Kharkov Regional Centre of Cardiovascular surgery
V.N. Karazin Kharkov National University
Department of Internal Medicine

Interviewing, physical examination, instrumental and laboratory tests for patients with affection and diseases of the musculoskeletal system and connective tissue

Associate professor Abduyeva F.M., MD, PhD
2014

Interviewing

Signs of musculoskeletal and connective tissue disease

Joints

- Pain (arthralgia)
- Early morning stiffness
- Joint line tenderness
- Joint swelling (synovial hypertrophy +/- effusion)
- Reduced range of movement

Muscles

- Pain (myalgia)
- Early morning stiffness
- Proximal muscle tenderness
- Proximal muscle weakness

Pain

- The most common symptom in problems of the locomotor system and should be approached in the same manner as any other type of pain.

Pain in a joint is called arthralgia.
Pain in a muscle is called myalgia.

- Determine the character, nature of onset, site, radiation, severity, periodicity, exacerbating and relieving factors (with particular reference to how it is influenced by rest and activity), and diurnal variation.

Pain

•Character:

•Bone pain is typically experienced as boring, penetrating and often worse at night. Causes include tumour, chronic infection, avascular necrosis, and osteoid osteoma.

•Pain associated with a fracture is usually sharp and stabbing in nature and often exacerbated by movement.

•Shooting pain is suggestive of nerve entrapment (e.g. disc protrusion).

•Onset

•Acute onset of pain is often a manifestation of infection such as septic arthritis or crystal arthropathies (e.g. gout).

•Osteoarthritis and rheumatoid arthritis can cause chronic pain.

•Site

•Determine the exact site of maximal pain if possible and any associated lesser pains.

Remember that the site of pain is not necessarily the site of pathology; often pain is referred. Referred pain is due to the inability of the cerebral cortex to distinguish between sensory messages from embryologically related sites.

Oxford Handbook of Clinical Examination and Practical Skills

Stiffness

- This is a subjective symptom which must be explored in detail to establish exactly what the patient means.
- Stiffness is the inability to move the joints after a period of rest. Muscle stiffness is the feeling of tension or tightness in the muscles. It may be due to mechanical dysfunction, local inflammation of a joint or a combination of both.
- If stiffness predominates over pain, consider spasticity or tetany.
- Ask the patient:
- When is the stiffness worst?
  - Early morning stiffness is seen in inflammatory conditions (e.g. rheumatoid arthritis) whereas mechanical joint disease will become worse as the day progresses.
- Which joints are involved or is the stiffness generalized?
  - A generalized stiffness may be seen in rheumatoid arthritis and ankylosing spondylitis.
- How long does it takes them to get going in the morning?
- How is the stiffness related to rest and activity?
  - Mechanical joint diseases will be exacerbated by prolonged activity.

Swelling

- Joint swelling can be due to a variety of factors including inflammation of the synovial lining, an in the volume of synovial fluid, hypertrophy of bone, or swelling of structures surrounding the joint.
- This symptom is particularly significant in the presence of joint pain and stiffness.
- Ask patient:
- Which joints are affected (small or large)?
- Is the distribution symmetrical or not?
- What was the nature of onset of the swelling?
  - Rapid onset: haematoma or haemarthrosis (exacerbated by anticoagulants or any underlying bleeding disorder).
  - Slow onset is suggestive of a joint effusion.
- Are the joints always swollen or does it come and go (and when)?
- Is there any associated pain?
- Do the joints feel hot to touch?
- Is there erythema? (Common in infective, traumatic and crystal arthropathies).
- Have the joints in question sustained any injuries?

Oxford Handbook of Clinical Examination and Practical Skills

Deformity

- Abnormal shape or size of a structure; may result from bony hypertrophy, malalignment of articulating structures, or damage to periarticular supportive structures

http://dualibra.com/wp-content/uploads/2012/04/037800~1/Part%2014.%20Disorders%20of%20the%20Immune%20System,%20Connective%20Tissue,%20and%20Joints/Section%203.%20Disorders%20of%20the%20Joints%20and%20Adjacent%20Tissues/325.htm

Physical examination

“Look - feel – move” technique.

- **The Examination requires the classical "look - feel - move" technique.**
- **Every joint should be assessed individually, and the soft tissue, contractile structures around the joint appropriately examined.**
- **Look**
- Gait.
- Swelling.
- Redness in joints or tendons.
- Skin changes – Examine for psoriasis, Reynaud's phenomenon, ulceration of skin and rashes.
- Wasting of regional muscles
- Deformity or contracture.
- **Feel**
- Palpate the margins of each joint. Synovial thickening is felt as a "soft spongy" texture with the additional presence of fluid identified by fluctuant swelling. Each joint is palpated in turn and presence or absence of synovial thickening is recorded.

http://www.arthritis.co.za/the%20clinical%20examination%20technique.html

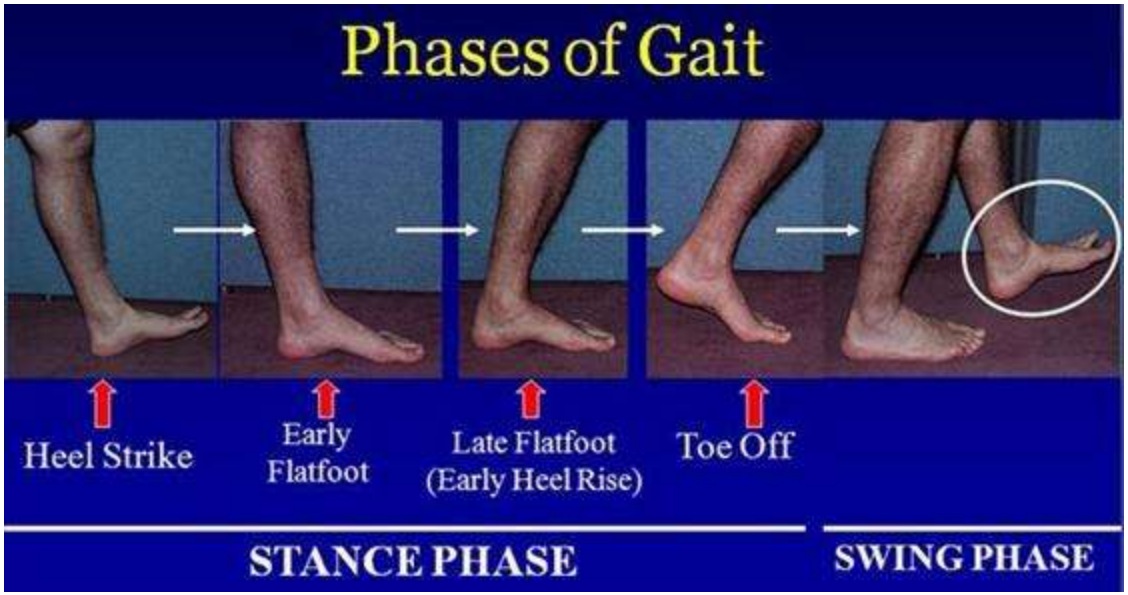
“Look - feel – move” technique.

- **Move**
- This technique is the most useful in localizing the pathology. There are three techniques of movement in the joint examination.
- **Active movement.** The patient utilizes his own muscles and contractile structures to move a particular joint through its range of movement. This tests the joint as well as the contractile structures.
- **Passive movement**: Here the patient is encouraged to relax and the examiner moves the joint through its accepted range of movement. By ensuring that the joint muscles are relaxed, this checks the actual joint capsule itself. The joint range of movement may be found to be reduced. This suggests age-indeterminate involvement of the joint**. Reproduction of the pain on passive movement confirms the joint as source of the complaint**. If the pain is not reproduced by movement within the capsular pattern, then the cause lies elsewhere.
- **Resisted movement**: A particular movement attempted by using the appropriate muscle actions, but which is resisted by someone or something blocking it. This isolates the cause to a particular tendon or bursa. The joint is made to relax then force is applied by the patient against resistance of the examiner. Reproduction of the pain confirms the source to be the contractile soft tissue structure.

http://www.arthritis.co.za/the%20clinical%20examination%20technique.html

Gait

- Watch the patient walk.
- There should be symmetry and smoothness of movement and arm swing with no pelvic tilt and normal stride length. The patient should be able to start, stop and turn quickly.



Hands and wrists examination

Look

- Color change
- Enlargement
- Nail and cuticle abnormalities
- Atropy of the thenar or hypothenar eminence
- Roughened red papules on the extensor surfaces of phalanges (Gottron's papules) occur in dermatomyositis.
- Tight and thickened skin tapered over the fingertips suggests systemic sclerosis. This can evolve to cause contractures and marked deformities of the hand.
- Scaly silver plaques on extensor surfaces, particularly the elbows, may reflect psoriatic arthritis.
- Vasculitis can cause finger-pulp infarcts
- Triphasic hues of Raynaud's phenomenon, ranging from ischaemic white, through the blue of cyanosis, to throbbing red reactive hyperaemia

http://www.arthritis.co.za/the%20clinical%20examination%20technique.html

Hands and wrists examination

Feel

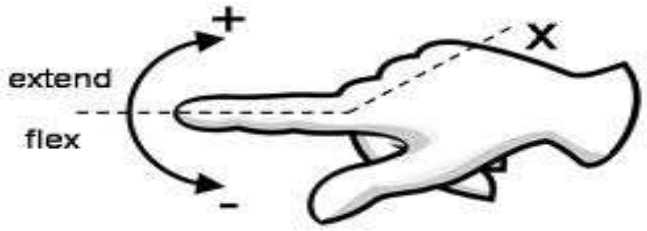
- Temperature change
- Deformities if present (contractures, subluxations, abnormal angulations).

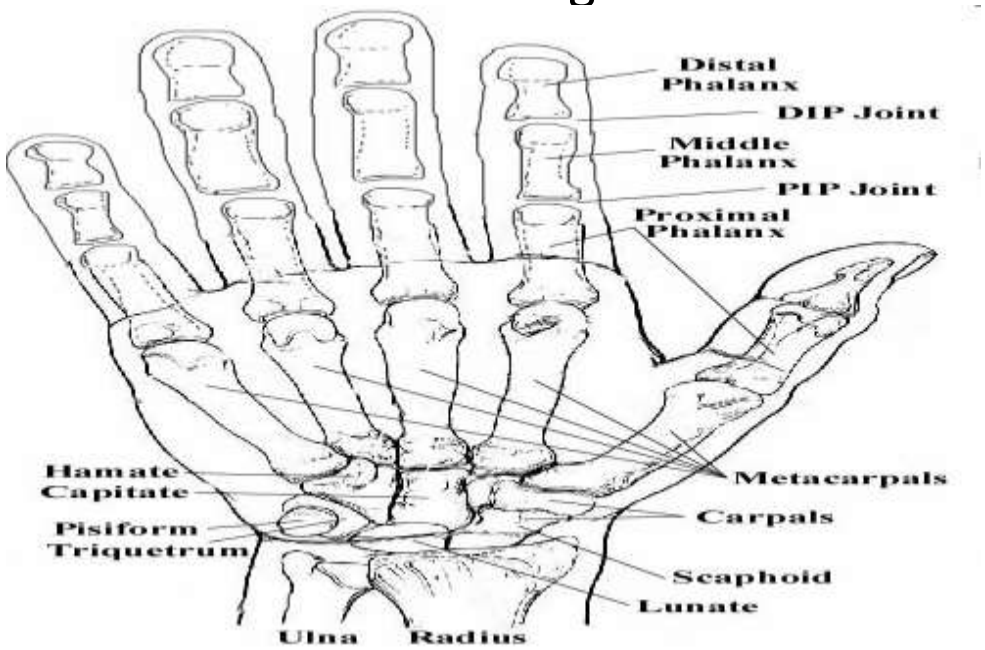
Move

- Ask the patient to make a tight fist with both hands.
- Ask the patient to grasp a small object such as a finger.
- If the patient is capable of making a tight fist and grasping a small object with no observable abnormality, then a passive manipulation of the metacarpophalangeal joints and proximal and distal interphalangeal joints need not be made; however, should an abnormality be detected, passive examination of the range of motion of each of the joints should be performed.

Normal range of motion for the fingers

- Distal interphalangeal joints (digits 2–5): 0 to 80 degrees of flexion
- Proximal interphalangeal joints (digits 2–5): 9 to 120 degrees of flexion
- Interphalangeal joint of the thumb: 35 degrees hyperextension, 90 degrees flexion
- Metacarpophalangeal joints (digits 3–5): 30 degrees hyperextension, 90 degrees flexion
- Metacarpophalangeal joint of the thumb: 0 to 70 degrees of flexion

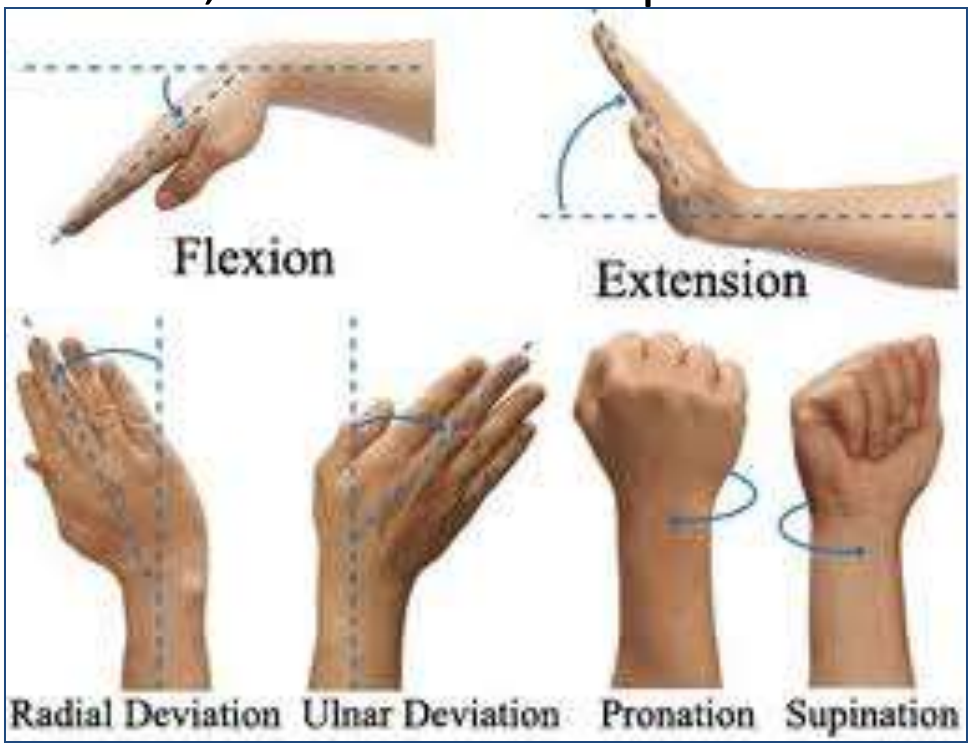




•http://www.ncbi.nlm.nih.gov/books/NBK272/

Normal range of motion for the wrists

The wrist can normally be extenced to 70 degrees and palmar flexions should be possible to approximately 80 or 90 degrees. Ask the patient to deviate the hand ulnarward; this should be possible to 50 to 60 degrees. Finally, ask the patient to deviate both hands radialward; this should be possible to approximately 20 degrees.



http://www.ncbi.nlm.nih.gov/books/NBK272/

Finger Exam

- Palpate both lateral joint lines with thumb and index finger while palpating volar and palmar sides with opposite thumb and finger

- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

Examination of the proximal interphalyngeal joints

Each joint is carefully inspected and palpated for swelling.

http://www.arthritis.co.za/rheumatoid%20arthritis%20an%20update.html

Metacarpophalangeal Joints

- Support palm of hand
- Palpate both sides of the joint line with thumbs

- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

Wrist Exam

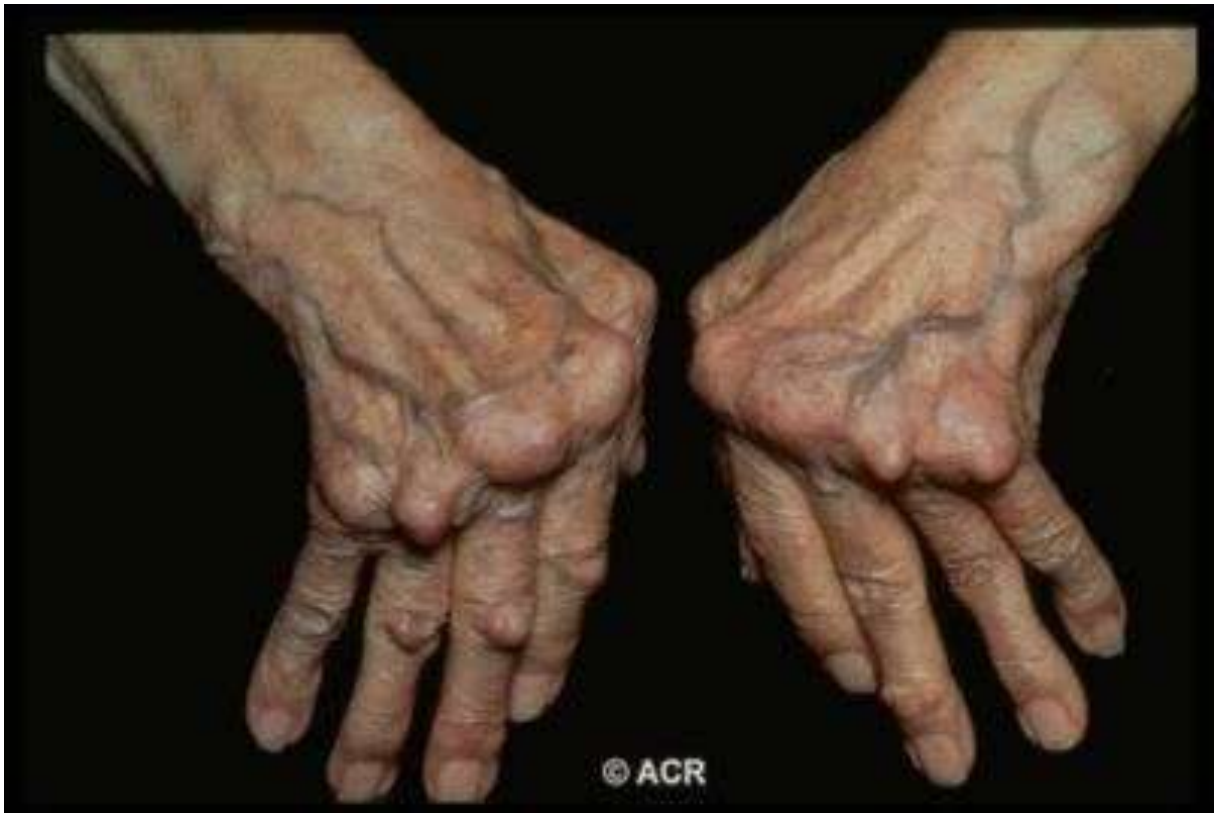
- Support wrist in 15-degree flexion
- Palpate radiocarpal joint and ulnocarpal joint
- Keep extensor tendons relaxed

- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

The wrist examination

The wrists are examined by palpating the joint lining and checking for restriction in range of movement.

Ulnar deviation



Gottron's papules, dermatomyositis

http://commons.wikimedia.org/wiki/File:Dermatomyositis2.jpg

Dactilitis

Elbows examination

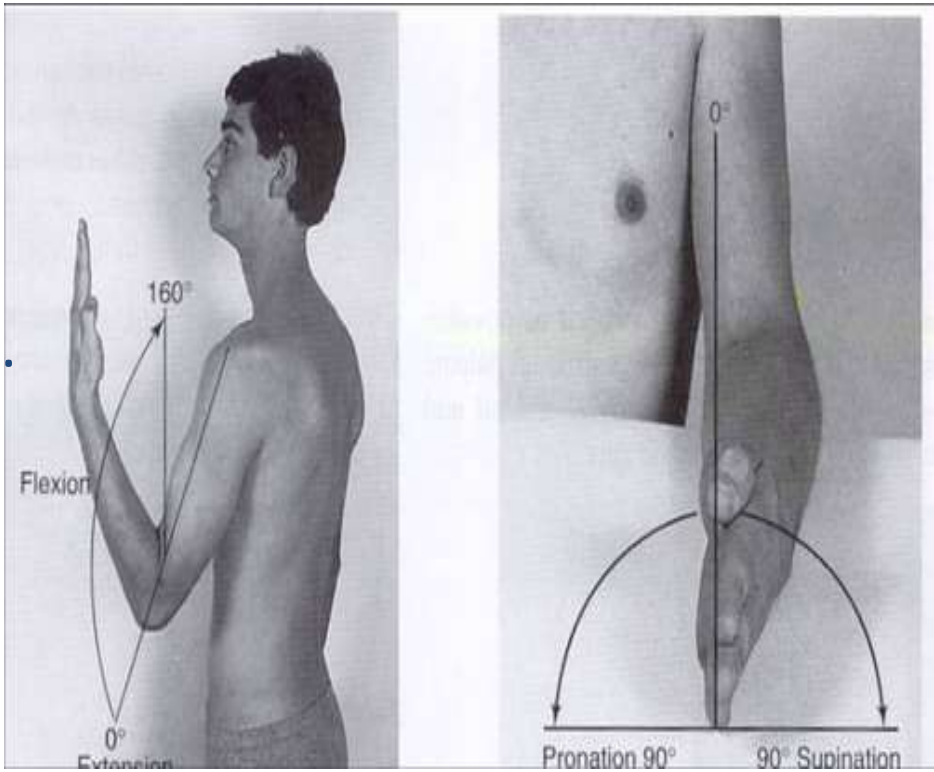
- **Look**
- Observe and palpate both elbows and over the olecranon process, again noting areas of color change and enlargement.
- **Feel**
- Synovial thickening or effusion both in the joint itself and in the area of the olecranon bursa.
- Subcutaneous nodules over the olecranon process.

http://www.ncbi.nlm.nih.gov/books/NBK272/

Elbows examination

Move

- Ask the patient to extend both elbows fully and to flex them fully. The position of full extension is designated as 0 degrees, and flexion should be performed well to 160 degrees in the normal state.
- The range of motion in the radiohumeral joints is tested by asking the patient to pronate and supinate both hands fully. In the normal state the palm of the hand should be able to be placed flat on a table in pronation and the dorsum of the hand flat on the table in supination.



http://quizlet.com/3335535/musculoskeletal-flash-cards/

http://www.ncbi.nlm.nih.gov/books/NBK272/

The olecranon bursa is found between the point of the elbow and the skin. Bursitis here causes pain over the point and back of the elbow.

A bursa is a fluid-filled sac that cushions and lubricates areas of the body where friction is likely to occur. Examples of such areas include between two bones, between a tendon or ligament and a bone, and between bone and skin.

http://www.webmd.com/a-to-z-guides/olecranon-bursa

Olecranon Bursitis

The characteristic appearance of an Olecranon Bursitis is that of a "goose egg" as seen below

http://upload.wikimedia.org/wikipedia/commons/6/6e/Bursitis_Elbow_WC.JPG

Spine examination

The cervical spine examination

- **Look**
- Inspect the cervical spine for loss of the normal lordotic curve.
- **Feel**
- Palpate for local areas of tenderness and crepitation.
- **Move**
- Next, ask the patient to put the chin on the chest to check flexion, to put first the right ear on the right shoulder and the left ear on the left shoulder for lateral flexion, and to extend the neck as far as possible by looking back over the ceiling as far as possible.
- Rotation is then checked by asking the patient to put the chin on the right shoulder and then the left shoulder.

http://www.ncbi.nlm.nih.gov/books/NBK272/

The cervical spine examination

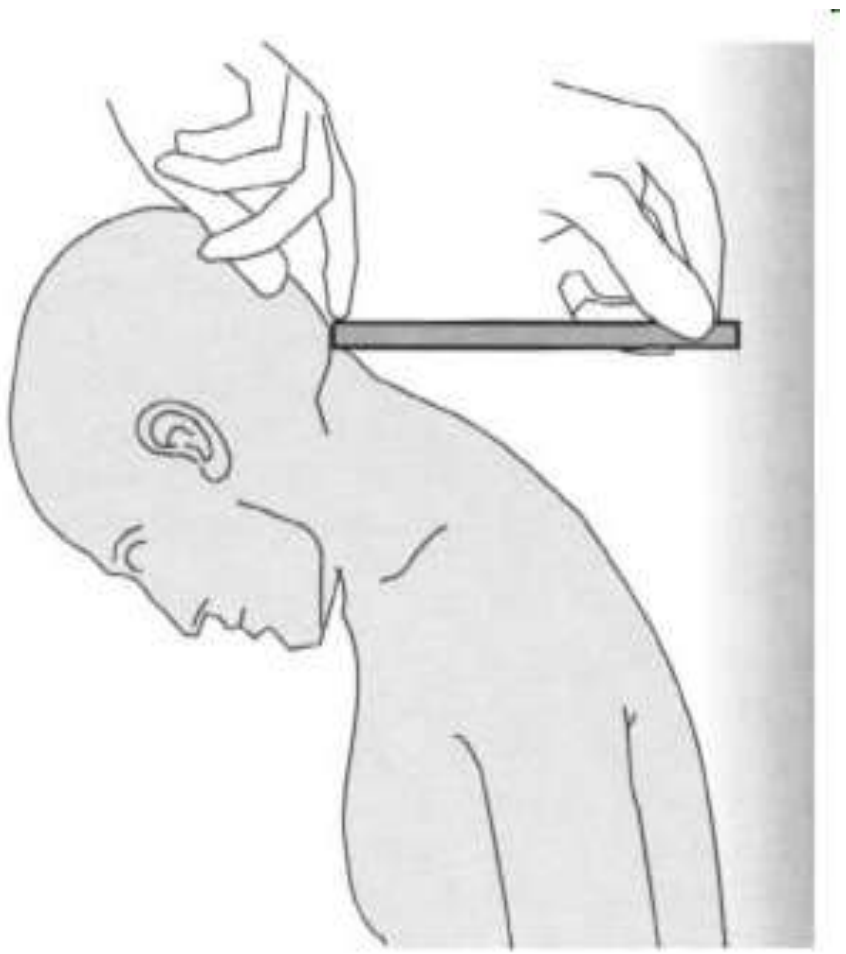
The neurocentral joints are most sensitive to extension, whilst the facet joints are most sensitive to lateral flexion and rotation. Rotation laterally should allow 60-90 degrees. Flexion should allow 60-90 degrees and lateral flexion 30-60 degrees.

http://www.ncbi.nlm.nih.gov/books/NBK272/

Forestier symptom

- Forestier symptom: to determine the shape of posture. The patient stands with his back to the wall, touching them heels, torso, head. In patients with ankylosing spondylitis, due to the development of kyphosis would not be clash with the wall in any point.

Fig. 5. Distance in centimeters between the occiput and the wall. In a normal individual this distance is 0 cm, but this will increase with dorsal kyphosis.



http://intranet.tdmu.edu.ua/data/kafedra/internal/vnutrmed2/classes_stud/en/med/lik/ptn/Internal%20medicine/6%20course/07.%20Management%20of%20patients%20with%20arthritic%20syndrome..htm

The thoracic spine exam

Look

- Observe the patient both standing and sitting from behind and from the side to check for:
- Kyphosis
- Scoliosis

Feel

- Examine the back and palpate for areas of muscle spasm and tenderness.
- Lightly percuss over the spinous processes throughout the spine to check further for tenderness.

http://www.ncbi.nlm.nih.gov/books/NBK272/

Thoracic spine exam
Hyperkyphosis

- The thoracic spine has a normal outward curvature that is medically referred to as kyphosis
- Hyperkyphosis is a spinal deformity causing a forward-curved posture of the upper back or thoracic spine.

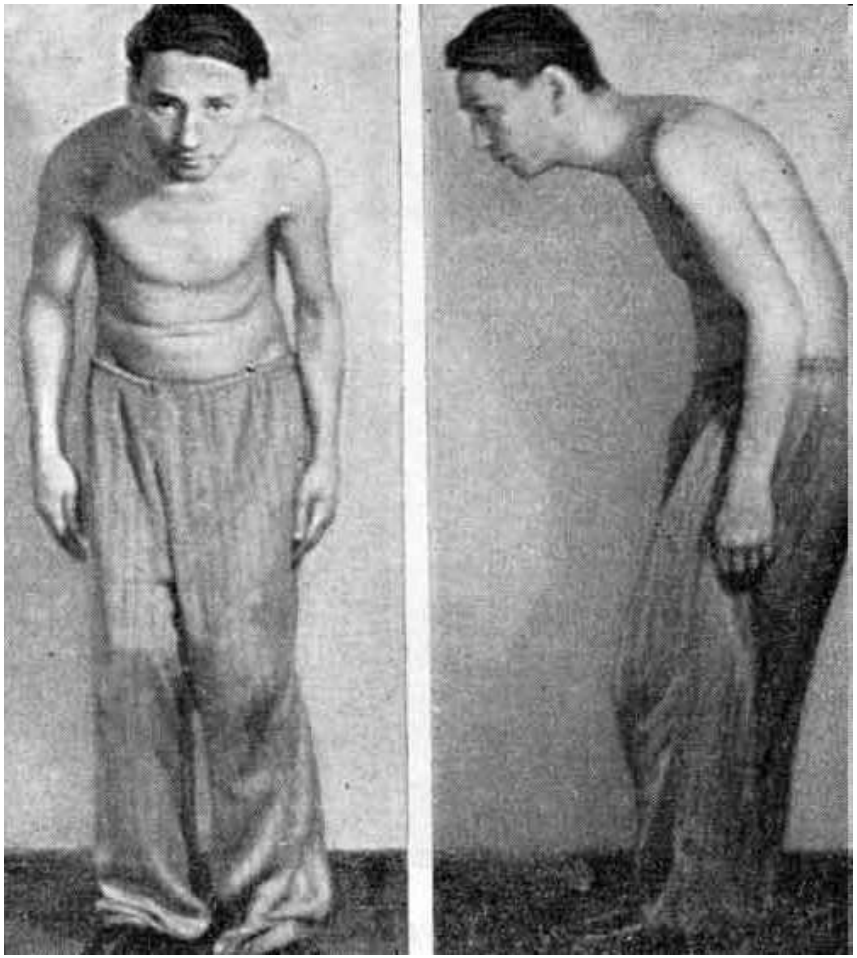
http://www.ncbi.nlm.nih.gov/books/NBK272/

Do you recognize somebody?

Hyperkyphosis measured by kyphometer

http://www.aceproindia.com

“Suppliant posture”



http://www.medkurs.ru/section70/section495/35363.html

http://travmatolog.net/12902.htm

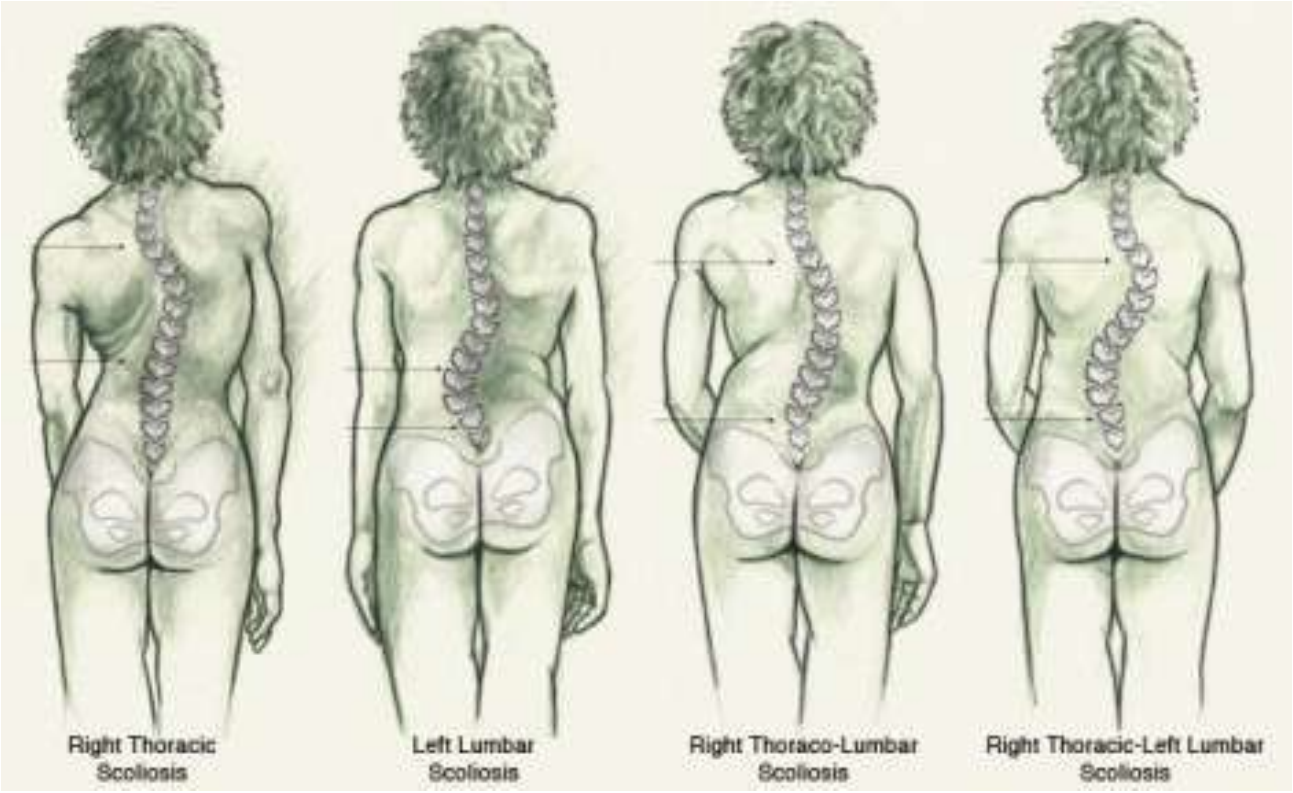
Thoracic spine exam
Scoliosis

- Scoliosis is defined as a lateral curvature of the spine with rotation of the vertebrae about the vertical axis.
- Classic findings of scoliosis on examination are shoulder and scapular asymmetry, rib prominence on forward flexion (Adams test), and asymmetry of waist and trunk

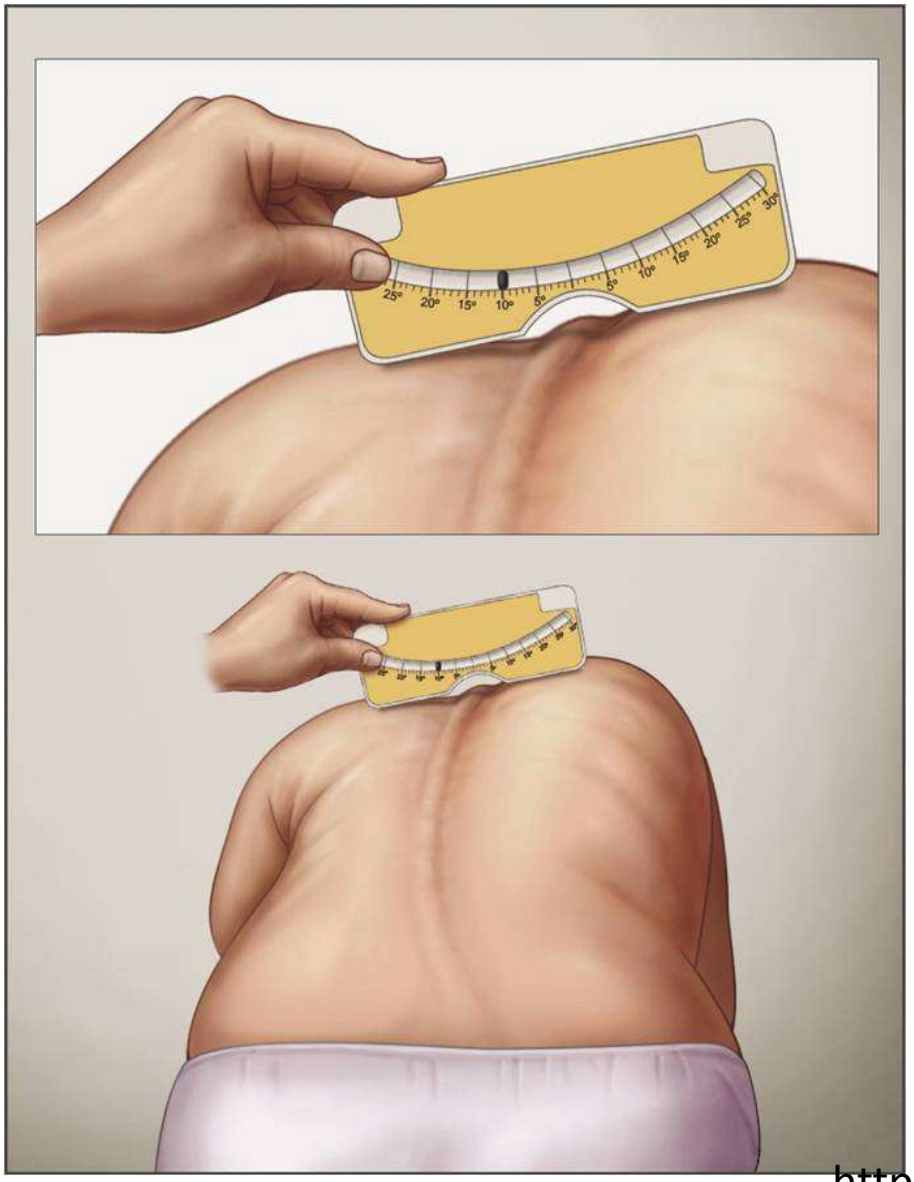
Variants of scoliosis

The presence of scoliosis can best be judged by determining if a list is present. If the first thoracic vertebra is not centered over the sacrum, the patient is said to have a list. This can easily be measured by dropping a perpendicular from the first thoracic vertebra and measuring how far to the right or left of the gluteal fold it falls. If a list is demonstrated, scoliosis must be present.

http://www.ncbi.nlm.nih.gov/books/NBK272/?report=reader



Inclinometer Test

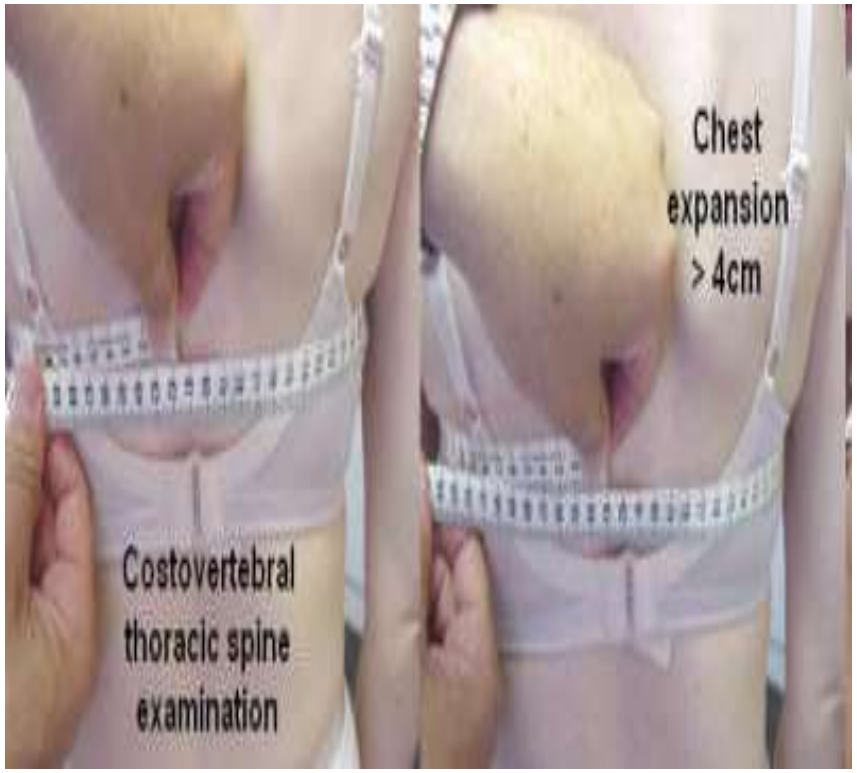


- The patient is bent forward with the knees in extension and the arms reaching toward the feet with the palms together. The inclinometer is placed at the apex of the rib deformity, and the view is of the “horizon” of the spine.

http://blogs.nejm.org/now/wp-content/uploads/2013/02/PITScoliosis.jpg

Thoracic spine exam
Costovertebral joint motion

- **Move**
- Costovertebral joint motion can be measured **chest expansion.**
- **Using a tape measure the change in circumference of the patient's chest at the level of the 4th intercostal space is recorded.**
- Patient instructions **"Please take a deep breath in as far as you can and then breathe out as far as you can and continue to breathe out until I tell you to stop"**
- Limitation of chest expansion is where the patient's measure recorded in centimetres is less than the average normal value by a minimum of 2.5cm correcting for age and gender.



Age	18-24		25-34		35-44		45-54		55-64		65-74		75+	
Sex	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Mean (cm)	7.0	5.5	7.5	5.5	6.5	4.5	6.0	5.0	5.5	4.0	4.0	4.0	3.0	2.5

http://www.medicareaustralia.gov.au/provider/pbs/drugs1/files/ma_chest_expansion_normal.pdf

The lumbar spine exam

Look

- Observe the patient both standing and sitting from behind and from the side to check for:
- Lordosis

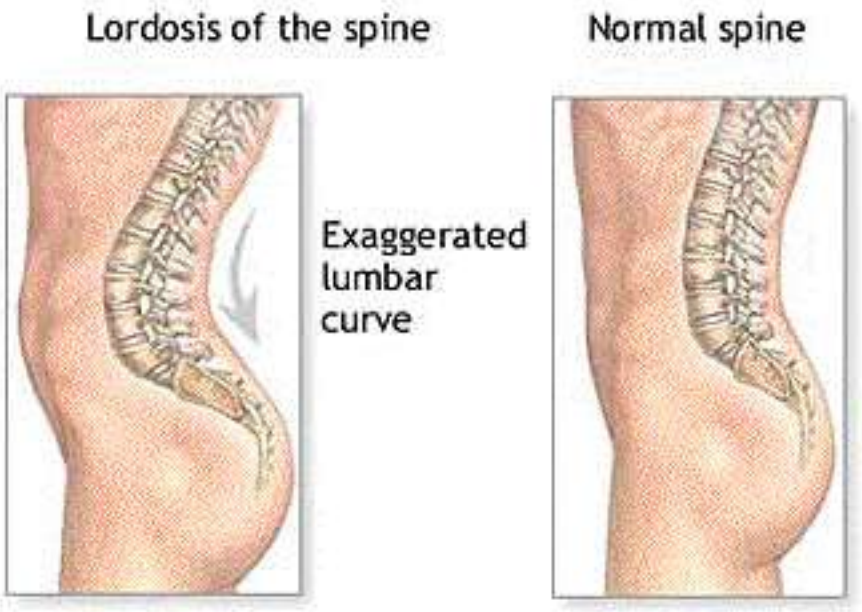
Feel

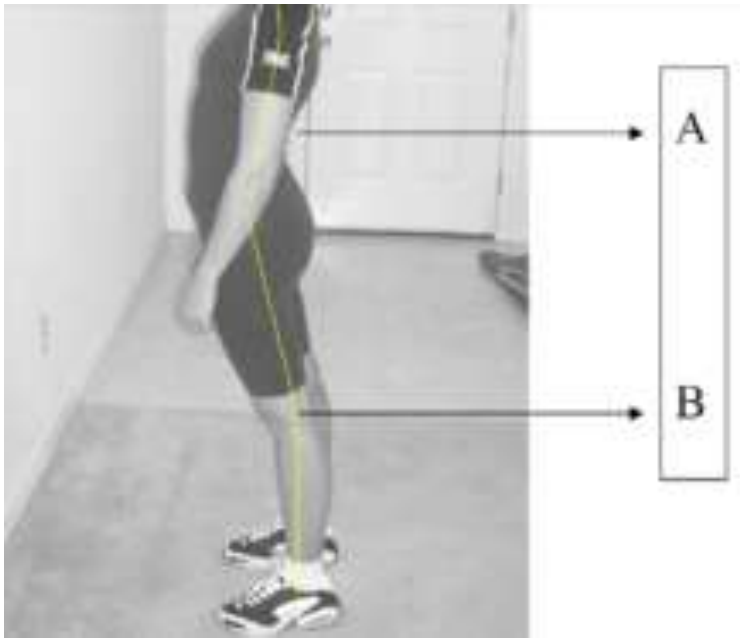
- Examine the back and palpate for areas of muscle spasm and tenderness.
- Lightly percuss over the spinous processes throughout the spine to check further for tenderness.

http://www.ncbi.nlm.nih.gov/books/NBK272/

The lumbar spine exam
Hyperlordosis

- Lordosis is the inward curvature of a portion of the lumbar and cervical vertebral column.
- Hyperlordosis is a condition in which normal lordosis, or curvature in the lumbar spine, is over exaggerated.

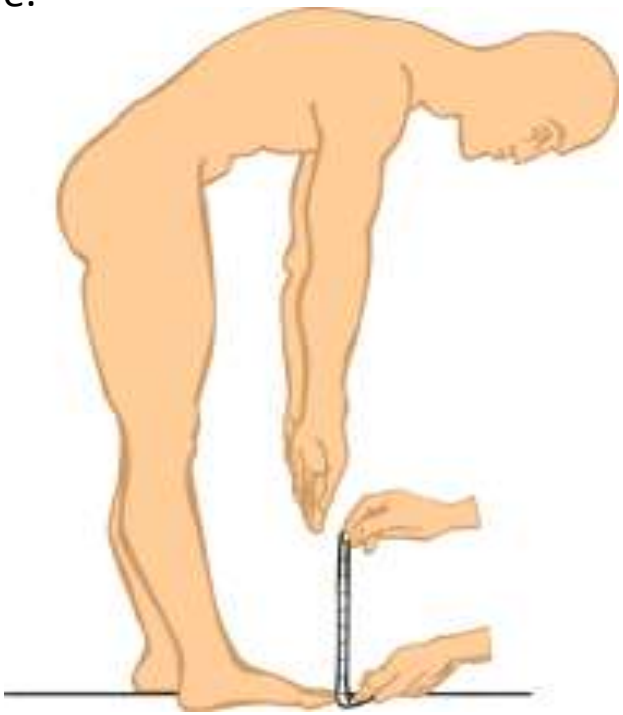




http://en.wikipedia.org/wiki/Lordosis

The lumbar spine exam
Tomayer's test

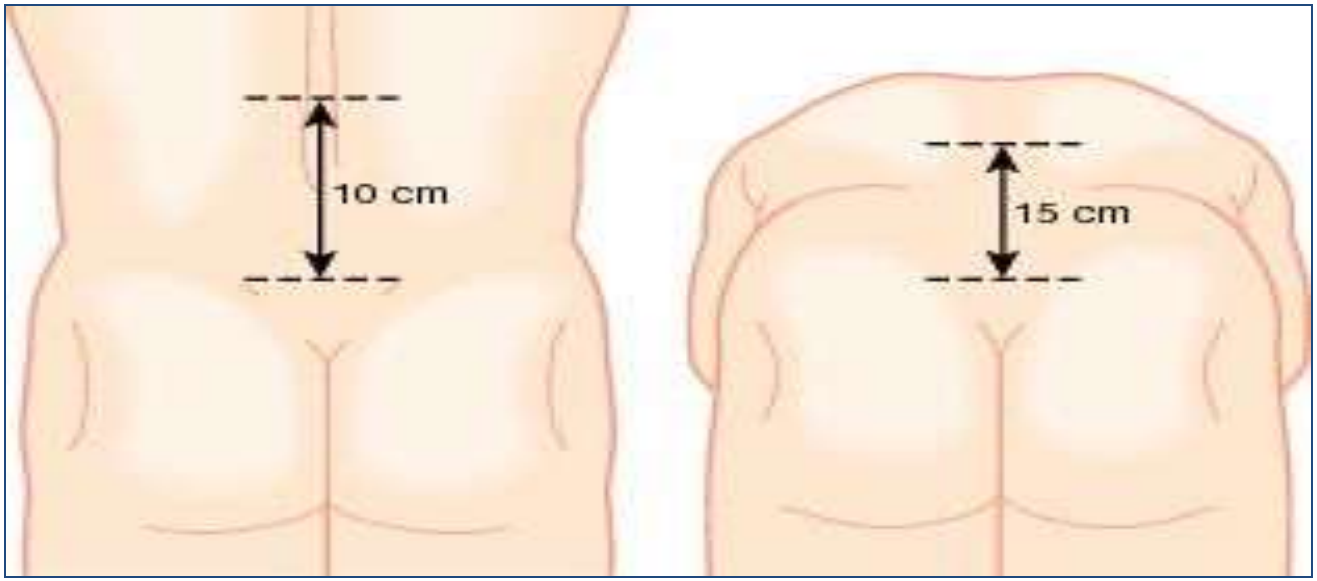
- To evaluate the overall mobility of the spine. Determined by measuring the distance in centimeters from the end of the middle fingers outstretched arms to the floor with a maximum slope ahead. This distance is normally "0" and increases when restricted bending the spine.



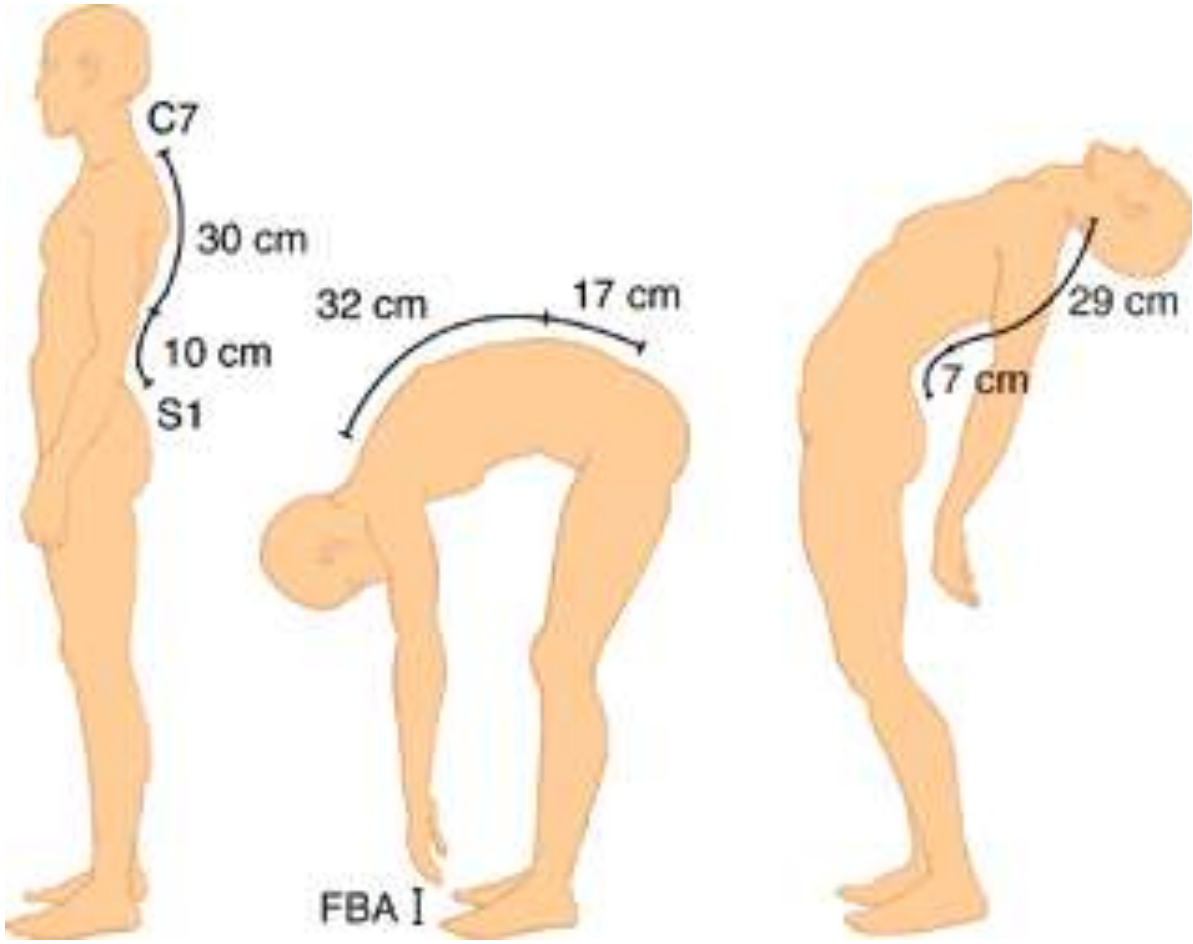
http://intranet.tdmu.edu.ua/data/kafedra/internal/vnutrmed2/classes_stud/en/med/lik/ptn/Internal%20medicine/6%20course/07.%20Management%20of%20patients%20with%20arthritic%20syndrome..htm

The lumbar spine exam
Schober's test

Schober's test: to identify limitation in of motion in the lumbar spine. Find LV of the lumbar vertebrae, put a dot, measure upwards a 10 cm and make a second mark. At maximum lean forward in healthy subjects, this distance increases for 4-5 cm, and in patients with ankylosing spondylitis this distance do not enlarge.

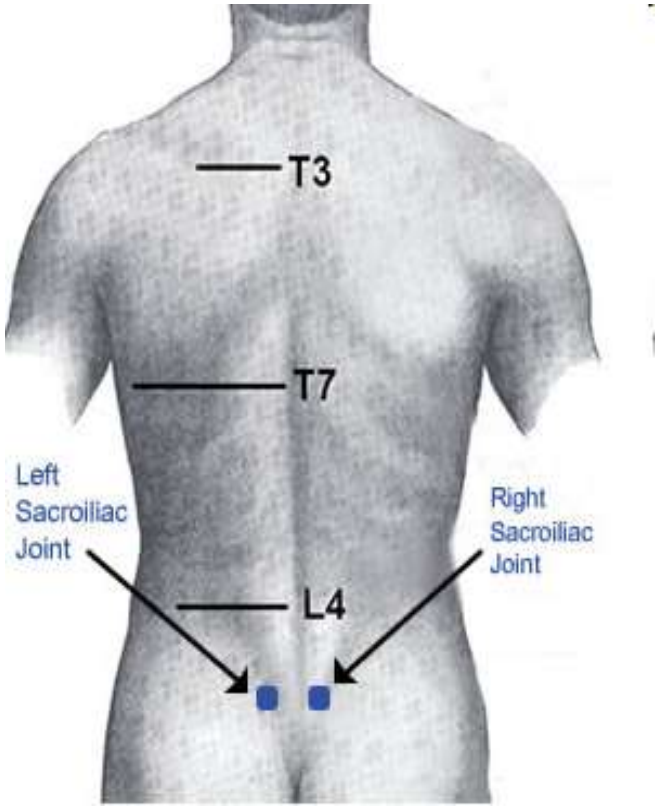


http://intranet.tdmu.edu.ua/data/kafedra/internal/vnutrmed2/classes_stud/en/med/lik/ptn/Internal%20medicine/6%20course/07.%20Management%20of%20patients%20with%20arthritic%20syndrome..htm


C7
30 cm
10 cm
S1
32 cm
17 cm
FBA I
29 cm
7 cm

Sacroiliac joints examination

The sacroiliac joints are examined by palpation and by light fist percussion for tenderness. This may produce pain in a sacroiliac joint when inflammation is present.



http://www.ncbi.nlm.nih.gov/books/NBK272/

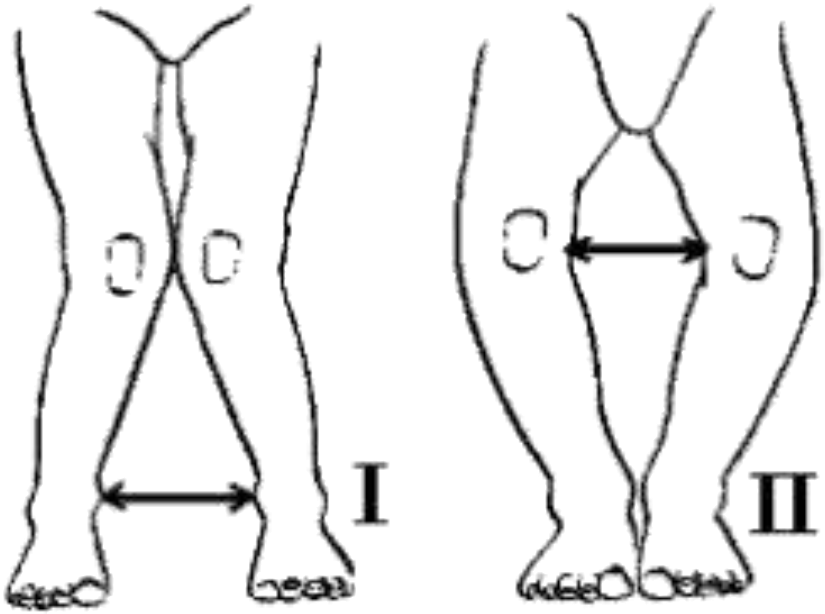
Palpation technique sacroiliac joints

The knee exam

- The knee is inspected for swelling, deformity and posteriorly for popliteal (Bakers) cyst.
- Regional muscle atrophy of quadriceps is common in derangement of the knee. Feel for heat or swelling in the joint. Swelling can be bony or soft with synovitis. Foreign bodies may be felt.
- Knee extension should be 0 degrees, flexion 120-150 degrees. Hyperextension greater than 10 degrees is seen with hypermobility.

http://www.ncbi.nlm.nih.gov/books/NBK272/

Knee exam



Genu valgum

Genu varum

(http://www.orthoseek.com/articles/img/bowl1.gif)

Instability - Example

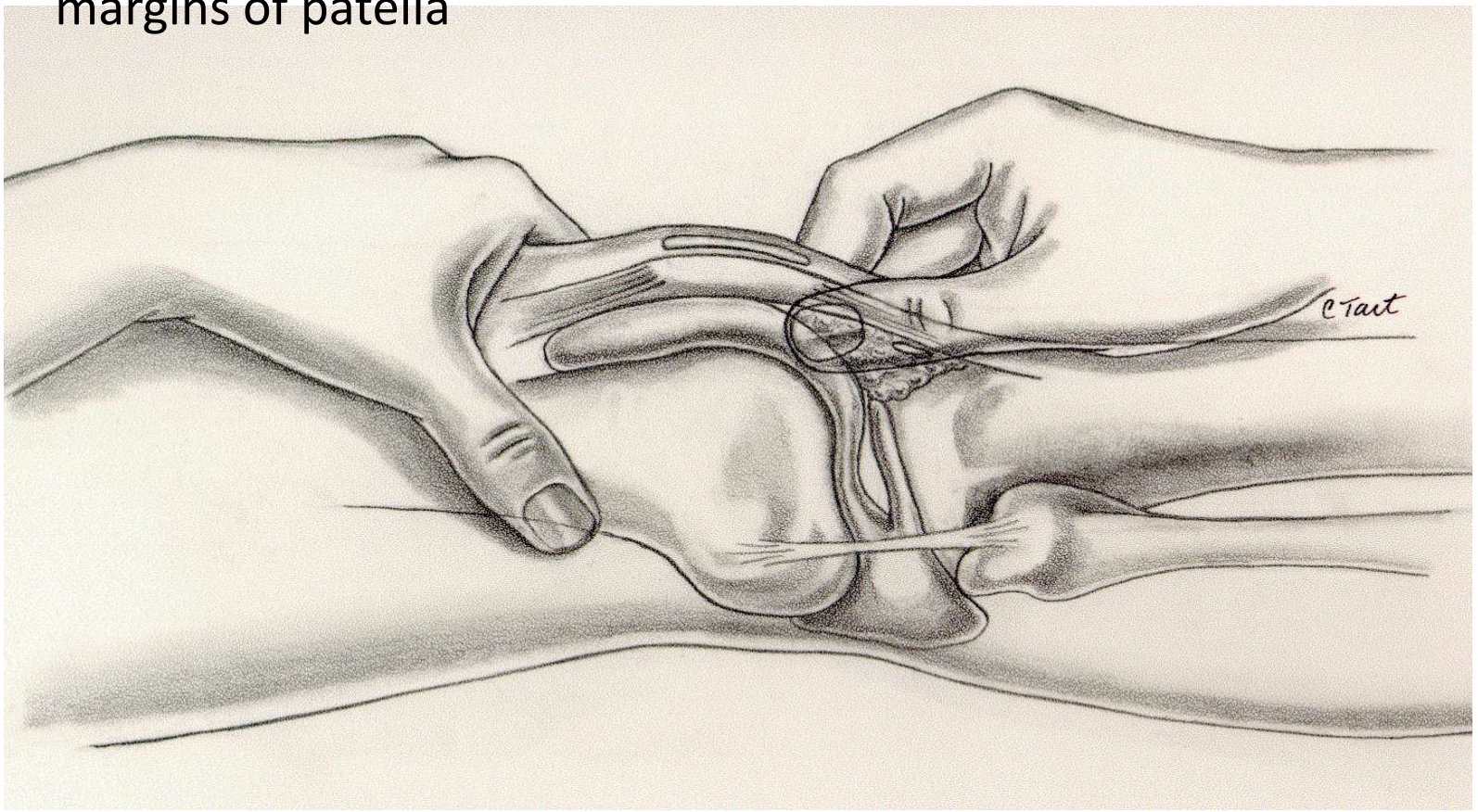
Patellar dislocation

http://www.carletonsportsmed.com/Libraria_medicus/PF_patella_dislocation.JPG

Asymmetric, Inflammatory Oligoarthritis

Knee Joint Exam

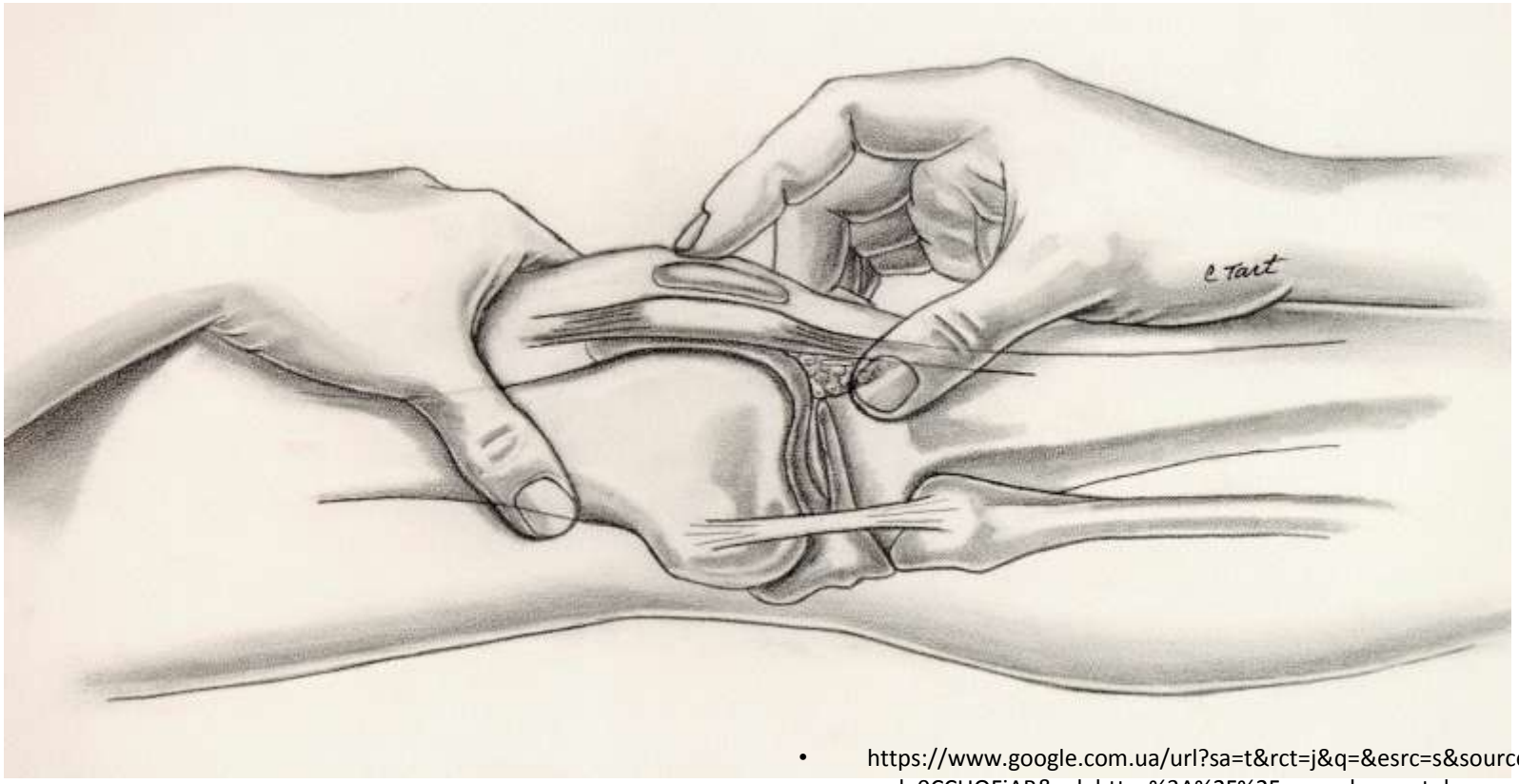
- Palpate synovial reflection at inferomedial and inferolateral margins of patella



- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

Prepatellar Bursa

- Palpate anterior surface of patella



- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

Hip exam 1

- Hip is a ball-and-socket joint and consequently capable of complex motions of flexion, extension, abduction, adduction, and rotation.
- The patient is observed in a standing position for tilt of the pelvis, as noted above in the spinal examination. A tilt may be due to disease of the hip or to unequal leg length. The gait is observed to detect a limp that might be secondary to pain in the hips, or limitation of motion due to structural damage to the joint itself or to the musculature and innervation about the joint.
- Ask the patient to lie supine on the table and to actively flex first one hip and then the other with the opposite hip fully extended. Flexion with the knee straight should be possible to 90 degrees and, with the knee bent, to 120 degrees or greater.
- Tests for abduction of the hip are easier to perform passively. Place the left hand on the crest of the ileum and grasp the right leg with the right hand. Gradually abduct the leg as far as possible without producing motion of the pelvis. Abduction should be possible to 40 degrees or greater. Perform the same maneuver on the left leg.

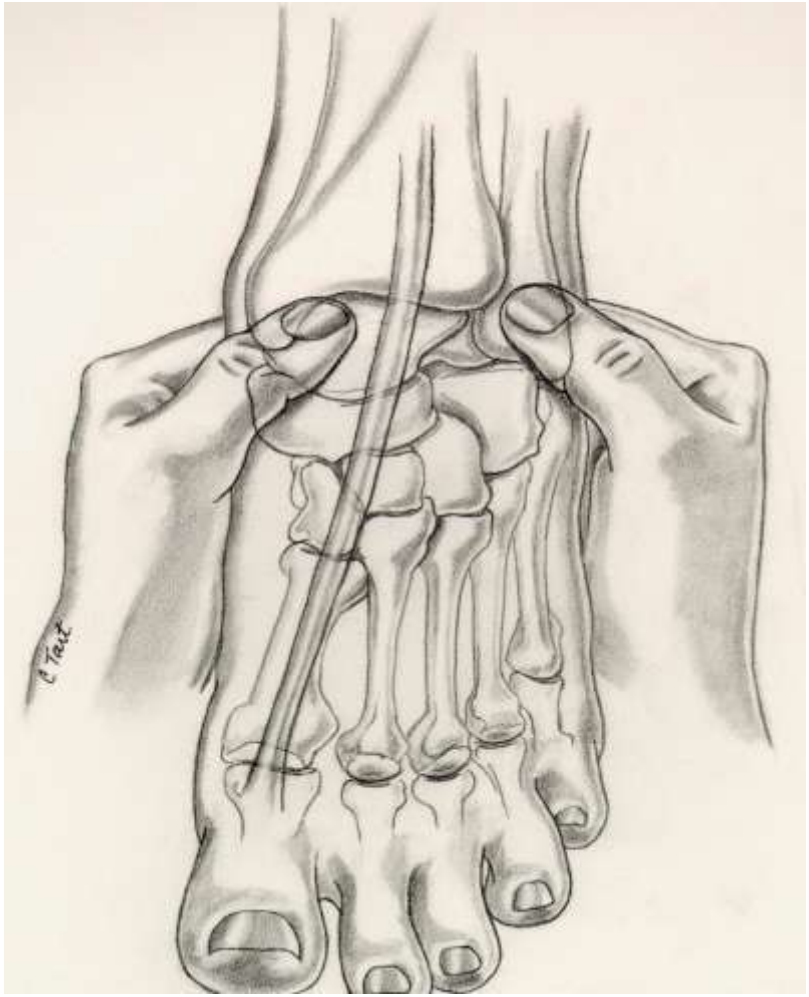
http://www.ncbi.nlm.nih.gov/books/NBK272/

Hip exam2

- Rotation may be measured with both the knee and the hip flexed at 90 degrees. The opposite leg should be fully extended. Internal rotation is measured by moving the ankle outward, which should be possible to 40 degrees. External rotation is measured by moving the ankle inward, which should be possible to 45 degrees or greater. Rotation of the hip may also be measured with the patient lying prone on the table and the hip fully extended. In this case the knee on the side being measured should be flexed to 90 degrees and fully extended on the opposite side.
- Flexion contracture of the hip is detected by flexing the opposite hip until the lumbar lordosis is flattened on the table. Ask the patient to cooperate in this examination by holding the flexed knee. The leg on the side of the hip being examined is then slowly lowered to the table. If a contracture exists, this maneuver cannot be performed completely.
- Hyperextension of the hip can be checked by asking the patient to lie prone on the table and slowly lifting the leg being examined; this should be possible to 15 degrees or greater.

http://www.ncbi.nlm.nih.gov/books/NBK272/

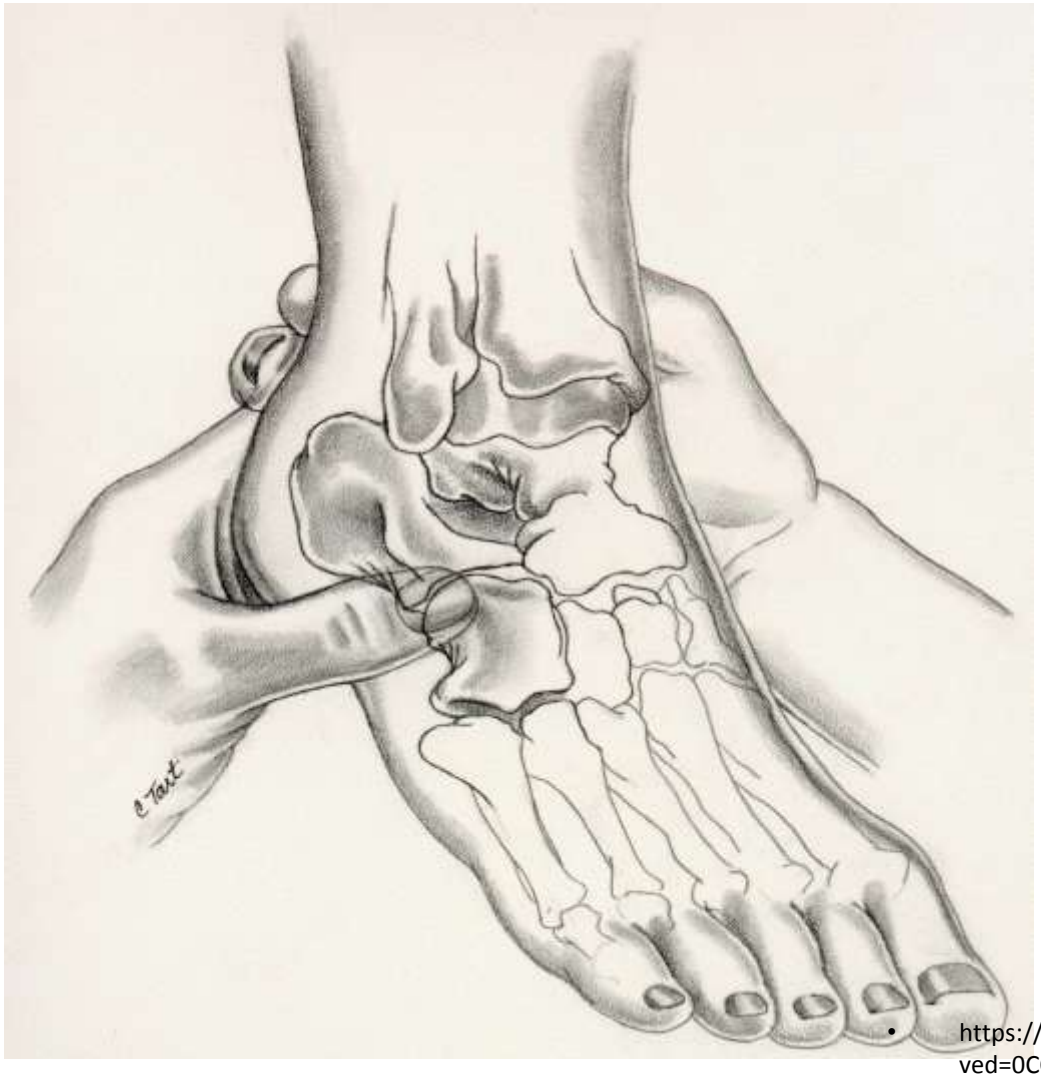
Ankle Exam



- For tibiotalar joint, palpate 1 cm anterior to distal medial malleolus just medial to extensor tendon and palpate anterior to distal fibula

- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

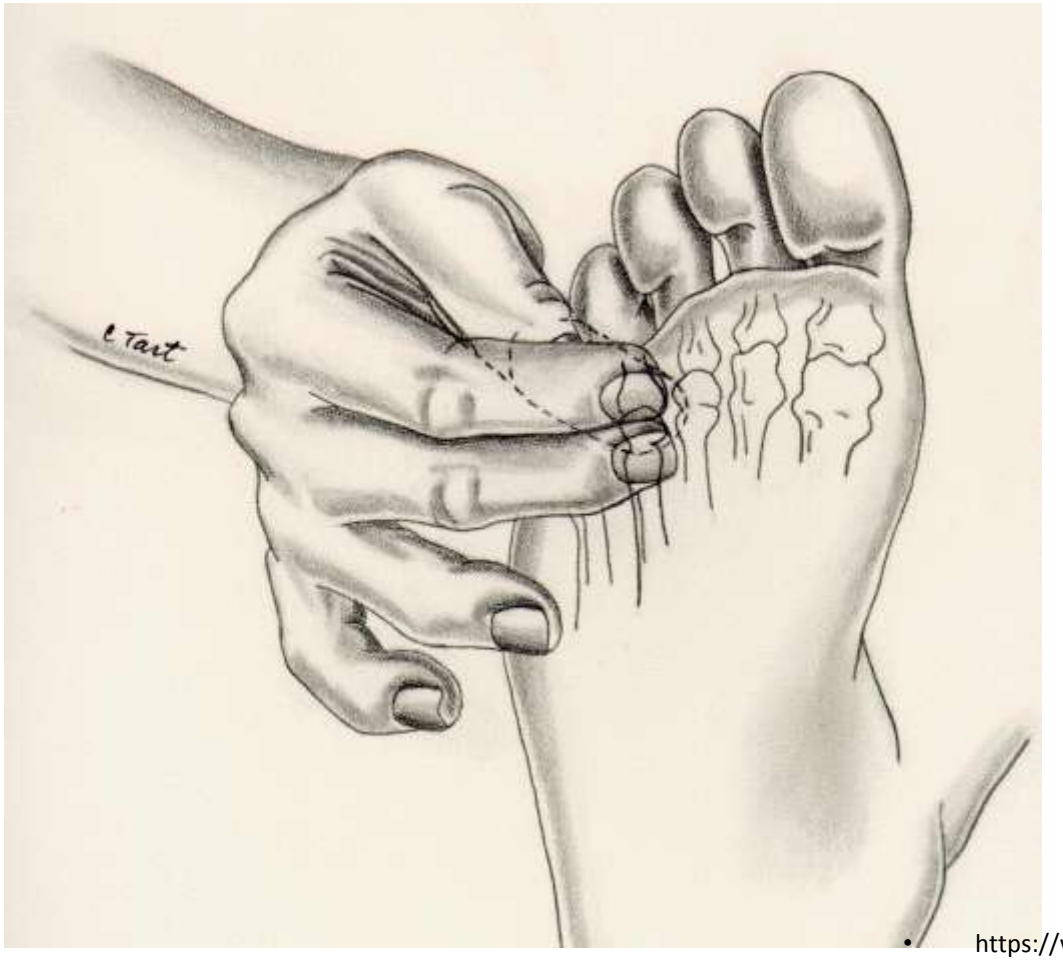
Lateral Foot Exam



- Calcaneocuboid joint is 2 cm distal to fibula and 1 cm anterior

https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

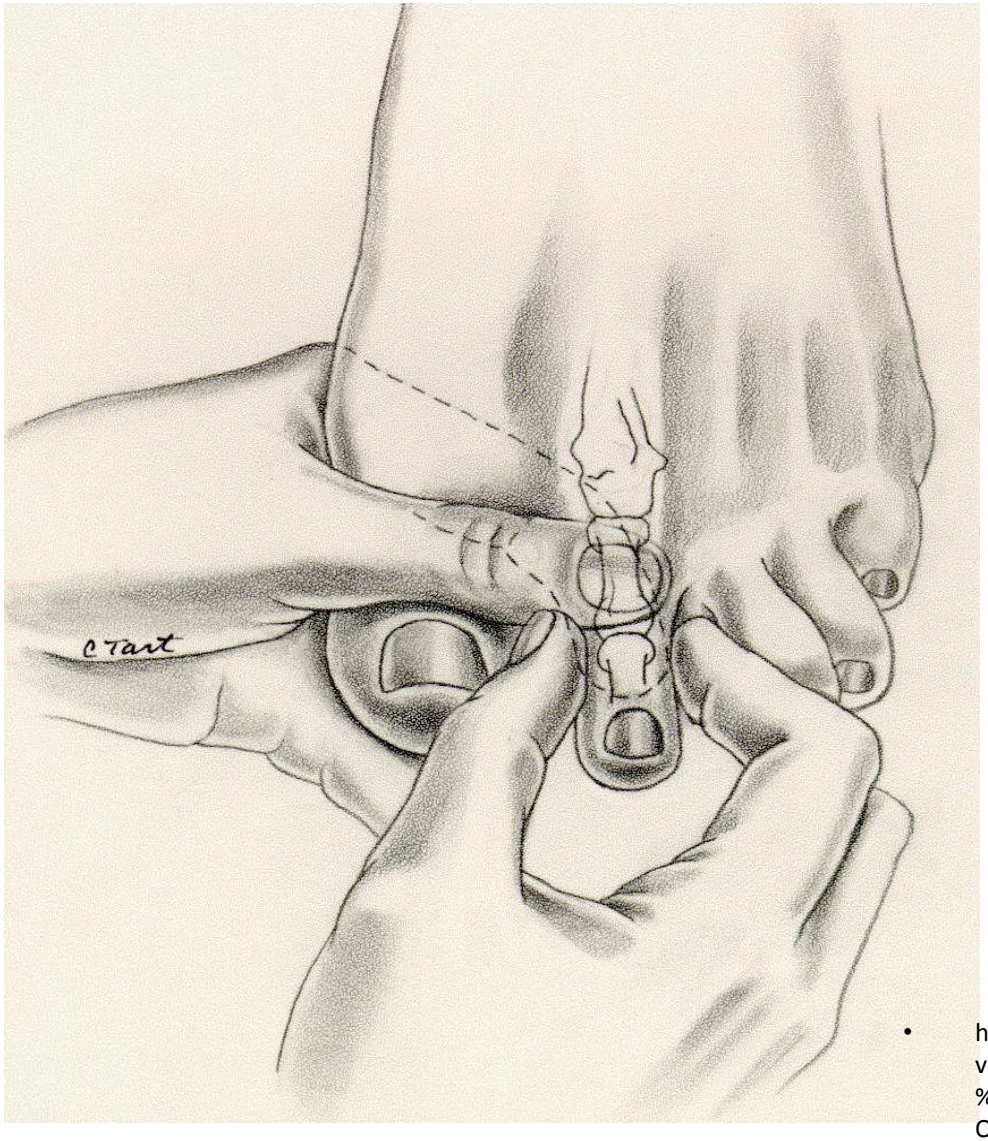
Metatarsophalangeal Exam



- Palpate MTP joint with second and third fingers on plantar surface while stabilizing joint with thumb on anterior surface

https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

Interpharyngeal Joints of Toes



- Palpate lateral sides of joint line with thumb and index finger
- Palpate anterior and plantar surfaces with thumb and index finger of opposite hand

- https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCUQFjAB&url=https%3A%2F%2Fwww.rheumatology.org%2Feducation%2Fresources%2Fhir%2F9_jt_exam_inj.ppt%2F&ei=ZlQMVLXuHKLMygO3w4LQDQ&usg=AFQjCNGdPN14-wUSj8OqfEUfidtFhvkPHw&sig2=J7rXj1OGm_8a5AZZLxoWpQ&cad=rjt

Soft tissue swelling

- Soft tissue swelling – generalised puffiness is a common, non-specific sign in the early stages of connective tissue diseases.
- Dactylitis is a diffuse cylindrical swelling of one or two digits. It can be due to swelling specifically of the flexor tendon, as occurs in psoriatic arthritis.

http://www.thejce.com/journals/9/32-43%20Ingle%20and%20Bradlow%20-%20Rheumatological%20Hand.pdf

Enthesitis in Reactive Arthritis

Yolanda Farhey, MD
Clinical Approach to Acute Arthritis

The end.
Till we meet again!