Musculoskeletal conditions

Musculoskeletal(MS) anatomy

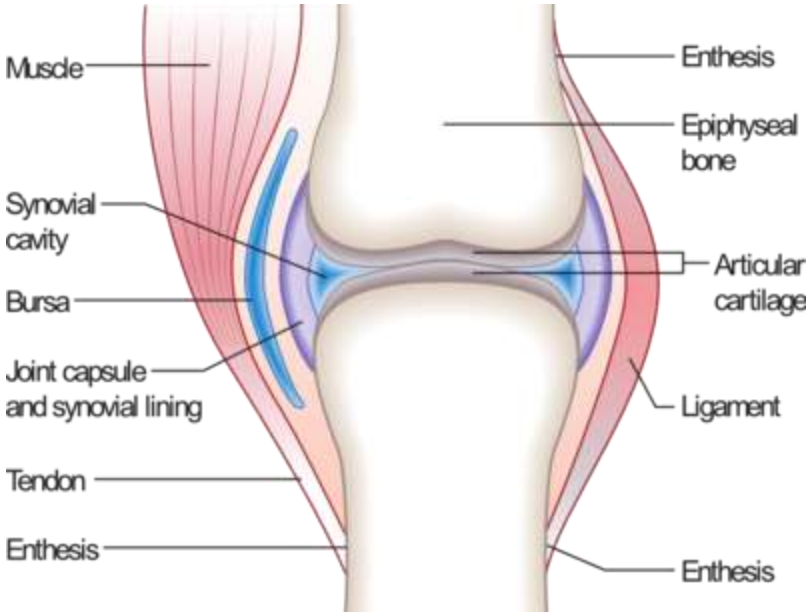
- MS comprises:
- Hard (bone and cartilage) tissue.
- Soft (muscles, tendons, ligaments) tissue.

Tendons: compose of a dense fibrous tissue and attach the end of the muscle to the bone.

ligaments: bind bones entering a joint.

Bursae: small fluid sac provide protection at points in the joint where friction is great.

Anatomy of a joint



- Acute low back pain.
- Sprain.
- Strain.
- Bruising.
- Bursitis.
- Frozen shoulder.
- Painful joint.
- Medication induced.

Acute low back pain

Incidence:

Age 30-55 years, men=women

Risk factors:

Frequent bending, twisting (golf, gymnastic), lifting, remaining in static position for long periods(truck drivers)

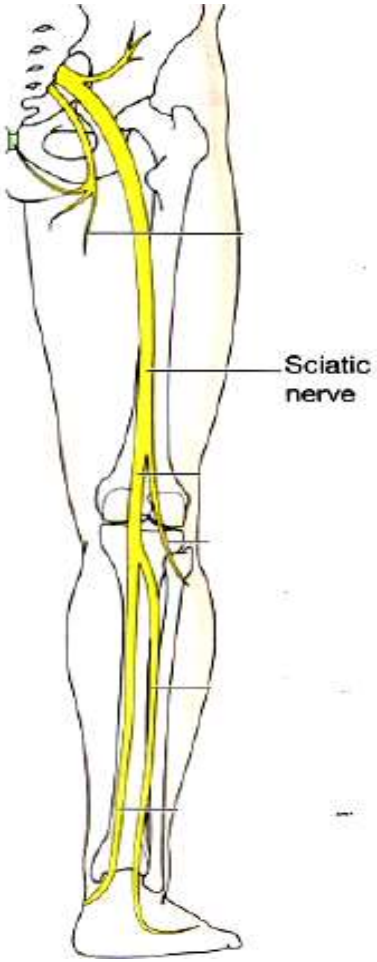
The main cause is a strain of the muscles or other soft structures (e.g. ligaments and tendons) connected to the vertebrae.

Lower back pain that **is not too severe** or debilitating, **Bed rest is not recommended for simple low back pain.** The emphasis is on maintaining activity, supported by pain relief.

Conditions to refer

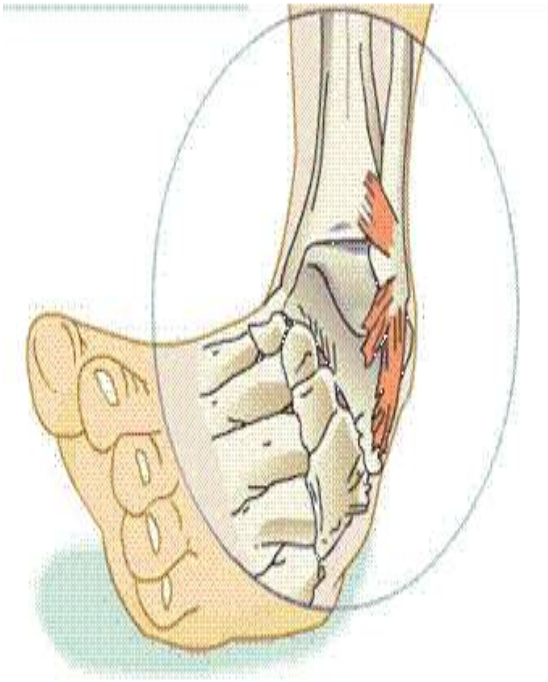
1- Kidney pain can be felt in the back, to either side of the middle part of the back just below the ribcage (**loin, flank area**). If the back pain in the loin area is associated with any abnormality of passing urine (discoloration of urine, pain on passing urine or frequency), then a kidney problem is more likely.

2- Sciatica: **Pain that is more severe, causing difficulty with mobility or radiating from the back down one or both legs, caused by disk herniation**



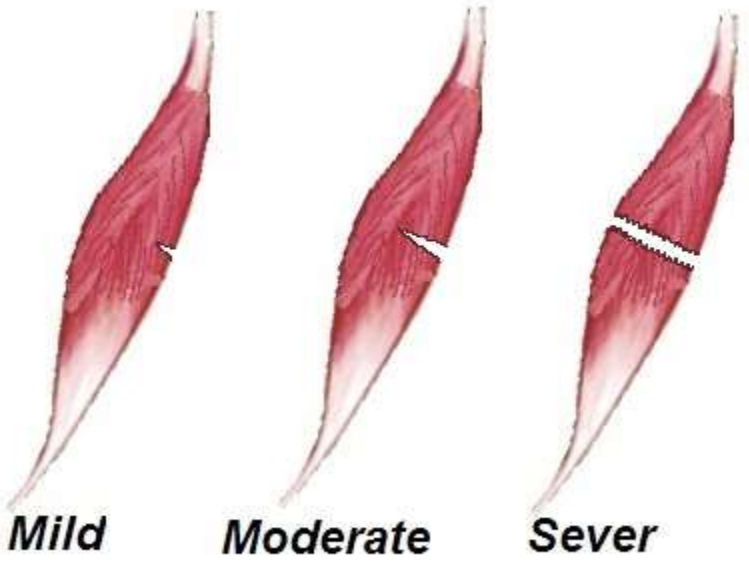
sprain

- Caused by violent forcing a joint into an abnormal position that overstretches or twists ligaments, sometimes leading to tearing. The most common sprain involves the lateral ankle ligament



strain

- Tearing of muscle fibers, which can be partial or complete and are usually as a result of overextension when the muscle is stretched beyond its usual limits.



bruising

- The presence of bruising without apparent injury should alert the pharmacist to the possibility of a more serious condition. Spontaneous bruising may be symptomatic of an underlying blood disorder, e.g. thrombocytopaenia or leukaemia, or may result from an adverse drug reaction (warfarin)



Bursitis

which is inflammation of a bursa).

The function of a bursa is to reduce friction during movement).Clinically, **joint swelling** is the predominant feature together with associated **pain** and **tenderness**.

- Examples of bursitis are housemaid's knee and student's elbow.

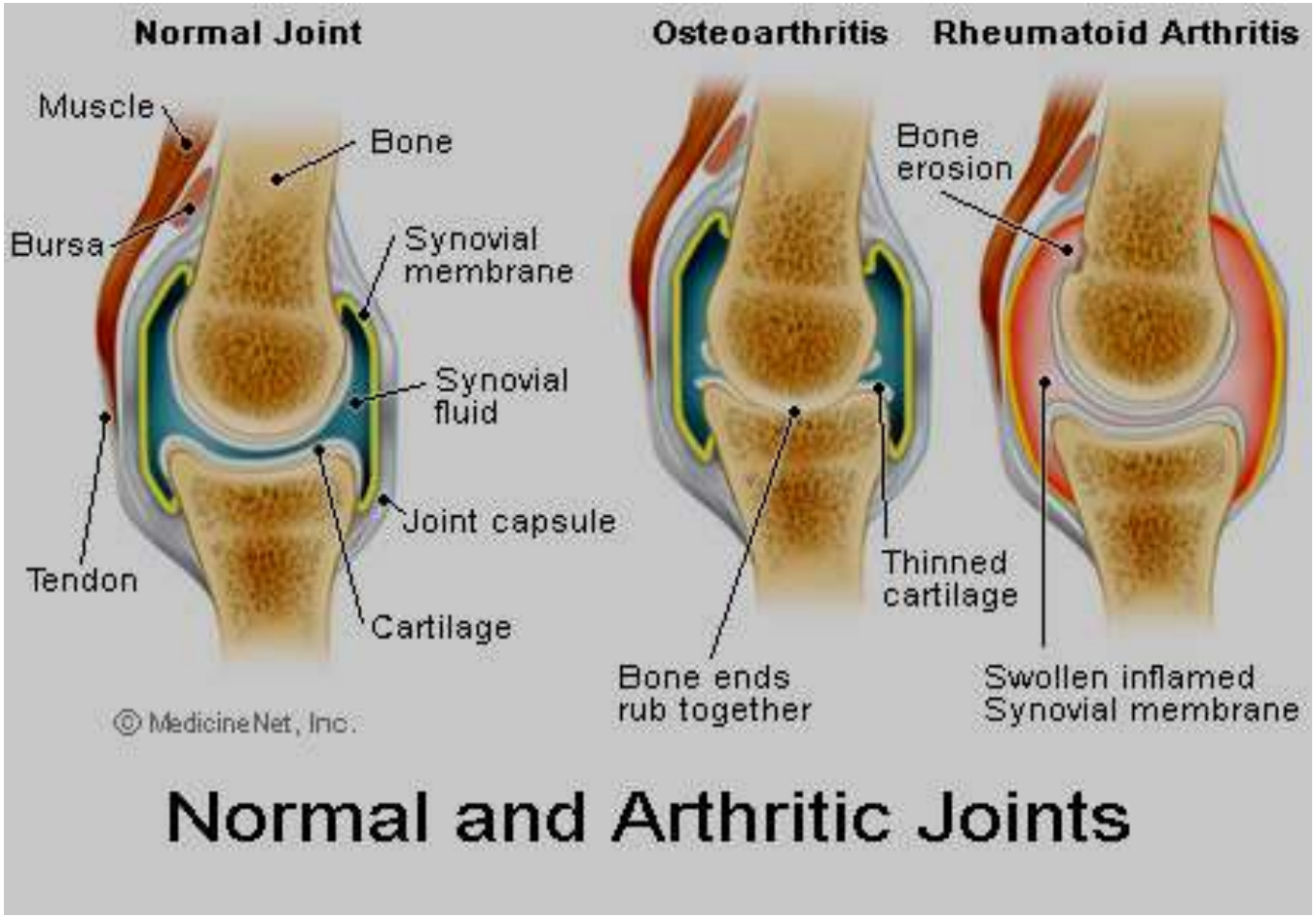
Frozen shoulder

Frozen shoulder is a common condition where the shoulder is stiff and painful. It is more prevalent in older patients. The shoulder pain sometimes radiates to the arm and is often worse at night.

There is usually a limitation of movement of shoulder in all major range of motion .

Painful joints(arthralgia):

- The pain may be associated with swelling, overlying inflammation, stiffness, limitation of movement and deformity of the joint.
- Osteoarthritis (OA).
- Rheumatoid arthritis(RA).
- Gout.


Normal Joint
Osteoarthritis
Rheumatoid Arthritis
Muscle
Bone
Bursa
Synovial membrane
Synovial fluid
Joint capsule
Tendon
Cartilage
Bone erosion
Thinned cartilage
Bone ends rub together
Swollen inflamed Synovial membrane
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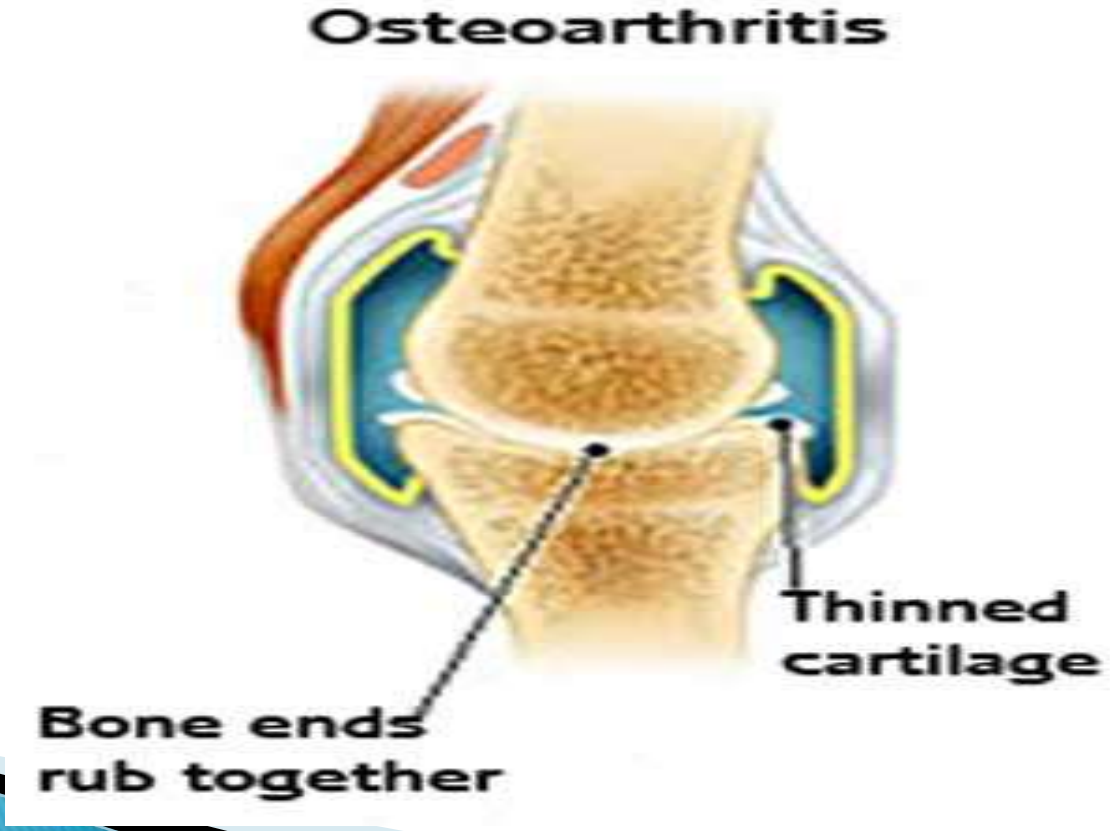
Normal and Arthritic Joints

Osteoarthritis(OA)

- which is due to **wear and tear** of the joint. This often affects the knees and hips, especially in the older population.



deformity resulting from marked osteoarthritis.

Rheumatoid arthritis(RA)

- which is an **autoimmune disease,** generalized (affecting more than one joint) and may be associated with extra-articular symptoms.

Gout:

- acute attacks of arthritis due to deposition of monosodium urate crystals in joint(big toe) and bone.

Medication induced.

- **Side-effects**. In elderly patients, it should be remembered that falls may occur as a result of **postural hypotension**, dizziness or confusion as adverse effects from drug therapy.

When to refer

Suspected fracture

Possible adverse drug reaction: falls or bruising

Head injury

Medication failure

Arthritis

Severe back pain

Back pain (and/or pins and needles/numbness) radiating to leg

Back pain in the middle/upper back (especially in the older patient)

Non-pharmacologic treatment

- This plays a vital role in the treatment of soft tissue injuries.

Pharmacologic treatment

- Analgesics: paracetamol, aspirin, NSAIDs.
- Compound analgesics: (eg. paracetamol/codeine).

Elderly patients are more susceptible to the side effects of opioid analgesics and might experience (rarely) drowsiness.

- Topical NSAIDs(gel, cream, spray, mousse): ***Ibuprofen***, ***diclofenac*** , ***ketoprofen*** *and* ***piroxicam***

ketoprofen was found to be significantly better than other NSAIDs.


FASTUM® gel
Ketoprofen 2.5%
Tube of 30 g for external use only
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INDICATIONS
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Counterirritants(rubefacients)

- cause vasodilatation, inducing a feeling of warmth over the area of application. Counterirritants produce mild skin irritation
- Methyl salicylate, menthol, Nicotinates, capsaicin.

Heparinoid and hyaluronidase

- are enzymes that may help to disperse oedematous fluid in swollen areas. A reduction in swelling and bruising may therefore be achieved., but this is unproven.

Glucosamine and chondroitin

- Both are NOT used for back pain but widely used for the treatment of OA.
- Glucosamine: is naturally found in the body, especially in cartilage, tendons, and ligaments and it's not found in food, but its action in increasing joint function is questionable.
- Chondroitin: has no significant benefit, and if the patient want to use a natural product, then glucosamine is a better choice.

- Concern the following OTC medications:

A-Paracetamol tab.

B-Aspirin tab.

C-Diclofenac gel.

d-Hyprinoid oint.

e-Compound analgesics.

Select from A to E which of the above medicine:

1- can only be given to children over 16 years.

2- has no evidence of efficacy.

3- may cause drowsiness in elderly.

Thanks for listening