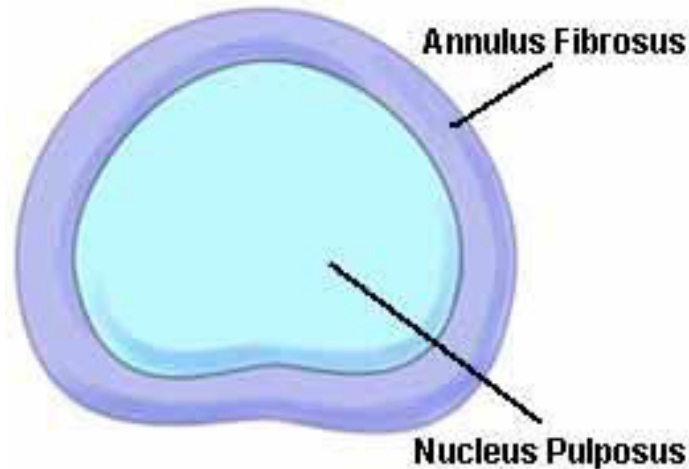
- **Cervical**
- **Thoracic**
- **Lumbar**



IV Discs

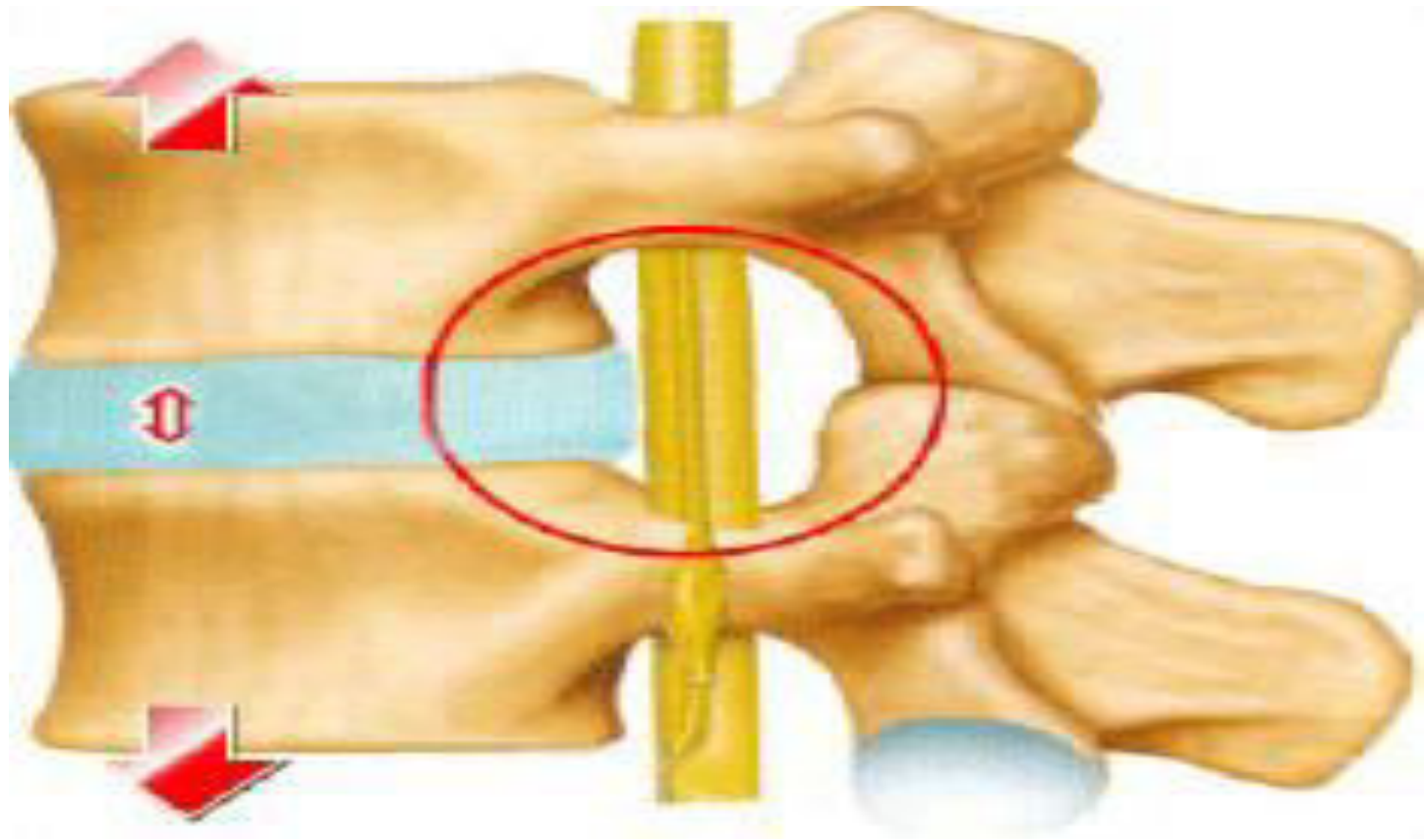
Load through the spine is further absorbed by the intervertebral discs.

Axial (Overhead) View
of Intervertebral Disc

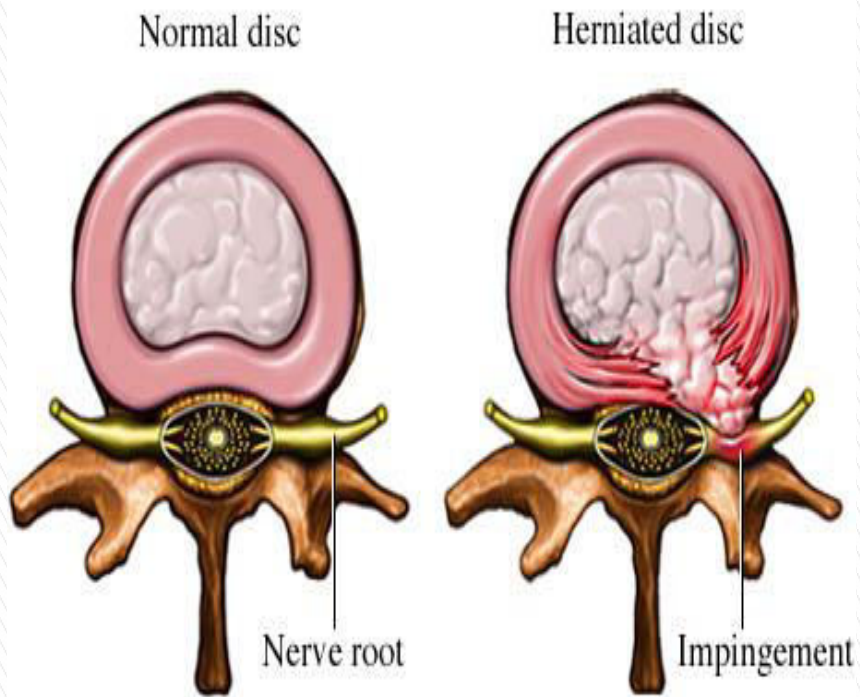


Each disc is a fluid filled sac that changes with the type and direction of the load.

Mechanism



Disc herniated cont...



Disc herniated



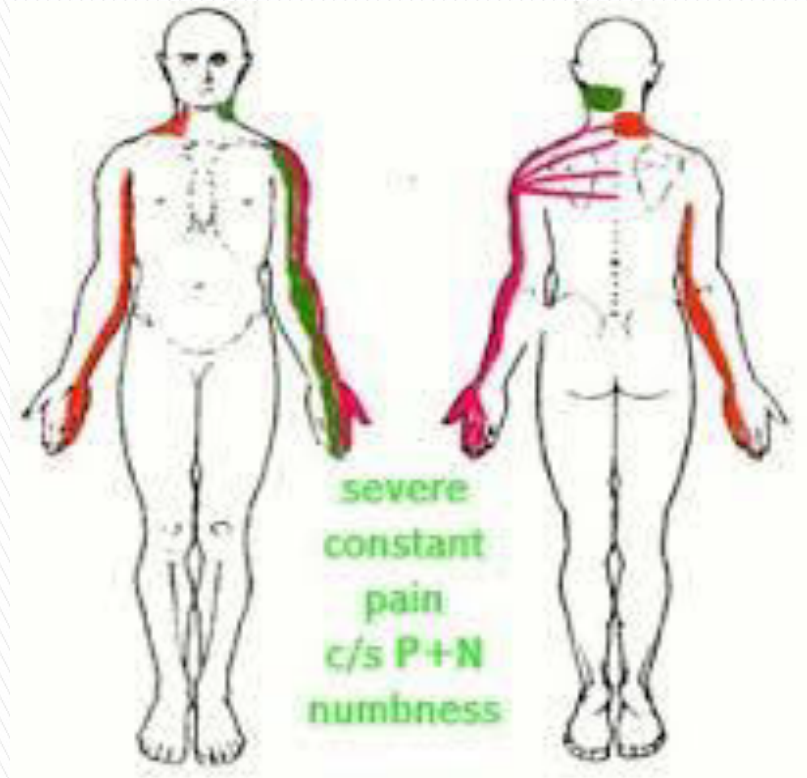
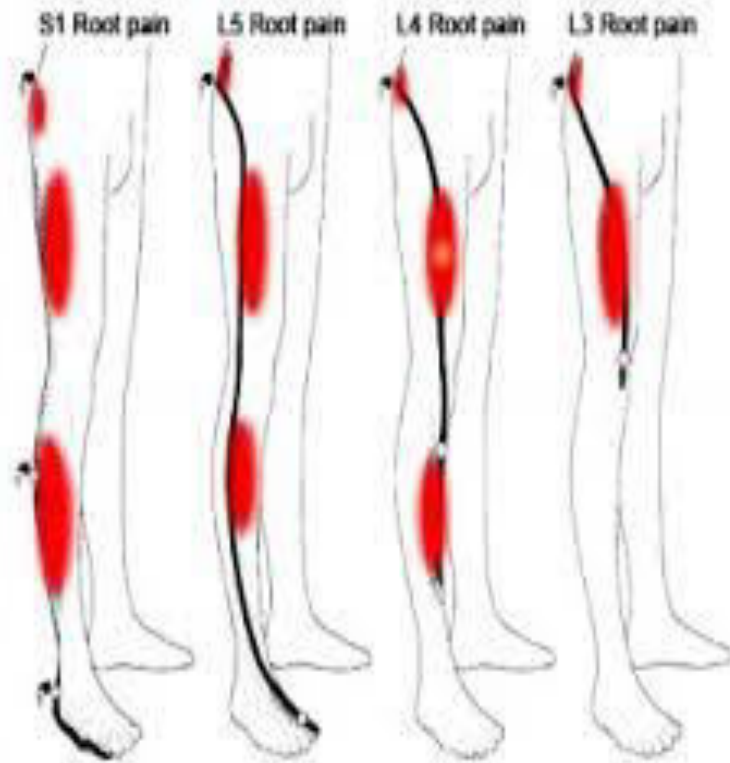
MRI

Common sites



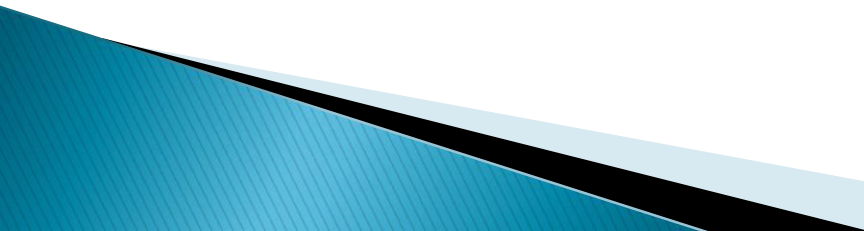
Lumbar disc herniation (LDH), where the most common site is toward the bottom of the spine at L4-L5 or L5-S1 (95%) (Pouriesa et al. 2013).

Referred pain

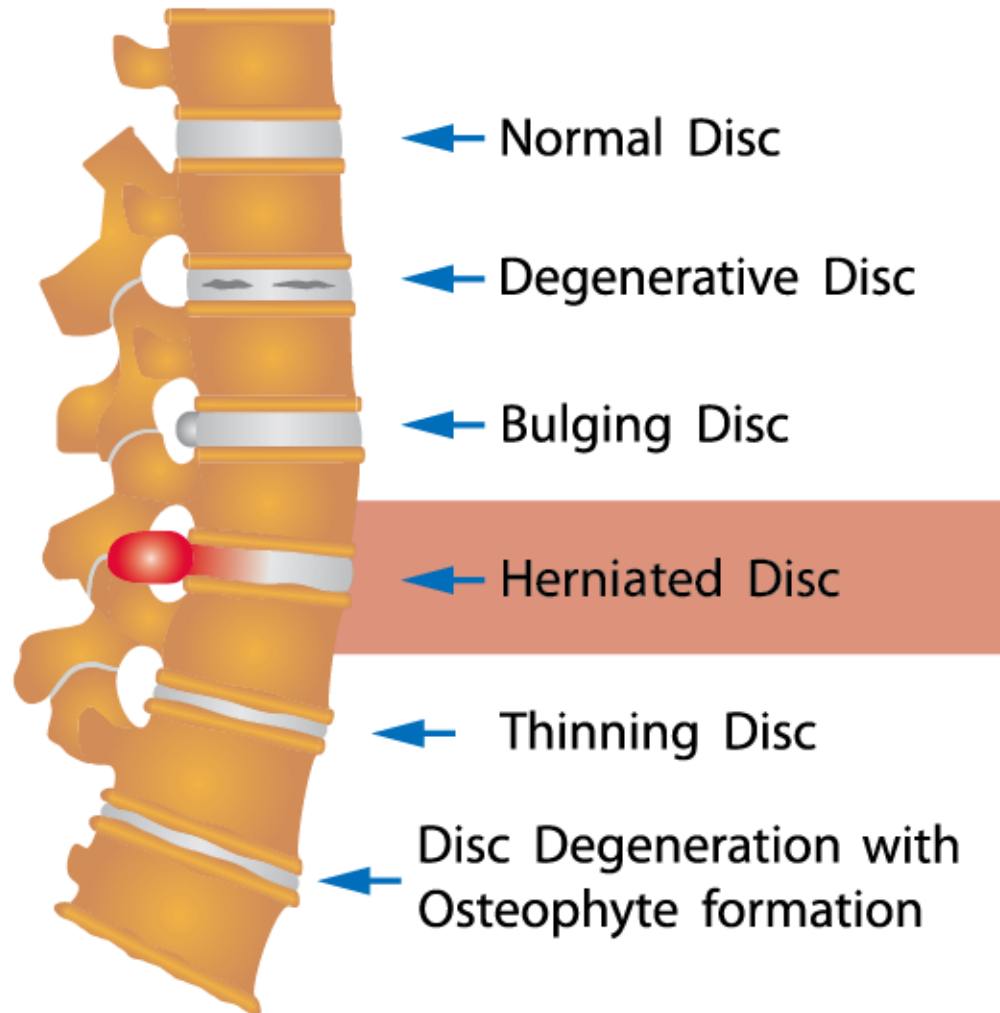


Back Pain

Sign and symptom:

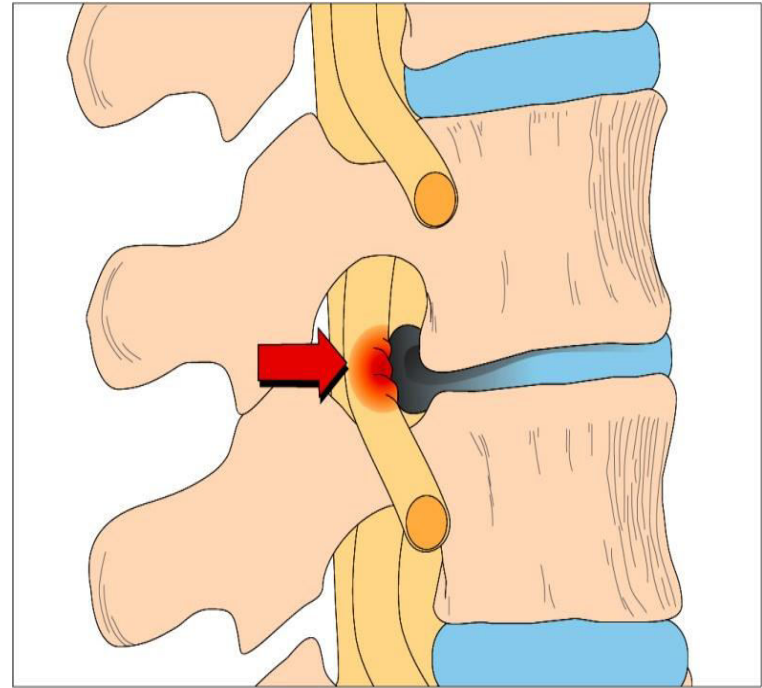
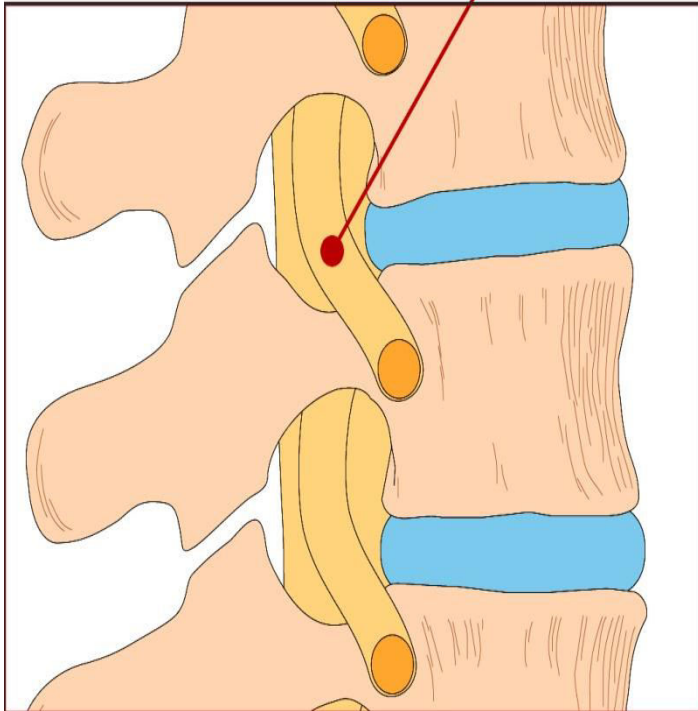
- Pain on neck or lower back
 - Pain may be central or radiate to limbs
 - Parasthesia may present
 - Increase pain by movement
 - Decrease sensation and muscle power of affected limbs.
- 

Kind of normal and abnormal disc



Herniated / Bulging Disc or PLID

Nerve Root



Continue.....

Sciatic nerve impingement, also called sciatica, is common for people who sit for prolonged periods of time.

The sciatic nerve runs from your lower back down the back of your leg and into to your feet.

Swelling in certain muscles in the buttocks can put pressure on the sciatic nerve, causing pain down the leg.

Common Occupational Injuries of the Back

Strains and sprains are damage to the tendons and ligaments caused by one time exertions such as lifting or carrying heavy objects.

These can lead to very noticeable back pain, but the pain usually begins to subside within a few days

Treatment: Physiotherapy



LBP Prevention



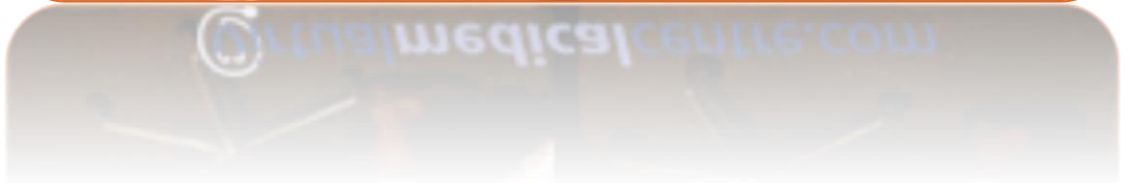
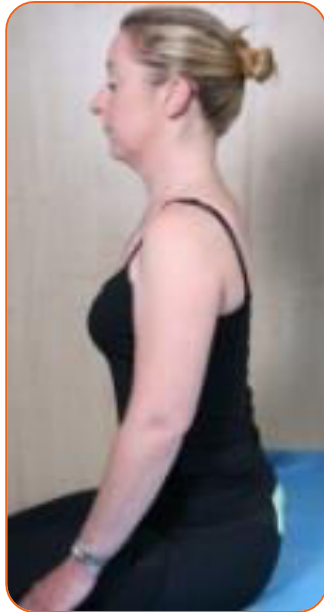
Posture And Lifting

Posture



Lifting

Maintain good posture



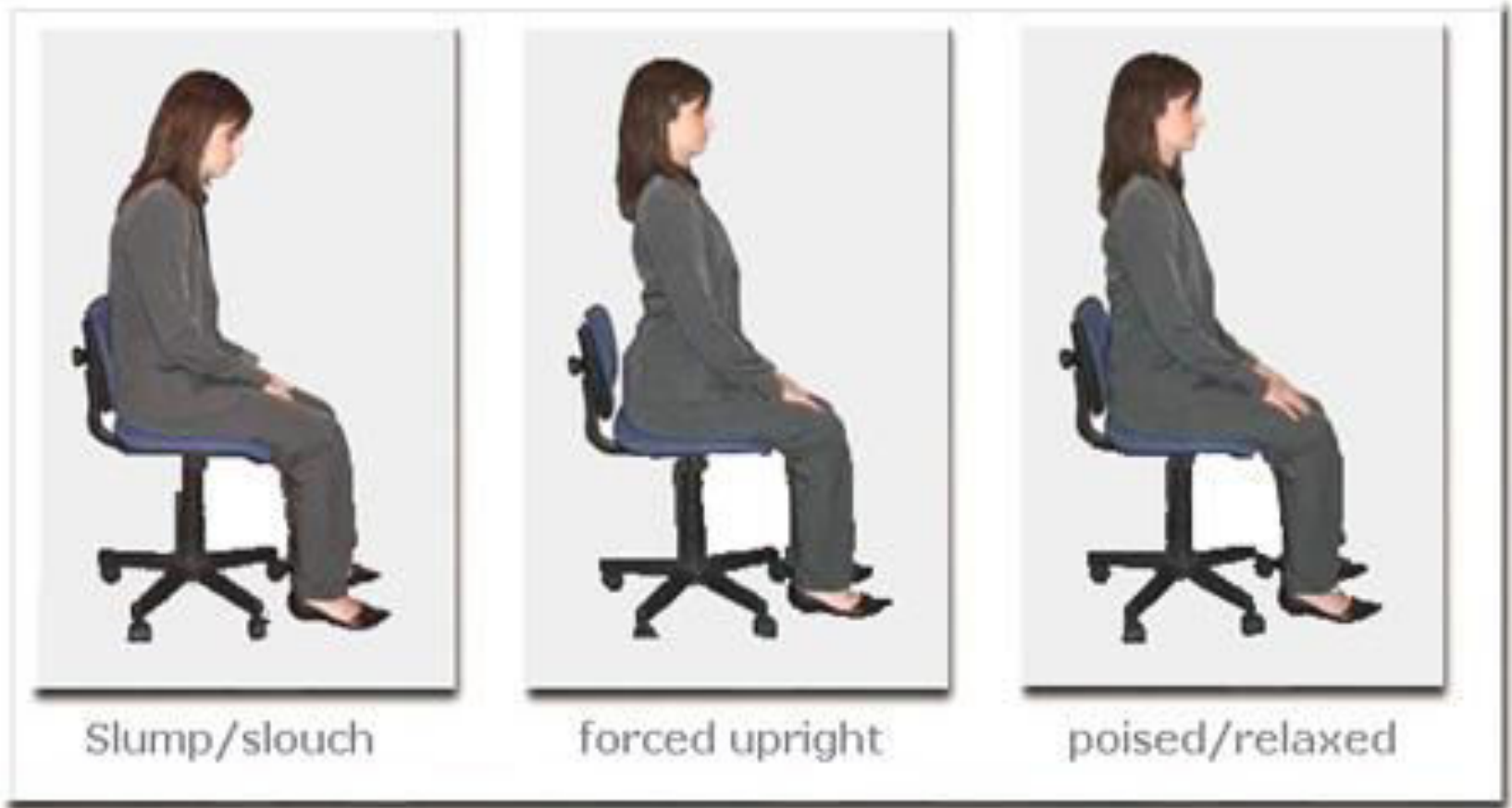
Avoid bad posture

CartoonChurch.com



BAD POSTURE (EXAMPLES OF)

Appropriate sitting in the chair



Poor Workstation Layout

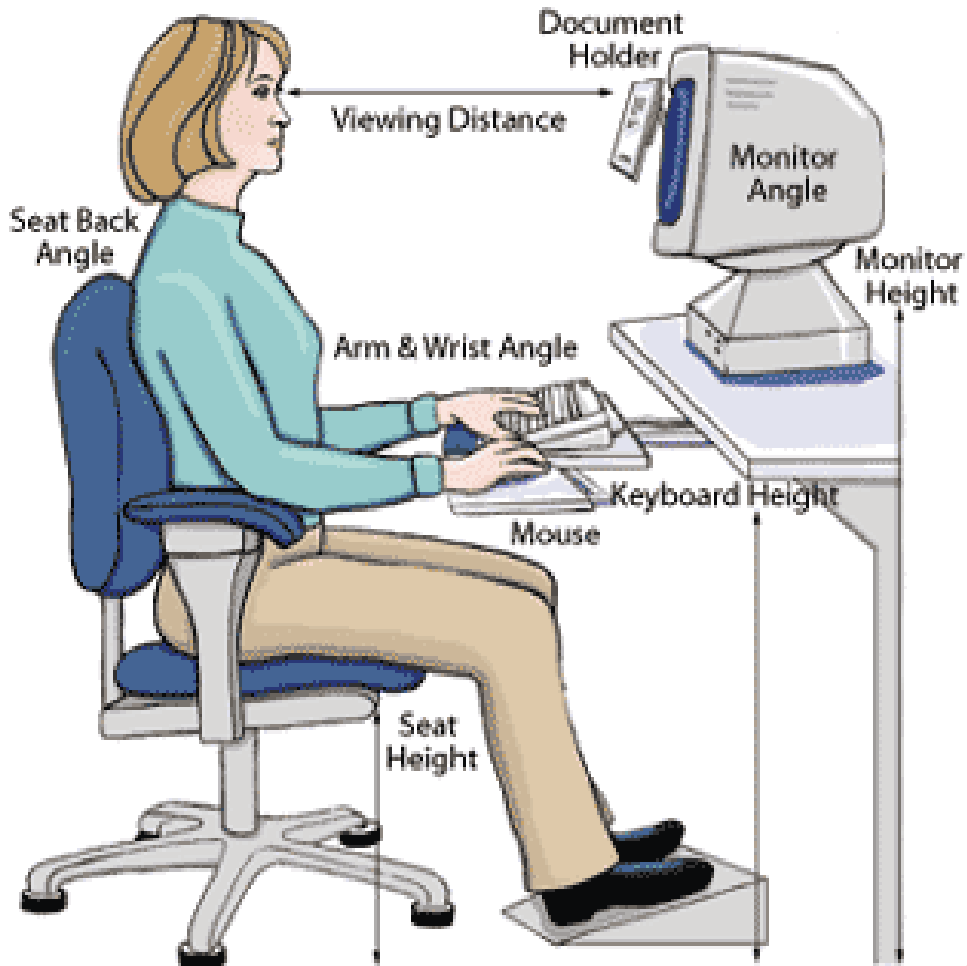


Good Workstation Layout



Safe desk work

Components of a Comfortable Workstation



- Eye level straight
- Neck upright

Backrest of the chair to support the back

- Elbows are bent at approximately 90°
- Hip slightly forward tilted
- Knees are bent at approximately 90°
- Legs are bent at approximately 90°
- Feet flat to the surface

Prevention of back pain

- ▶ Do Intermittent Work – every 30 min change postural position for 3-5 min.
- ▶ Use Lumbar roll and back rest.
- ▶ Modify office desk

Back care supportive equipment



A good chair



Lumbar-roll

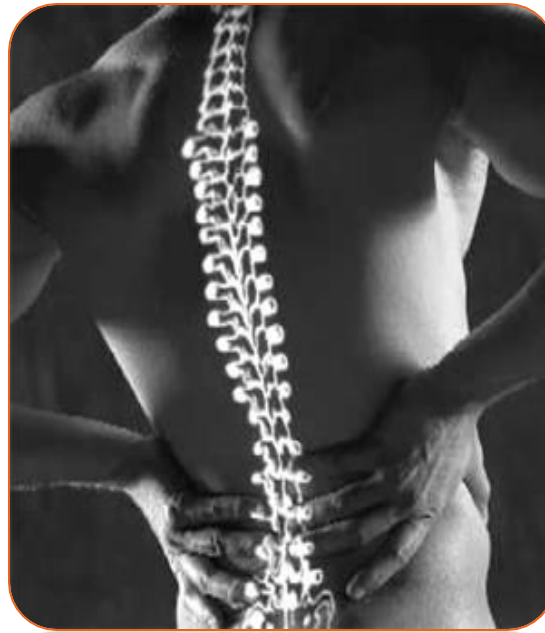


Back Rest

Car Sitting



Otherwise...



You will suffer on back pain!!!

The Core



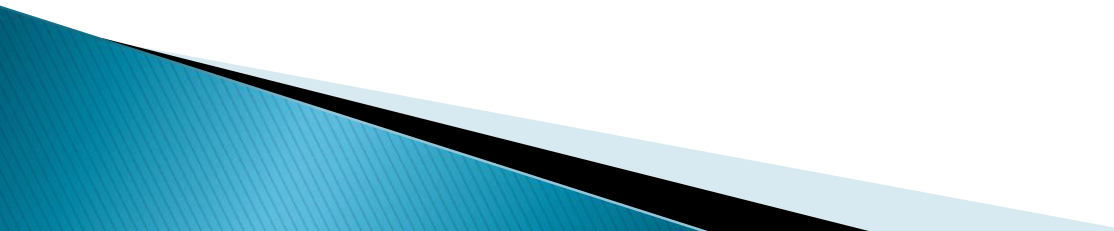
X



Daly misinterprets the Skins Game rules in 1988

Y

Others Musculoskeletal Problems

- ▶ Neck Pain
 - ▶ Osteoarthritis of knee
 - ▶ Frozen Shoulder
 - ▶ Tennis Elbow
 - ▶ Calcaneum Spar
 - ▶ Ankle Sprain
 - ▶ Muscle Cramp
 - ▶ Brain Stroke
 - ▶ Parkinson Disease
 - ▶ Diabetic Neuropathy
 - ▶ Heart Disease
 - ▶ Spinal Cord Injury
 - ▶ Joint replacement
 - ▶ Post Fracture Complications
- 

Neck Pain

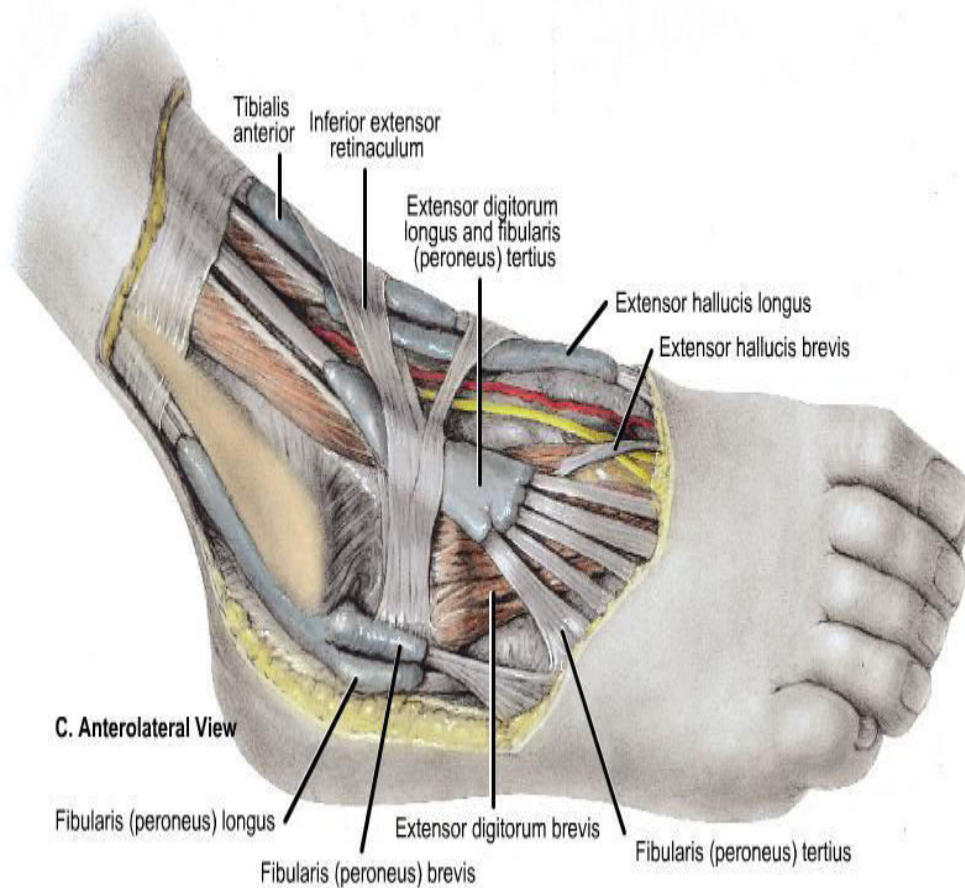
Sign and symptom:

- Pain on neck
- Pain may be central radiate to limbs
- Parasthesia may present
- Increase pain by movement
- Decrease sensation and muscle power affected limbs.

Treatment: Physiotherapy



Ankle sprain



Treatment:

PRICE principle for 07 days

P- Protection

R- Rest

I- Ice

C- Compression

E- Elevation

Rehabilitation program:

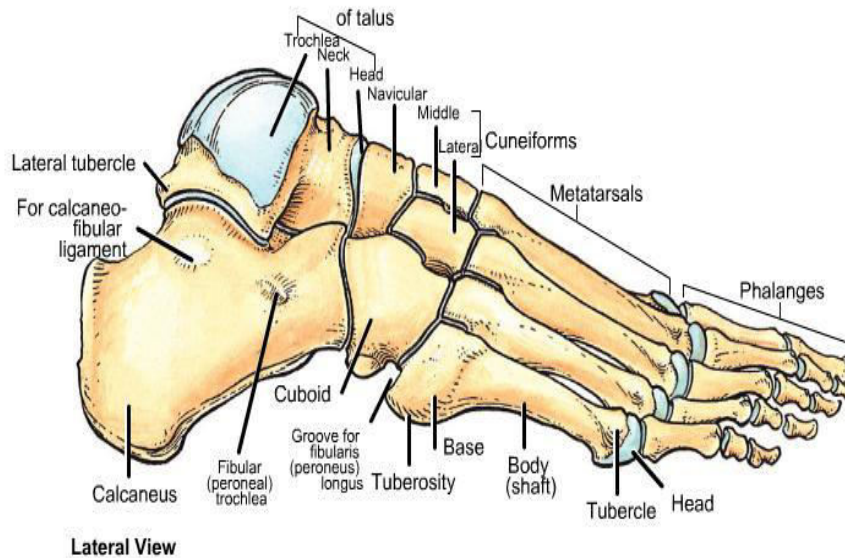
Strengthening exercise,
cycling, swimming,
walking, staring etc.

Foot pain

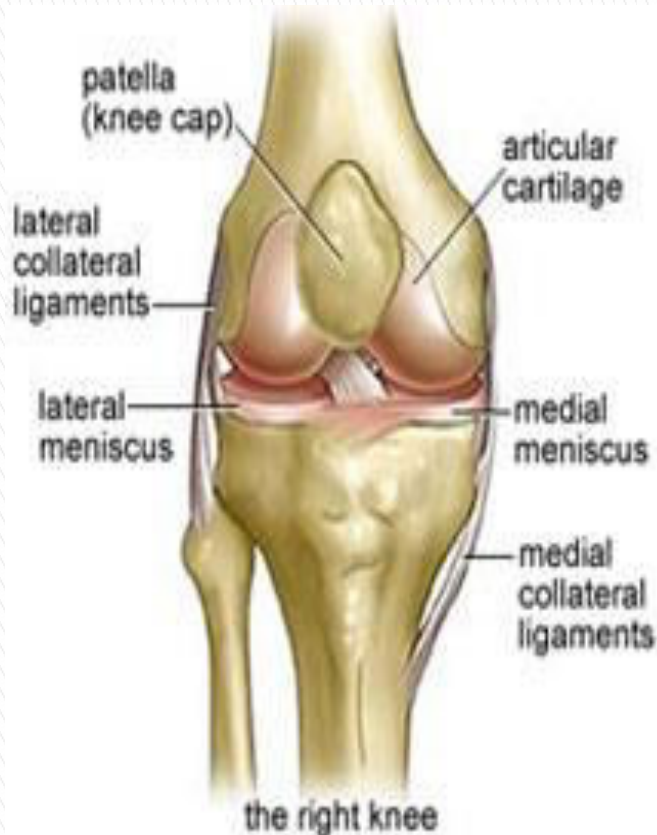
Calcaneum spur or Planter fasciitis:

- ▶ Pain complain first few steps after rest.
- ▶ Morning pain

Treatment: Physiotherapy
Advice: Use heel cushion, insole & comfortable soft shoe.



Osteoarthritis of Knee Joint



Sign and symptom of osteoarthritis :

- ▶ Pain increase by walking, stair up and down, low level sitting, sit to stand.
- ▶ Pain decrease by rest
- ▶ May have swelling in knee joint.

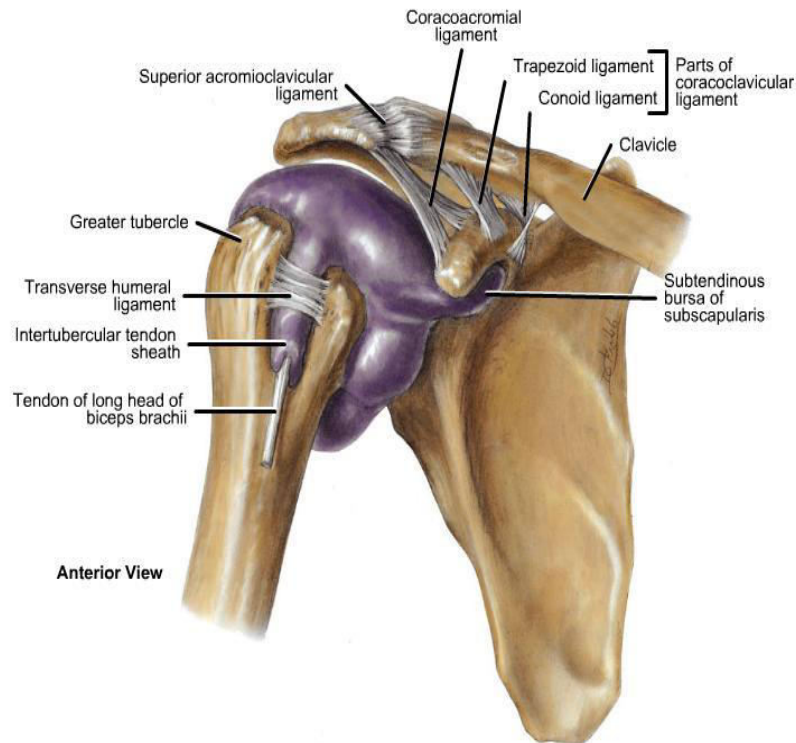
Treatment: Physiotherapy

Advice: Cycling & swimming not walking.

Other conditions:

Anterior Cruciate ligament injury(ACL), Posterior Cruciate ligament injury(PCL), Medial Colateral ligament Injury & Miniscus injuries etc.

Frozen Shoulder



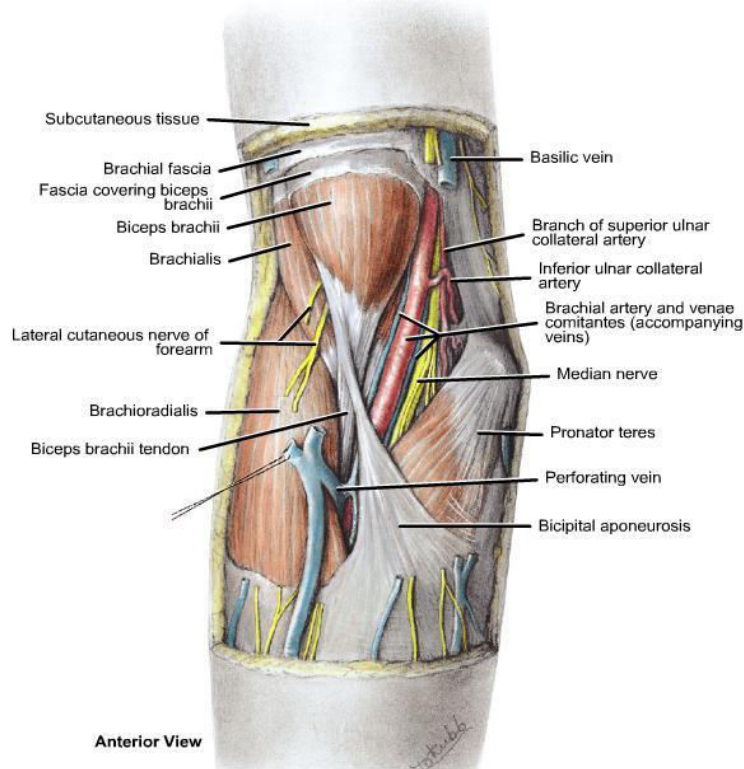
Sign and symptom:

- ▶ Pain increase by over head activities like combing hair, dressing.
- ▶ Stiffness as like frozen
- ▶ Age above 40 years

Treatment: Physiotherapy
(Manual & Electrotherapy)

Advice: Pulley, pendulum &
wall climbing exercise

Tennis Elbow

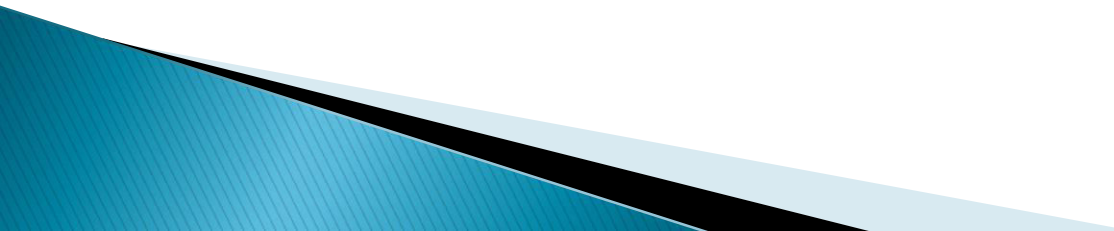


- ▶ Pain & swelling on elbow joint.
- ▶ History of repeated use of hand.
- ▶ Tenderness present
- ▶ Stretching painful.

Treatment: Soft tissue mobilization, PNF & Electrotherapy

Advice: Use elbow bend

Ice Therapy

- ▶ Rapping ice by thick cotton cloth
 - ▶ Ice never directly use on skin, it causes skin burn.
 - ▶ Duration: 10 min x 2 times daily for 3 days.
- 

General Advice

Change Food Pattern:

- ❑ In the morning comparatively taken heavy diet
- ❑ In lunch time take less food
- ❑ Night time try to eat very light food. Within 7.30 pm.
- ❑ Use Good shoe- its act as body shock absorber.
- ❑ For foot pain – use heel cushion
- ❑ For Diabetic patient – Walking , cycling, Swimming etc

Physiotherapy?

Physiotherapy is an **effective treatment** for injury and illness.

Physiotherapists are **skilled** in the hands-on management of medical & surgical conditions.

Physiotherapy is a **science and evidence based profession** which is clinically and scientifically proven to **heal conditions affecting body**.

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Physiotherapists?

**First-contact
autonomous practitioner
in health care services**

Physiotherapists?

- The course is affiliated by the Medicine Faculty of Dhaka University.
- 5 years Bachelor Degree which is followed by 1 year Mandatory Internship.



Course curriculum of physiotherapy

General Medical Subjects	Year
Anatomy	2 Years
Physiology	2 Years
Pharmacology	2 Years
Pathology & microbiology	2 Years
Community medicine	1 Year
Biochemistry	1 Year
Cardiopulmonary	1 Year
Neurology	1 Year
Radiology & imaging	1 Year
Orthopedics & Rheumatology	1 Year
Pediatrics	1 Year
Surgery, Gyne. & Obstetrics	1 Year
Psychiatry	1 Year

Professional Subjects	Year
Electrotherapy	2 Years
Kinesiology & Biomechanics	2 Years
Therapeutic Exercise	2 Years
Orthopedic Medicine	2 Years
Neurological Physiotherapy	1 Year
Cardiopulmonary PT	1 Year
Pediatric Physiotherapy	1 Year
Sports Physiotherapy	1 Year
Rehabilitation Medicine	1 Year

Role of physiotherapist in health services



Health Promotion- awareness program, seminar, workshop etc.



Injury Prevention- Patient education, career education etc.

Role of physiotherapist in health services



Treatment & Rehabilitation-
Stretching, strengthening etc.



Environment Modification- Home
modification, job environment
modification etc.

Professional Autonomy

Individual physical therapists should have the **freedom to practice their professional judgment**, whether they are working in health promotion, prevention or in the management, treatment/intervention and rehabilitation of patients/clients (WCPT).

Physiotherapists act as **first-contact practitioners** in UK since 1978. (CSP)

Since 1979 Physiotherapists in Australia are working as **first contact Practitioner** and can see patient without referral from other health care professionals..(APA)

An anatomical illustration of a human body lying on its back, viewed from above. The image is semi-transparent, revealing internal structures. Several circular callouts with red dots highlight specific areas: the brain in the head, the shoulder joint, the spine, the knee joint, and the lower leg. The text 'Scope of practice' is overlaid in a white, italicized serif font across the center of the image.

Scope of practice

Hospital and clinics

Rehabilitation centers

Sports centers

Community Based Rehabilitation

Academic institutions

Research

Management

Special needs school



Conditions treated by Physiotherapists



Orthopedic

- Back and neck pain
- Arthritis and osteoarthritis
- Fractures or sprains
- Joint replacements
- Sports injuries

Benefits

- Decreased pain
- Improved joint mobility and strength
- Restored physical function and injury prevention
- Possibly prevent or delay surgery



Cardio-respiratory

- Chronic obstructive pulmonary disease
- Cystic fibrosis
- Heart disease
- Respiratory infections
- Post-surgical care

Benefits

- Improved breathing and secretion clearance
- Reduced breathlessness and increased endurance
- Increased strength of arms and legs



Neurological

- Developmental delay
- Parkinson's disease
- Spinal cord injury
- Stroke

Benefits

- Improved balance, coordination, strength, flexibility, and function
- Ability to manage daily tasks
- Reduced pain
- Improved mood



Paediatric

- Cerebral palsy
- Developmental delay
- Muscular dystrophy
- Congenital abnormalities

Benefits

- Normalize muscle tone
- Improve functional ability
- Improve gross and fine motor function
- Improve gait



Women's health

- Breast cancer rehabilitation
- Chronic pelvic pain
- Weakness of pelvic floor muscle
- Incontinence

Benefits

- Reduced post-surgical pain and swelling
- Reduced fatigue caused by radiation and chemotherapy
- Improved pelvic pain and urinary incontinence

The image features a magnifying glass with a silver handle and a clear lens, positioned over a yellow ECG (heart rate) strip. The strip shows a regular rhythm with distinct P waves, QRS complexes, and T waves. The background is a warm, golden-yellow color. A semi-transparent purple rectangular box is overlaid on the right side of the image, containing the text 'Treatment Principles' in a green, italicized serif font.

*Treatment
Principles*



Manual Therapy

- Mobilization
- Manipulation
- PNF
- Soft Tissue manipulation etc.



Electrotherapy

- Ultrasound Therapy
- Infrared Radiation
- TENS
- SWD
- Traction etc.



Hydrotherapy

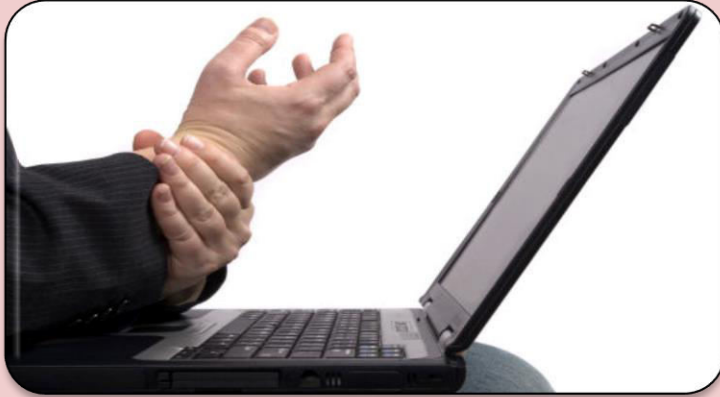
- Sitz bath
- Wraps
- Wet sock treatment
- Hot fomentation etc.

Exercise Therapy

- Aerobic & Anaerobic Exercise
- Agility training
- Flexibility Training etc.
- Stretching & strengthening

Orthotics & Prosthetics

- Prescription of appropriate orthotics and prosthetics and its management training



Ergonomics & Work Place Safety

- Work Place Modification
- Work Place Safety etc



Rehabilitation

- Cardiac Rehabilitation
- Post- operative Rehabilitation
- Sports Injury Rehabilitation etc.



Infiltration:

Intra-articular



Pharmacotherapy

Investigation
prescription

Physiotherapy Is An Ancient Profession

Hippocrates and Hector are believed to have been the first practitioners of a primitive physical therapy, advocating soft tissue mobilization and hydrotherapy to treat people in 460 B.C.





*History of Physiotherapy
In
Bangladesh*



Physiotherapy in Bangladesh was started At 1973,after liberation war of Bangladesh for the treatment and rehabilitation of injured person



It was first started at R.I.H.D. (NITOR) under affiliation of Dhaka University



In the government gadget of 1985 1st class post was created for physiotherapist. But at present those posts are occupied by other professionals.



At 10th June, 2009 honorable health minister has established the foundation stone of college of physiotherapy. But the work has not started still now.

Approximately 4000 Graduate Physiotherapists have passed from different institute.

More than 200 physiotherapists are migrated to other countries

The Professional organization of physiotherapy in Bangladesh is Bangladesh Physiotherapy Association (BPA).

The controlling organization in Bangladesh is Rehabilitation Council Act 2018.

Recommendations

- ▶ Pain & Therapy related class also include others academic training institute.
- ▶ Seek Physiotherapy service from qualified Physiotherapist.







Thank you