SAINT LOUIS UNIVERSITY

THESE "JOINTS" ARE LEGAL IN ALL 50 STATES: EVALUATION AND PRESENTATION FOR SHOULDER, HAND HIP, AND KNEE IN PRIMARY CARE

BY:

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OBJECTIVES

- THE PARTICIPANTS WILL DEMONSTRATE IMPROVED KNOWLEDGE OF MSK ANATOMY OF THE SHOULDER, HAND, HIP, & KNEE
- THE LEARNER LEARN PROVOCATIVE TESTING TO HELP DIAGNOSE PATHOLOGY OF THE DISCUSSED JOINTS
- THE LEARNER WILL RECOGNIZE THOSE FINDINGS WHICH MAY REQUIRE A MORE URGENT ORTHOPEDIC REFERRAL

TARGET AUDIENCE:
NP, PA, PT, PTA

INTRODUCTION

- MSK-RELATED COMPLAINTS ARE THE MOST COMMON REASON PATIENTS VISIT PRIMARY CARE PHYSICIANS AND EMERGENCY DEPARTMENTS IN THE UNITED STATES, ACCOUNTING FOR 10 PERCENT TO 28 PERCENT OF ALL PRIMARY CARE VISITS (AAOS, 2015).
- 70% OF ALL NEW MUSCULOSKELETAL INJURIES ARE TREATED BY PRIMARY CARE
- THE MOST COMMON DIAGNOSES IN MUSCULOSKELETAL WERE KNEE PAIN, BACK PAIN, SHOULDER PAIN, AND HIP PAIN.

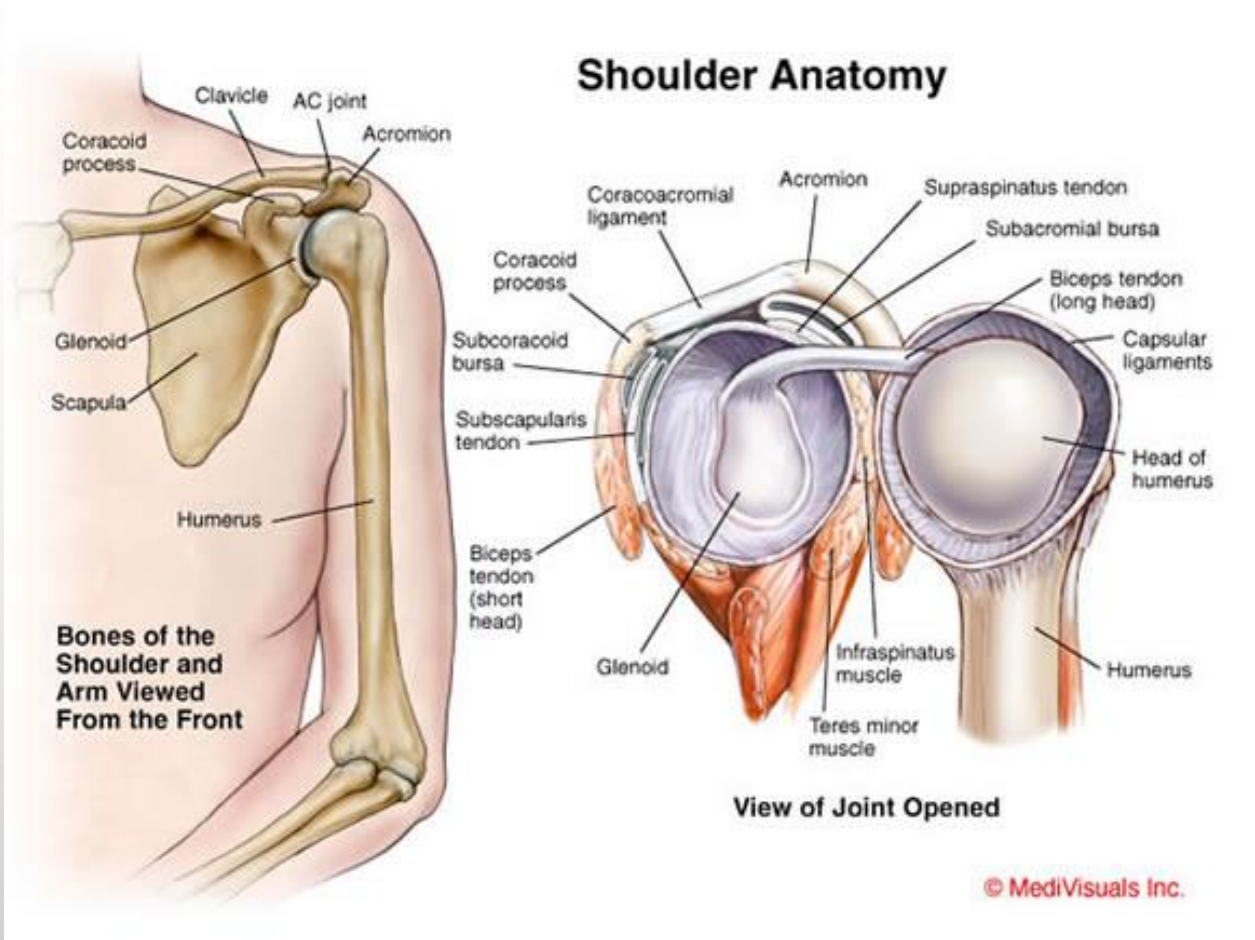
DISCLOSURE

- I HAVE NO FINANCIAL DISCLOSURES AS IT RELATES TO THIS PRESENTATION.
- I RECEIVE A SMALL HONORARIUM FOR THE PRESENTATION ONLY

Pathology	Causes
Bursitis	Most common is sub-acromial bursa. Common with repetitious overhead activities. May also be exacerbated form early-moderate acromial OA. Commonly associated with tendonitis as well.
Tendonitis	May be acute from overuse or weekend warrior. Can also be from chronic use and OA such as work overhead in the presence of degenerative findings
Tendon Tears	Maybe partial or full thickness. Can be acute or from chronic wear and tear. Most common are RC and biceps tendon
Impingement	When the acromion has increased slope (type 2 or 3) and or significant OA of the AC joint this is very common. Think about a rope pulled over a rock.
Instability	Can be from trauma that was never addressed. Labrum is a common culprit for this finding. Joint wants to subluxate and in some cases completely dislocate.
Osteoarthritis (OA)	May be found in AC joint or glenohumeral joint
Fracture	Most common clavicle, humerus, and scapula

SHOULDER NORMAL ANATOMY

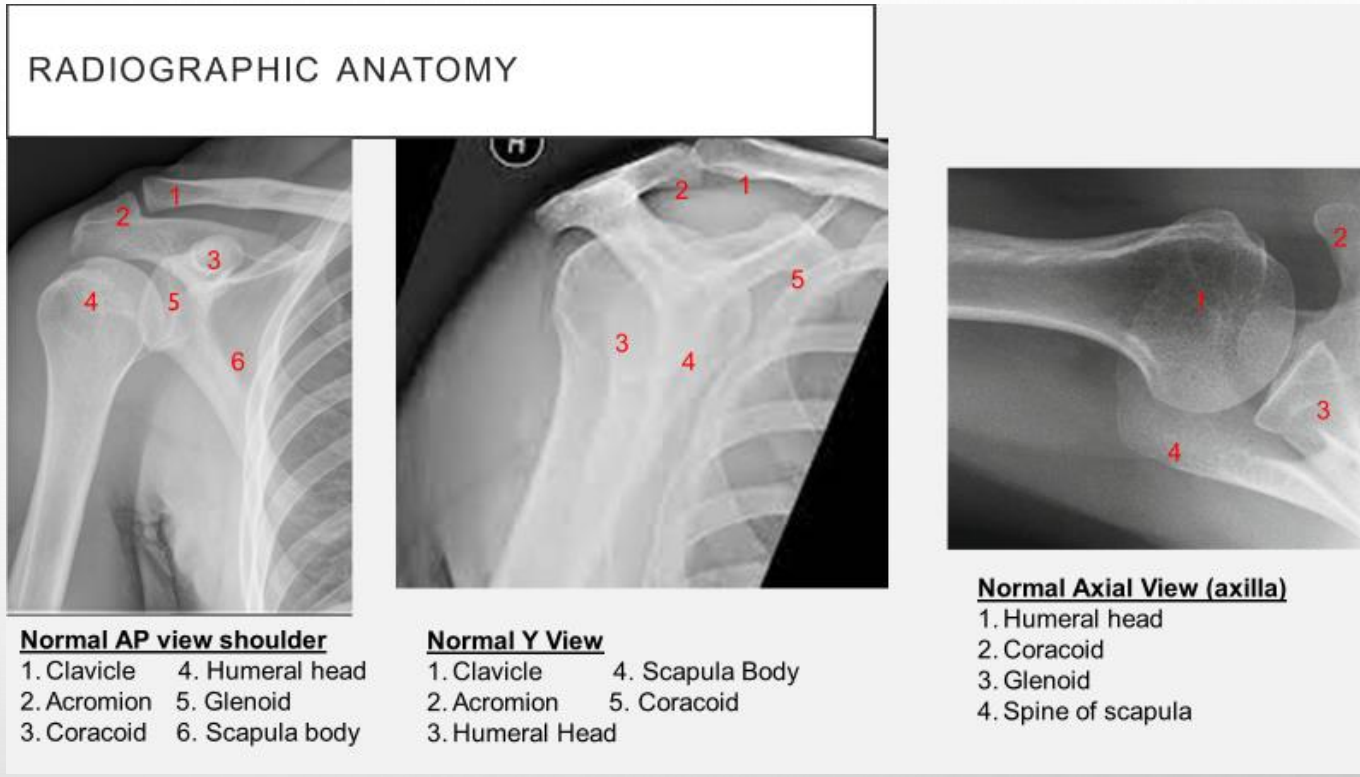
- MAJOR BONY ANATOMY INCLUDES SCAPULA, CLAVICLE, HUMERUS, GLENOID, GLENO-HUMERAL JOINT, ACROMIOCLAVICULAR (AC) JOINT, ACROMION
- MAJOR SOFT TISSUE STRUCTURES INCLUDE LABRUM, DELTOID, SUPRASPINATUS, INFRASPINATUS, TERES MINOR, TERES MAJOR, SUBSCAPULARIS



SHOULDER

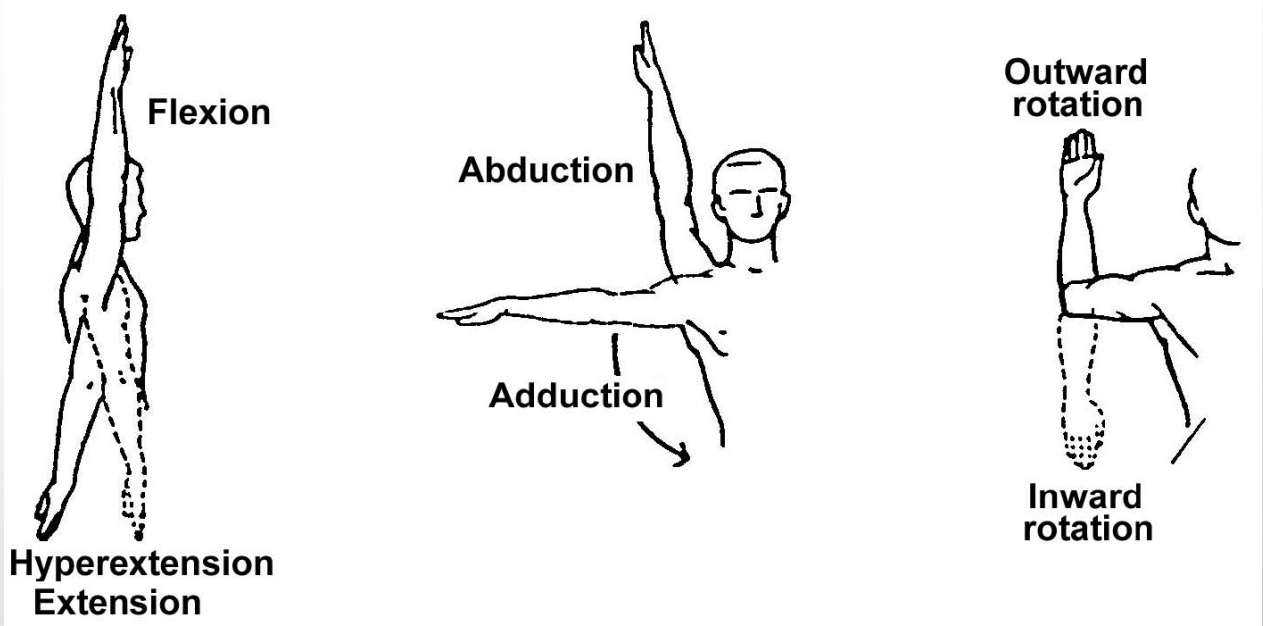
- THE ROTATOR CUFF IS FORMED BY THE "SITS" MUSCLE GROUPS
- SUPRASPINATUS (80% RESPONSIBLE)
- INFRASPINATUS
- TERES MINOR
- SUBSCAPULARIS

- IT IS THE MUSCULOTENDINOUS JUNCTION AROUND THE GLENOHUMERAL JOINT FROM THE ABOVE THAT PROVIDE SUPPORT FOR THE SHOULDER.



SHOULDER PHYSICAL EXAM

- INSPECTION SHOULD ALWAYS BE YOUR FIRST STEP IN THE PHYSICAL EXAM PROCESS. EVALUATE FOR RASH, LESIONS, ATROPHY, CARRYING ANGLE OF THE JOINT, AND FOR ANY VISUAL SPASM OR FASCICULATION
- RANGE OF MOTION OF THE SHOULDER
- FORWARD FLEXION 180 DEGREES
- HYPEREXTENSION MAX 50 DEGREE
- ADDUCTION ABOUT 50 DEGREE
- ABDUCTION 180 DEGREES
- INTERNAL ROTATION 90 DEGREES (ARM BEHIND BACK)
- EXTERNAL ROTATION 90 DEGREES (ARM BEHIND HEAD)



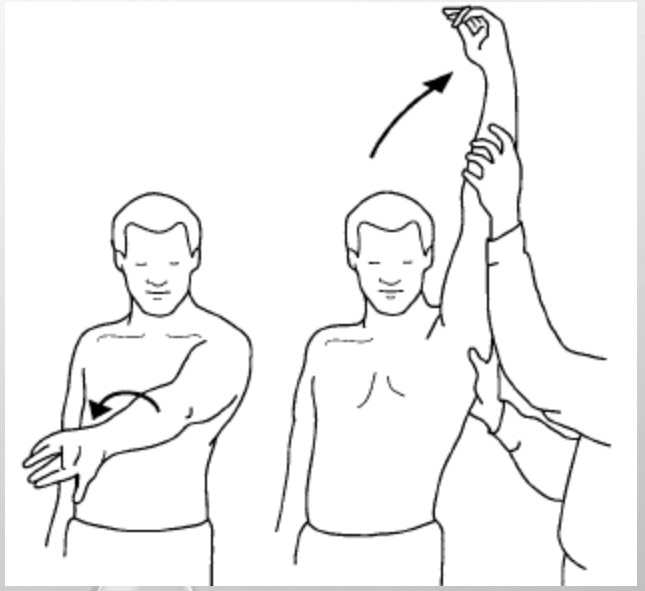
SHOULDER PROVOCATIVE TESTING

APLEY SCRATCH TEST: PATIENT REACHES FOR THE SUPERIOR IPSILATERAL SCAPULA THEN INFERIOR ASPECT OF THE CONTRALATERAL SIDE

(DECREASED ROM INDICATIVE POSSIBLE RC PATHOLOGY)

NEER'S SIGN: HAVE THE PATIENT PLACE THE ARM IN FRONT OF THEM WITH THUMB POINTED TO WARDS THE FLOOR. TAKE THE ARM INTO FULL EXTENSION.

(REPRODUCTION OF PAIN CONSISTENT WITH SUB ACROMIAL IMPINGEMENT)

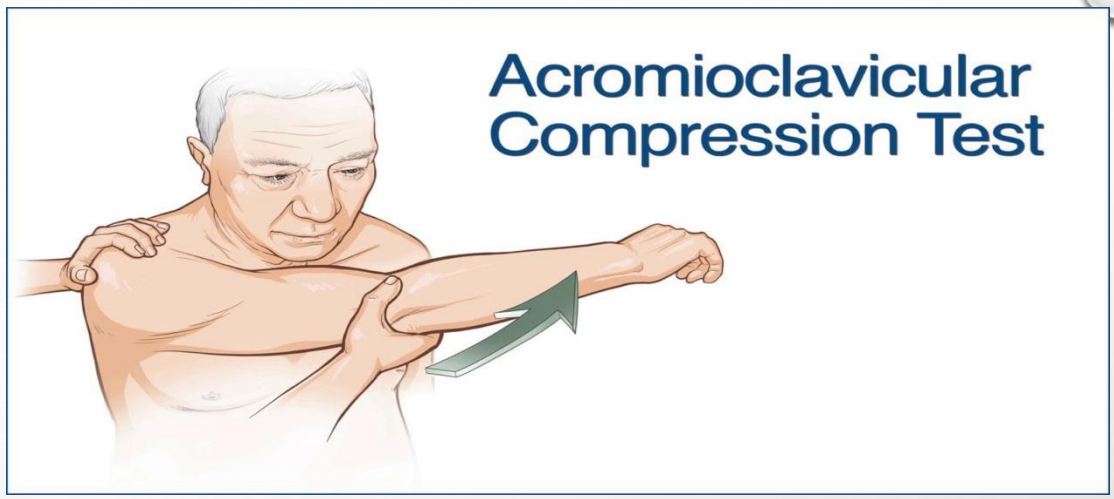


SHOULDER CONTINUE

- **HAWKINS TEST** IS PERFORMED BY FLEXING THE ARM FORWARD TO 90 DEGREES THEN INTERNALLY ROTATING THE ARM
- (PAIN IS CONSISTENT WITH IMPINGEMENT AS WELL)
- **DROP ARM TEST** IS WHEN YOU ASSIST THE PATIENT PAST 90 OF ARC THEN HAVE THEM SLOWLY ABDUCT THE ARM. IF IT DROPS PAST 90 ABNORMAL (ROTATOR CUFF TEAR(SUPRASPINATUS))

SHOULDER CONTINUE

- **CROSS ARM TEST** IS WHEN THE PATIENT FORWARD FLEX THE ARM THEN PERFORMS ADDUCTION. (PAIN INDICATES AC PATHOLOGY)

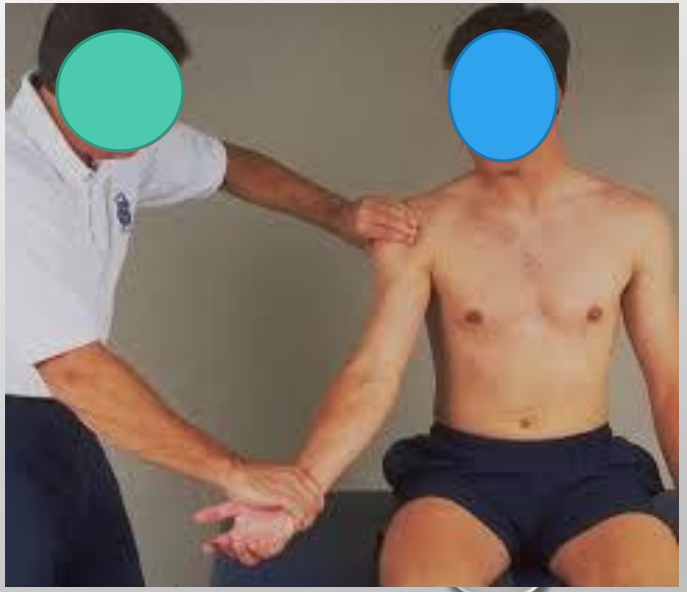


- **APPREHENSION TEST** IS WHEN YOU TAKE THE PATIENTS ARM IN AN EXTERNAL ROTATION POSITION AND PLACE ANTERIOR FORCE (CAN SUGGEST ANTERIOR JOINT INSTABILITY)

SHOULDER CONT

- **YERGASON TEST** THE PATIENT'S ELBOW IS FLEXED TO 90 DEGREES WITH THE THUMB UP. THE EXAMINER GRASPS THE WRIST, RESISTING ATTEMPTS BY THE PATIENT TO ACTIVELY SUPINATE THE ARM AND FLEX THE ELBOW.(PAIN CONSISTENT WITH BICEP TENDONITIS)

SPEEDS TEST IS THE ELBOW IS FLEXED SLIGHTLY WITH THE FOREARM SUPINATED. RESIST THE PATIENT FROM FLEXION WHILE PALPATING THE PROXIMAL ASPECT OF THE BICEPS TENDON (PAIN INDICATES BICEPS TENDONITIS)



SHOULDER DIFFERENTIALS

Clinical Exam findings	Possible diagnosis
Inability to move actively or passively	Adhesive capsulitis, dislocation, fracture, infection
Muscle wasting	Rotator cuff tear, nerve entrapment
Pain radiating into the posterior scapula and down the arm	Evaluate for cervical pathology
Pain with throwing a ball, athletes	Consider joint instability, labral tear
Clunking sound/ pain worse with over head	Labral tear, impingement
Nocturnal pain	Impingement, cancer/ tumor

SEPARATION OF SHOULDER

- INVOLVES AN INJURY TO THE ACROMIAL-CLAVICULAR JOINT.
- USUALLY A RESULT IN DIRECT TRAUMA.
- GRADED IN SIX CLASSES. THE MAJORITY ARE THE FIRST TWO WHICH ARE TYPICALLY TREATED CONSERVATIVELY.

ASSESSMENT

- INSPECT FOR DEFORMITY OF THE AC JOINT. WILL MOST LIKELY SEE AN ELEVATION OF THE DISTAL CLAVICLE. FOOSH
- WILL BE TENDER TO PALPATION OF THE AC JOINT
- MINIMAL PAIN WITH FULL MOTION TO PASSIVE EXTERNAL INTERNAL ROTATION OF THE SHOULDER
- NEURO VASCULAR EXAM WILL BE NORMAL.
- X-RAY THE SHOULDER (IN DOUBT, X-RAY THE OTHER ONE)

TREATMENT

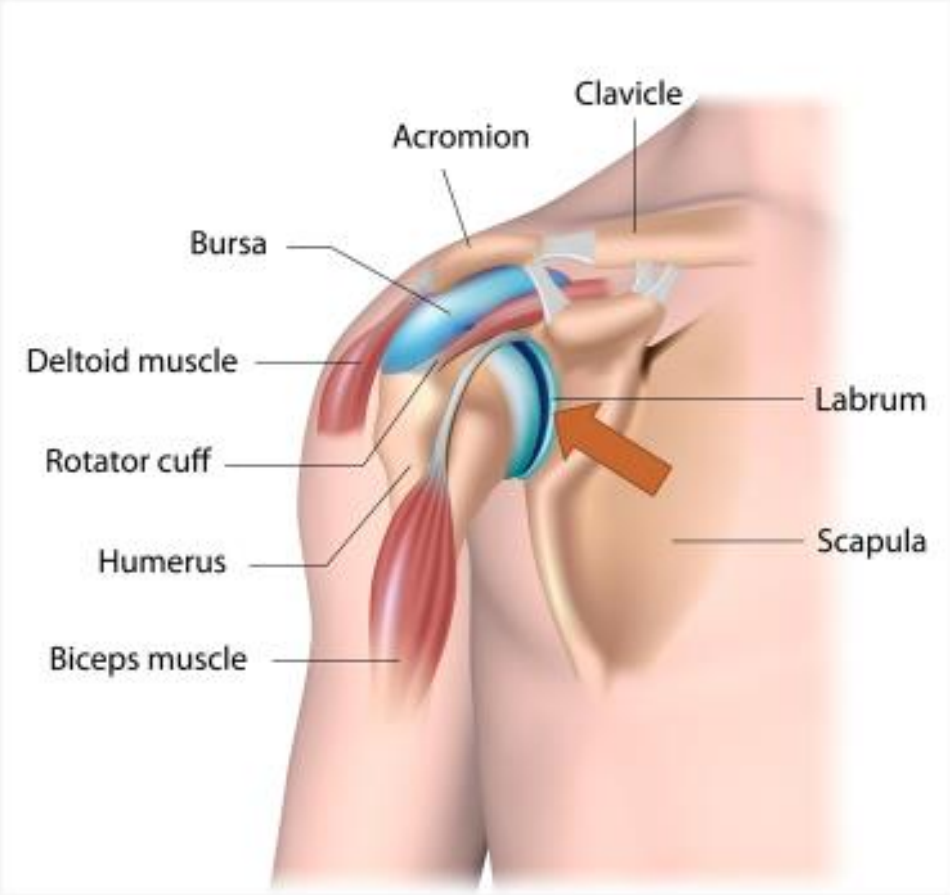
- THE MAJORITY WILL BE TREATED NON-OPERATIVELY, SO REASSURE MOST OF YOUR PATIENTS. MOST WILL BE PAIN FREE AND FULLY ACTIVE IN 4-6 WEEKS.
- TREAT WITH ICE, SLING AND PAIN MEDS INITIALLY.
- START EARLY MOTION AS THE PAIN SUBSIDES.
- ANTICIPATE RETURN TO SPORTS IN 2-6 WEEKS DEPENDING ON SEVERITY AND ACTIVITY.

GLENOID LABRAL TEARS

- PRESENTS AS A DULL ACHE IN THE CENTER OF THE SHOULDER FOLLOWING A TRAUMATIC EPISODE.
- SOMETIMES A SNAP MAY BE REPORTED ESPECIALLY WHILE TRYING TO THROW.
- DIAGNOSED EASIEST BY AN MRI ARTHROGRAM.
- MILD ONES MAY BE TREATED WITH TIME AND THERAPY OTHERWISE IT WILL NEED SURGICAL INTERVENTION.

SHOULDER INSTABILITY

- Shoulder instability can range from complete dislocation (traumatic and atraumatic) to subluxation (partially comes out then reduces).
- Generally, occurs when the supporting structures are injured (torn) or from repeatedly stress or injury.
- Many times the labrum (suction cup) which is a cartilage rim around the humeral head is torn.
- Chronic high-level use can also stretch the surrounding ligamentous structures that allow for the joint to become more unstable.
- Non-operative: PT/ activity modification.
- Operative: Labral repair, TSA (total shoulder arthroplasty).

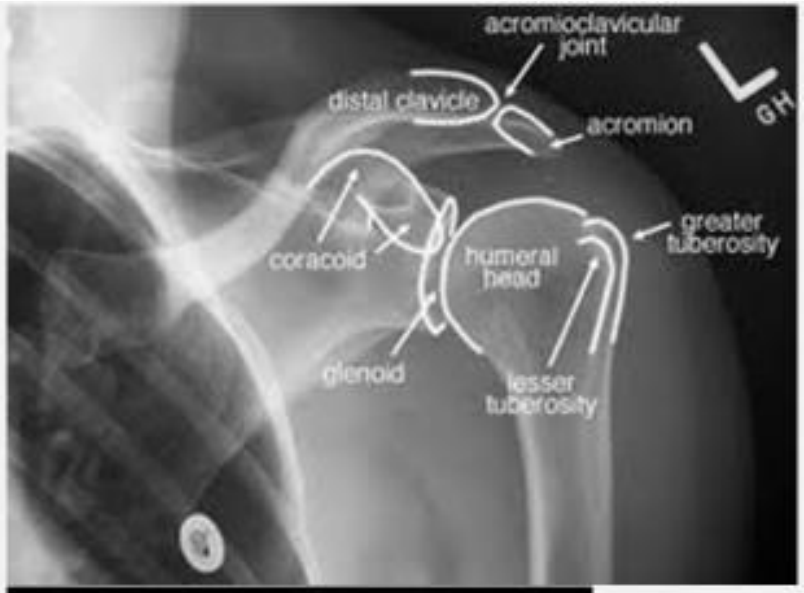


Shoulder Impingement

- A VERY COMMON CAUSE OF SHOULDER PAIN.
- THE RC IS COMPRESSED BETWEEN AC JOINT AND HUMERAL HEAD
- WORSE WITH OVERHEAD ACTIVITY

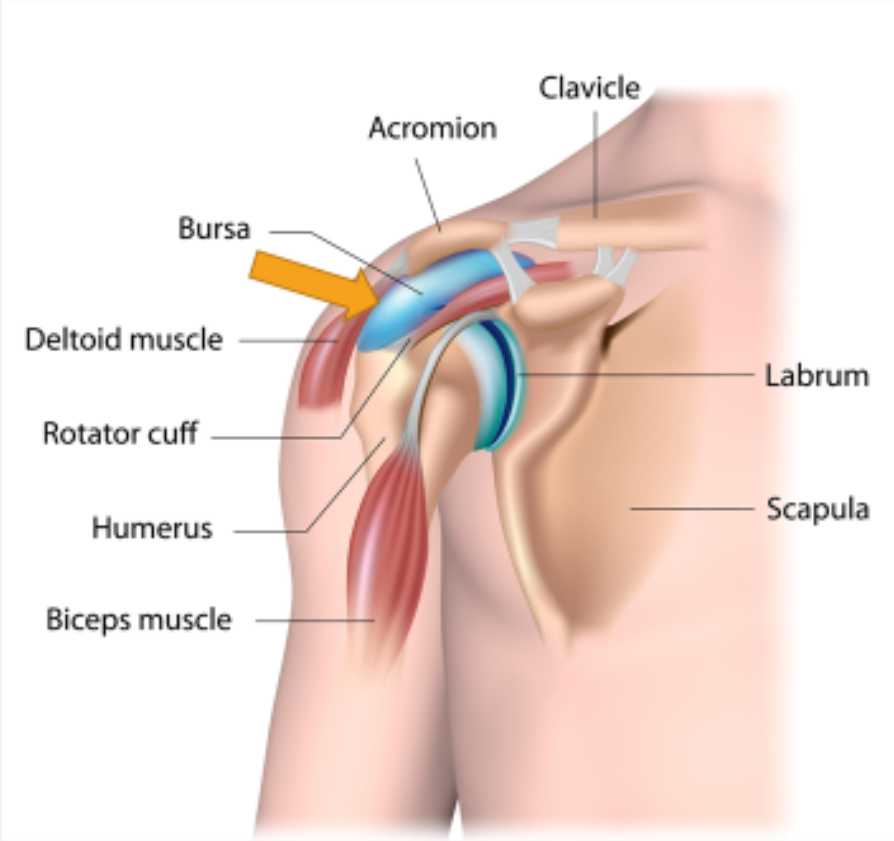
IMPINGEMENT

- Impingement is a very common non-traumatic shoulder complaint. This occurs when the soft tissue structures, such as the bursa and supraspinatus tendon, are pinched between the acromion and the humeral head during abduction. This process can lead to the previously discussed complaints of tendonitis and bursitis.
- Increased risk in swimmers, tennis, golf, volleyball, gymnastics or any prolonged work activities.
- Pain lateral arm/deltoid. Worse with overhead.



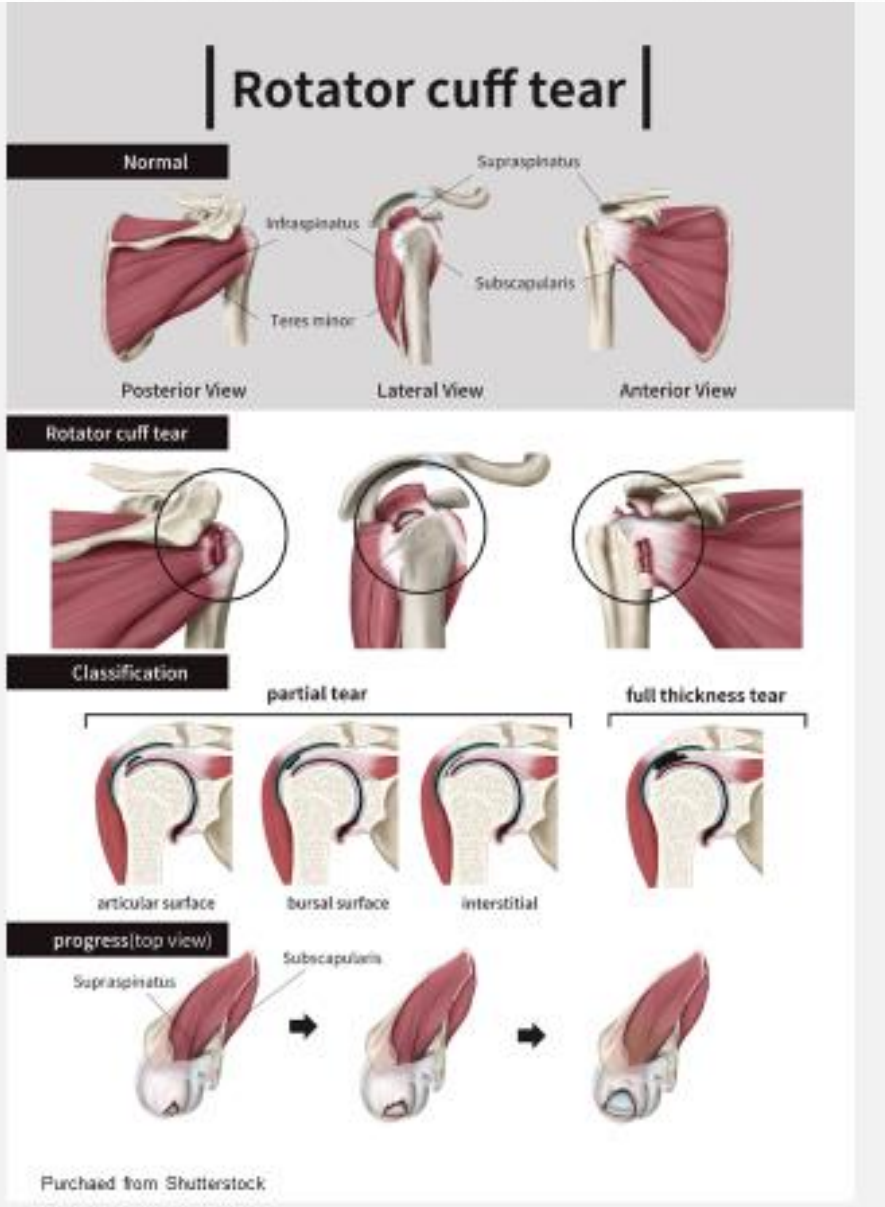
BURSITIS

- Remember that a bursa is a fluid filled shock absorber and they are located throughout the body.
- Most common in the shoulder is the subacromial bursa which can become easily inflamed.
- This is located inferior to the acromion and superior to the supraspinatus tendon of the RC group.
- Non-operative treatment: PT, NSAIDS, injection, PRP.
- Operative: Subacromial decompression/ acromioplasty.



ROTATOR CUFF TEAR

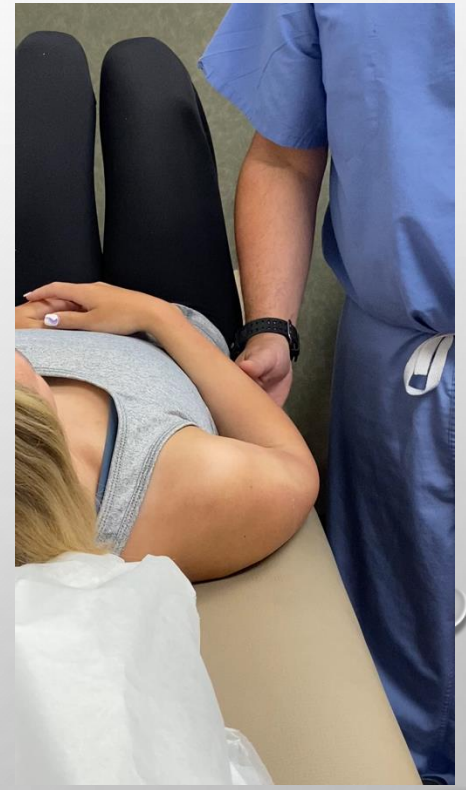
- Very common source of shoulder pain and decreased ROM which can be degenerative in older adults or traumatic.
- Treatment does vary based on the patient age, level of activity, and presentation.
- Estimated that 15-35% of the population will have a tear at some point in their lifetime.
- Some may be asymptomatic!
- >60 y/o around 30% will have full thickness tear.
- >70 y/o 65% will have full thickness tears.
- Risk factors: Age middle/older adults, smoking, family history.



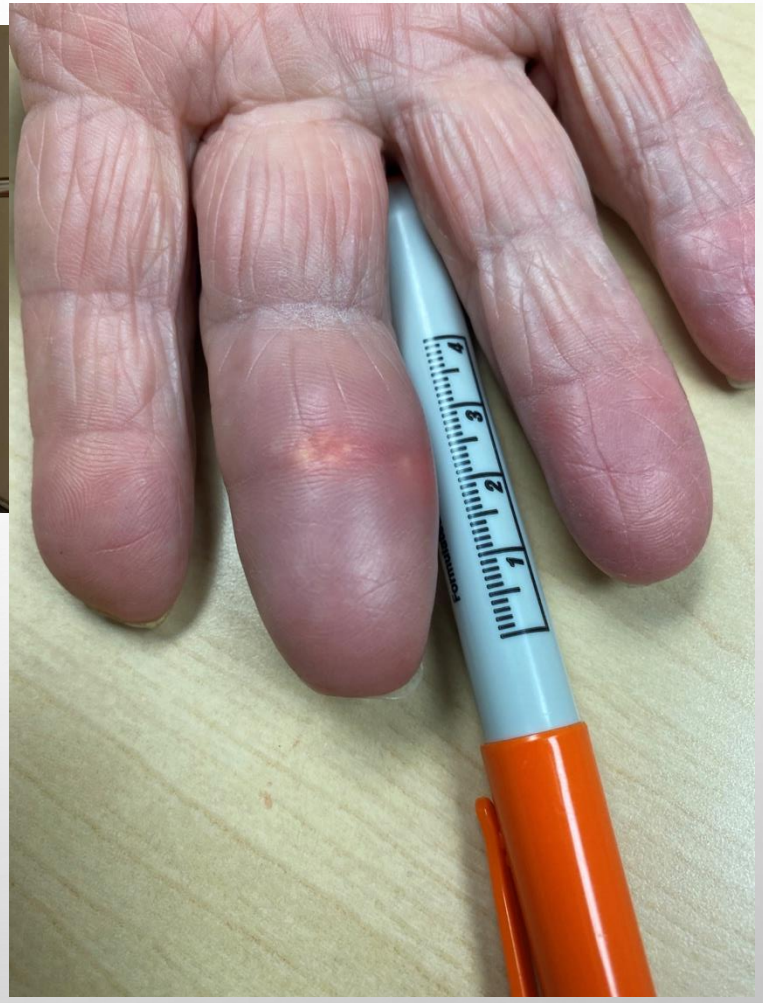
SHOULDER EXAM







HAND



HAND EXAMINATION

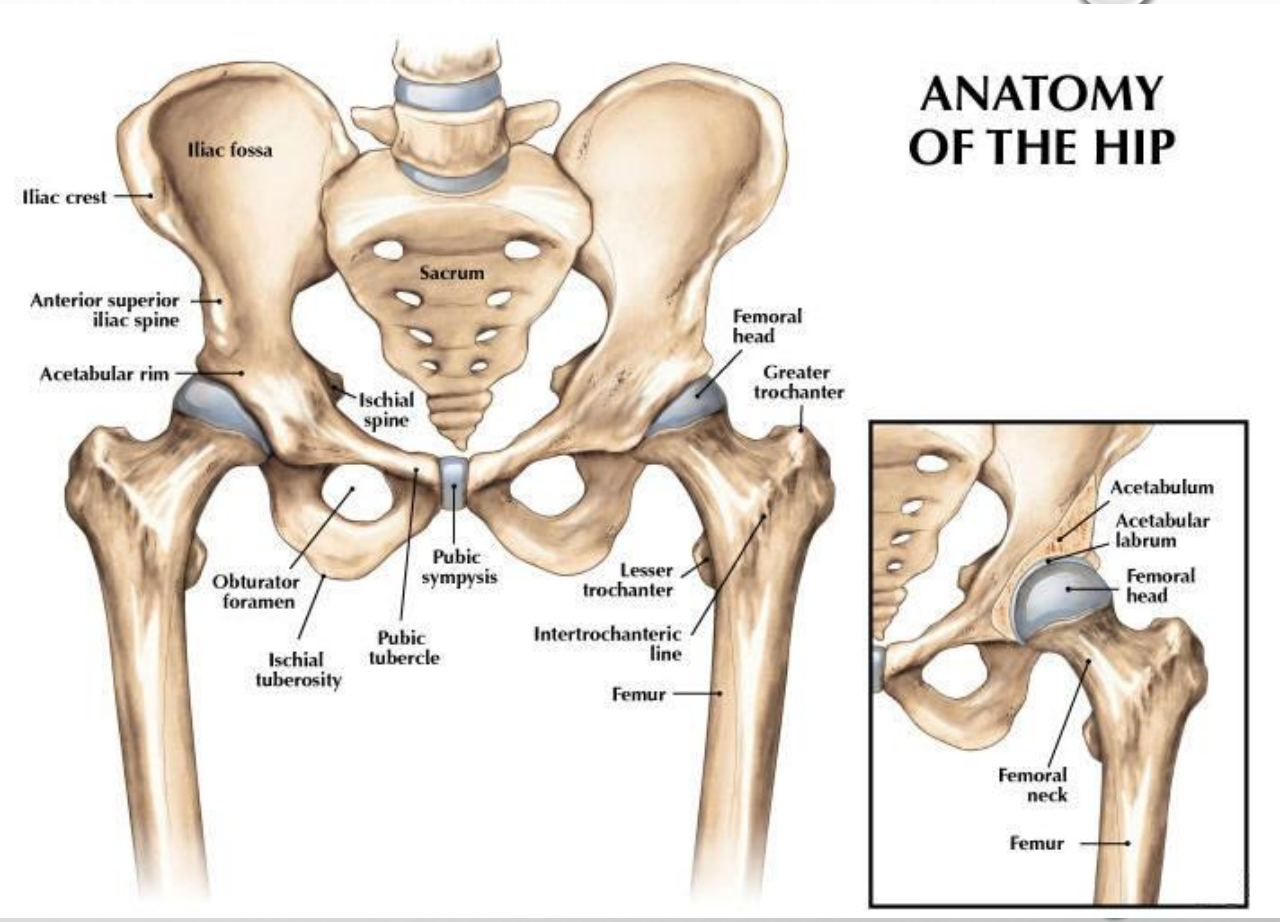
- INSPECTION: REDNESS, WARMTH, SWELLING, WHICH JOINTS INVOLVED, NAIL, ATROPHY, LENGTH DIGITS, DEFORMITIES
- SPECIAL TEST:
- TINELS TEST: CARPAL TUNNEL SYNDROME
- PHALENS: CARPAL TUNNEL (MUST DO FOR 60 SECONDS)
- DIP/PIP: OA
- MCP: RA

HAND CONT..

- FINKELSTEIN TEST: PAINFUL WITH DEQUERVAINS TENDONITIS
- GRIND TEST: CMC O/A. MOST COMMON IN HAND
- VASCULAR: RADIAL, ULNA, AND ALLEN TEST
- FDS/FDP
- 2 POINT DISCRIMINATION 5-15 MM NORMAL

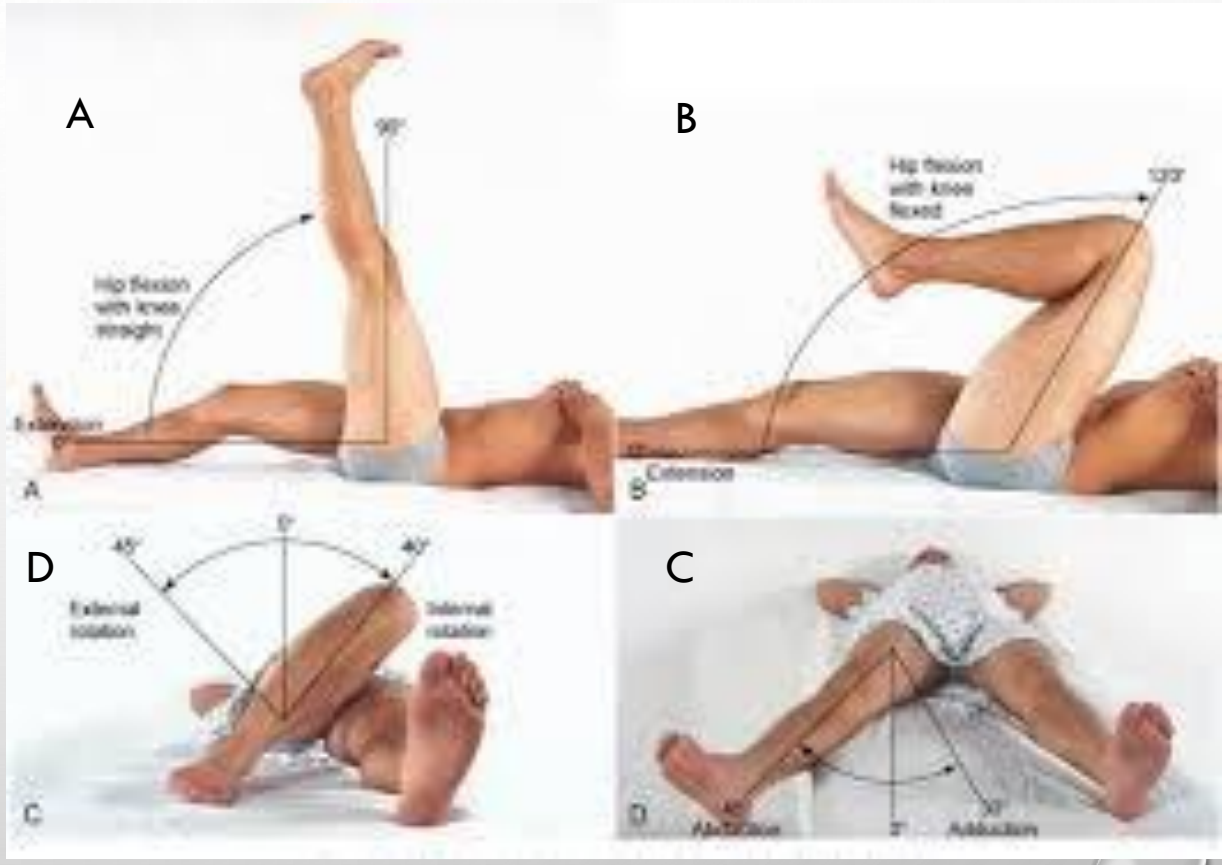
HIP ANATOMY

- MAJOR BONY ANATOMY INCLUDES THE SACRUM, SACRO-ILIAC JOINT, SUPERIOR / INFERIOR PUBIC RAMI, ACETABULUM, FEMORAL HEAD & NECK, GREATER AND LESSOR TROCHANTERS
- THE SOFT TISSUE STRUCTURES OF THE HIP ARE NUMEROUS AS WELL. MULTIPLE MUSCLE ATTACHMENT FOR HIP/ KNEE MOVEMENT, BURSA, LIGAMENTOUS STRUCTURES FOR CAPSULE STABILITY, CARTILAGINOUS SURFACES, NERVES, ARTERIES, AND VEINS



HIP PHYSICAL EXAM

- INSPECTION FOR RASH, LESIONS, GAIT, ASYMMETRY OF ILIAC CREST, ATROPHY OF GLUTEUS MUSCLES, SYMMETRY OF GLUTEAL FOLDS
- RANGE OF MOTION OF HIP WITH KNEE IN EXTENSION 0 DEGREES NEUTRAL, 90 DEGREES FLEXION, 30 DEGREES HYPEREXTENSION (A)
- RANGE OF MOTION WITH FLEXION INCREASE TO 120 DEGREES WITH KNEE FLEXED (B)
- ADDUCTION 0-30 DEGREES (D)
- ABDUCTION AROUND 45 DEGREES (D)
- INTERNAL ROTATION 40 DEGREES (C)
- EXTERNAL ROTATION 45 DEGREES (C)

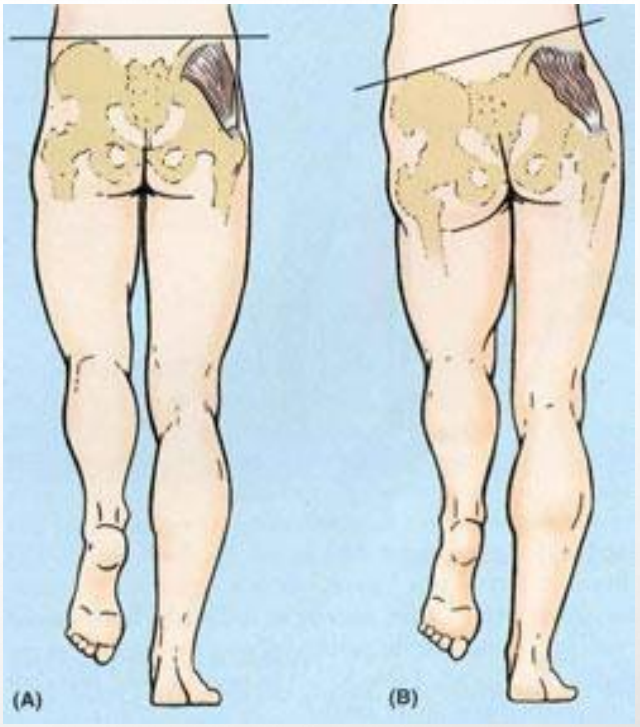


HIP EXAM

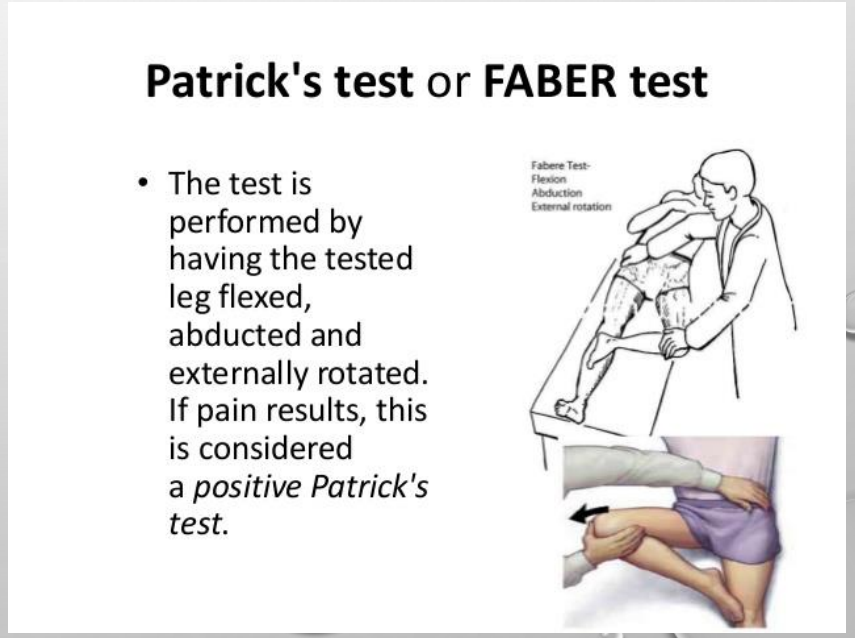
- HISTORY IS VERY CRUCIAL TO UNDERSTAND IF THE COMPLAINT IS TRULY A HIP ETIOLOGY. MULTIPLE OTHER MEDICAL AND ORTHOPEDIC CONDITIONS CAN MIMIC HIP COMPLAINTS. ALSO, MANY LAY PEOPLE AND PROVIDERS WILL DESCRIBE A COMPLAINT AS “HIP” WHEN IN FACT IT HAS NOTHING TO DO WITH A HIP JOINT.
- TRUE HIP PATHOLOGY WILL GENERALLY CAUSE ANTERIOR GROIN PAIN, THIGH PAIN, AND SOMETIMES KNEE PAIN. OCCASIONALLY THESE WILL BE SUPERIMPOSED WITH BUTTOCK PAIN.
- ASKING THE PATIENT TO POINT WHERE THEIR PAIN IS AND WHAT PRECIPITATES THEIR PAIN IS A GOOD START. PAIN ONLY IN THE BUTTOCK OR DOWN THE LEG IS MORE LIKELY A SPINE ETIOLOGY NOT HIP.
- QUESTIONS SUCH AS DIFFICULTY GETTING IN OUT OF THE CAR, DISCOMFORT WITH INTIMACY (POSITIONAL) CAN ALSO HELP VALIDATE TRUE HIP PATHOLOGY
- REPRODUCTION OF THE PATIENT'S PAIN WITH INTERNAL / EXTERNAL RANGE OF MOTION IS ALSO A GOOD INDICATOR OF TRUE HIP PATHOLOGY.

HIP TESTING

- **TRENDELENBURG TEST** IS USED TO EXAMINE FOR WEAKNESS OF GLUTEUS MEDIUS. A POSITIVE SIGN IS WHEN THE PELVIS DROPS TOWARD THE UNSUPPORTED LIMB

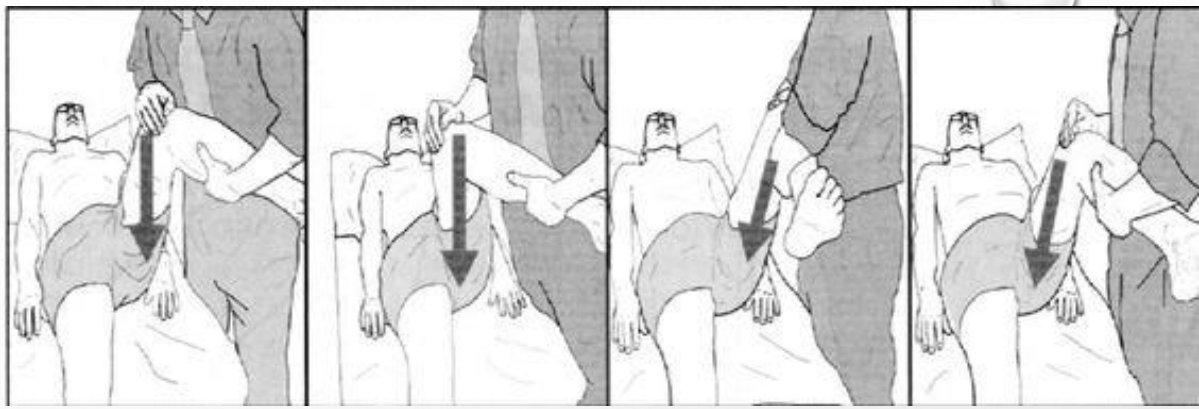


- **FABER'S (PATRICK) TEST** IS INDICATIVE OF POSSIBLE HIP PATHOLOGY AND OR SI DYSFUNCTION. PAIN THAT IS REPRODUCED WITH THIS MANEUVER



HIP TESTING

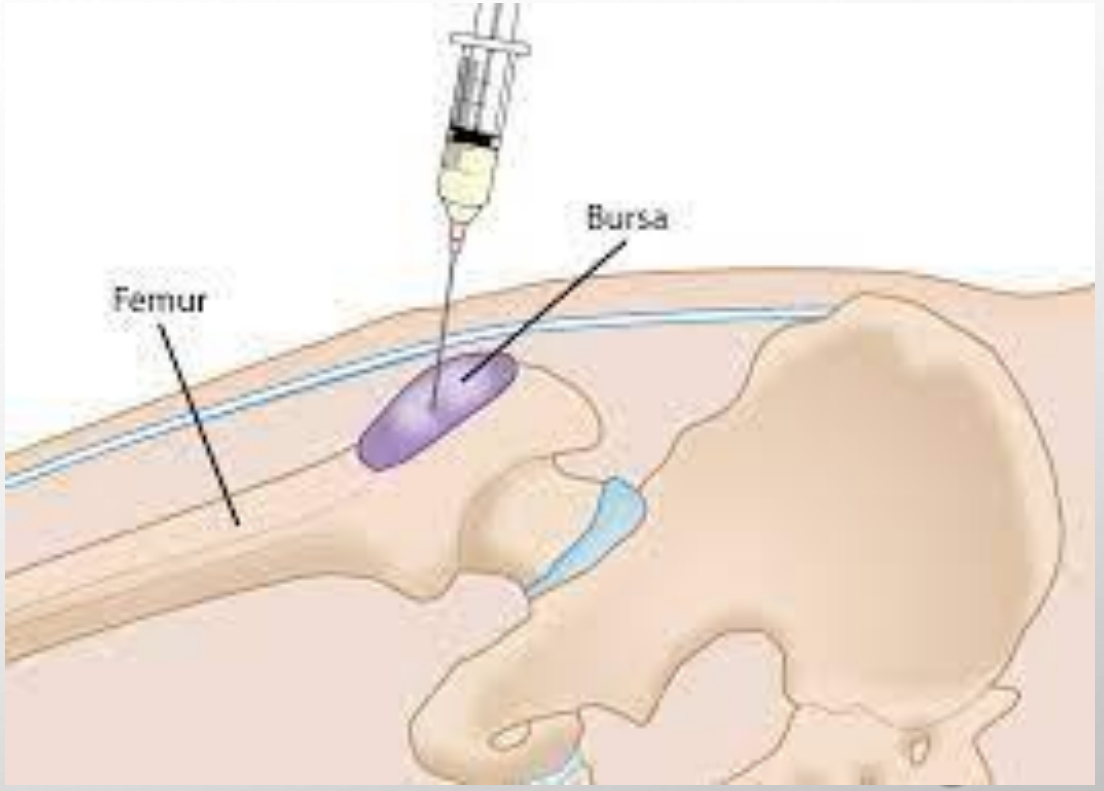
- **SCOURING (QUADRANT) TEST** IS A NON-SPECIFIC TEST WHEN THE HIP IS FLEXED WITH AXIAL LOADING AND RANGE OF MOTION. A POSITIVE RESPONSE IS INDICATED BY CLICKING, POPPING, OR PAIN



- **THOMAS TEST** TO EVALUATE FOR LATERAL LABRAL CAPSULAR TIGHTNESS OR ILIOPSOAS TIGHTNESS. PATIENTS' THIGH SHOULD BE FLAT ON THE TABLE WHEN THE CONTRALATERAL KNEE IS FLEXED.

TROCHANTERIC BURSITIS

- INFLAMMATION BETWEEN THE GREATER TROCHANTER AND IT BAND
- PAIN IS REPRODUCED WHEN TENDON PASSES ACROSS THE BURSA
- COMMON IN RUNNERS
- X-RAY NEGATIVE

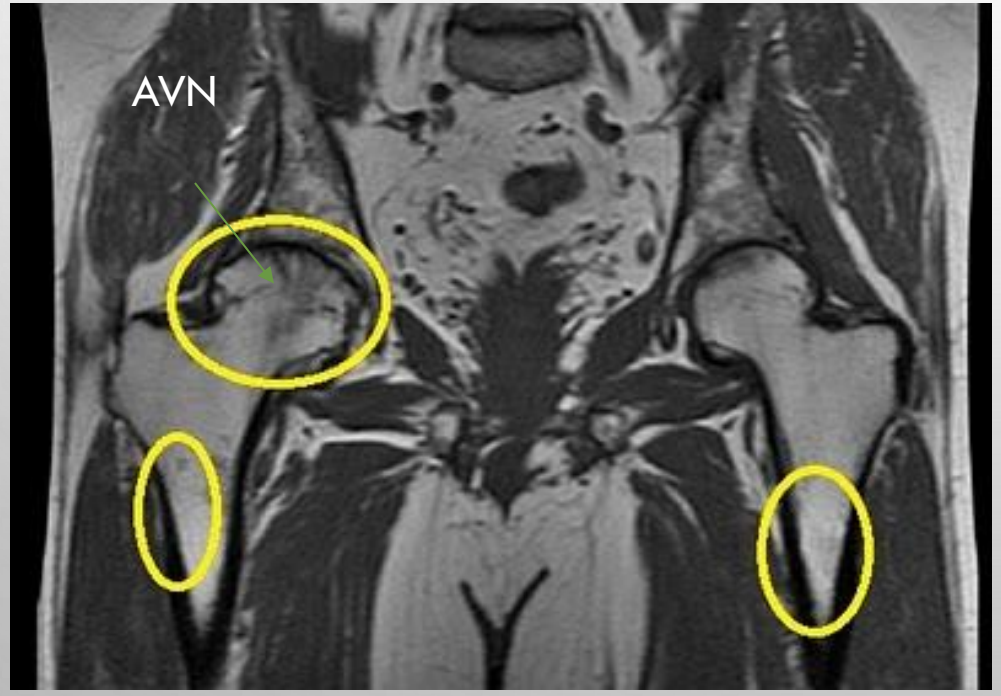


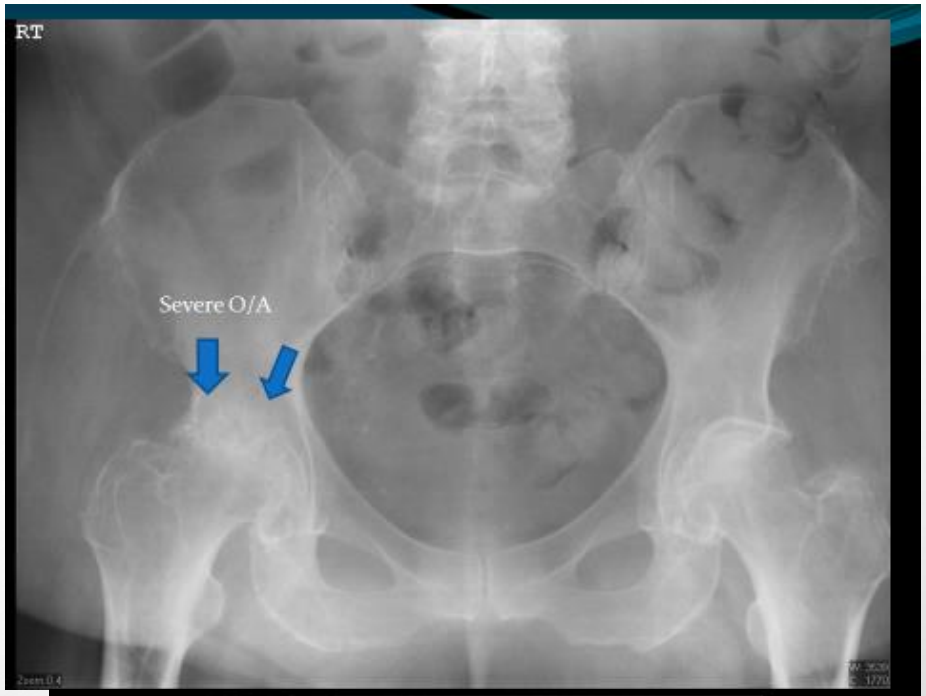
LABRAL TEAR HIP

- SUCTION CUP THAT HOLDS THE FEMORAL HEAD TO THE ACETABULUM
- LOADED ROTATION (SOCCER, GOLF, BALLET)
- MOST COMMON IN MD TEENS TO 40 Y/O.
- GROIN PAIN
- CLICK OR CATCH WITH ROM
- REPRODUCIBLE WITH ROM
- XRAY NEGATIVE. MRI ARTHROGRAM IS BEST TEST
- TREATMENT: PT, NSAIDS, REST, WORSE CASE HIP ARTHROSCOPY IN YOUNGER PATIENTS WITH “NORMAL” BONE ANATOMY

HIP CONTINUE

- ONE OF THE MORE COMMON PATHOLOGIES OF THE HIP IS OA. MORE COMMONLY SEEN IN OLDER ADULTS BUT CAN BE SEEN AS EARLY AS MID FORTIES BASED ON TRAUMA, ACTIVITY LEVEL, AND COMORBIDITIES SUCH AS RA OR AVN

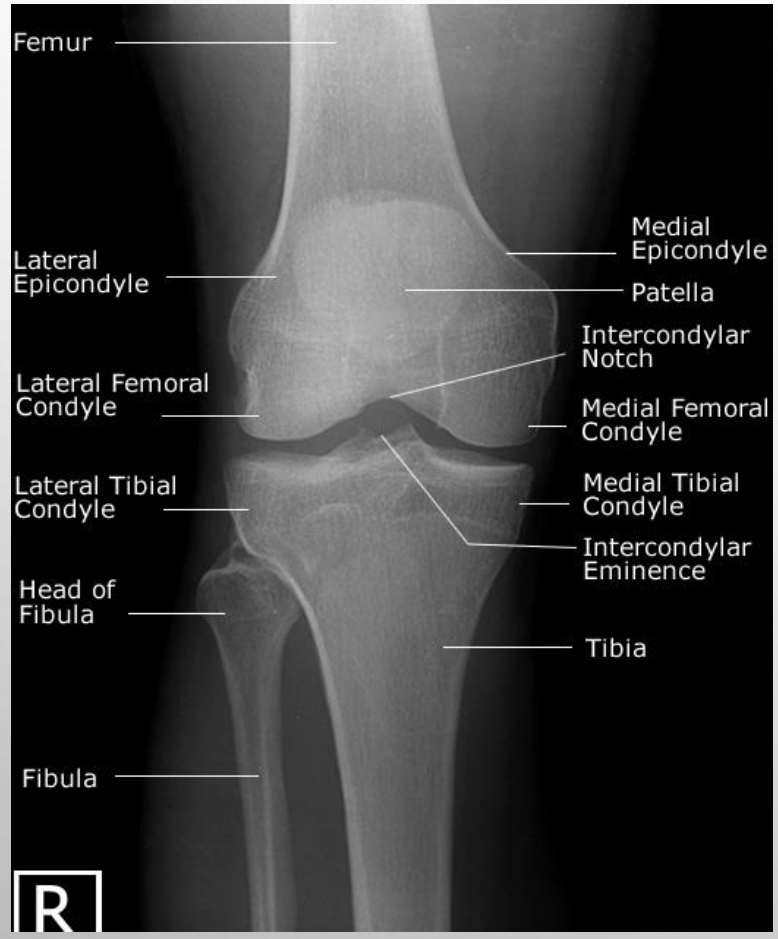


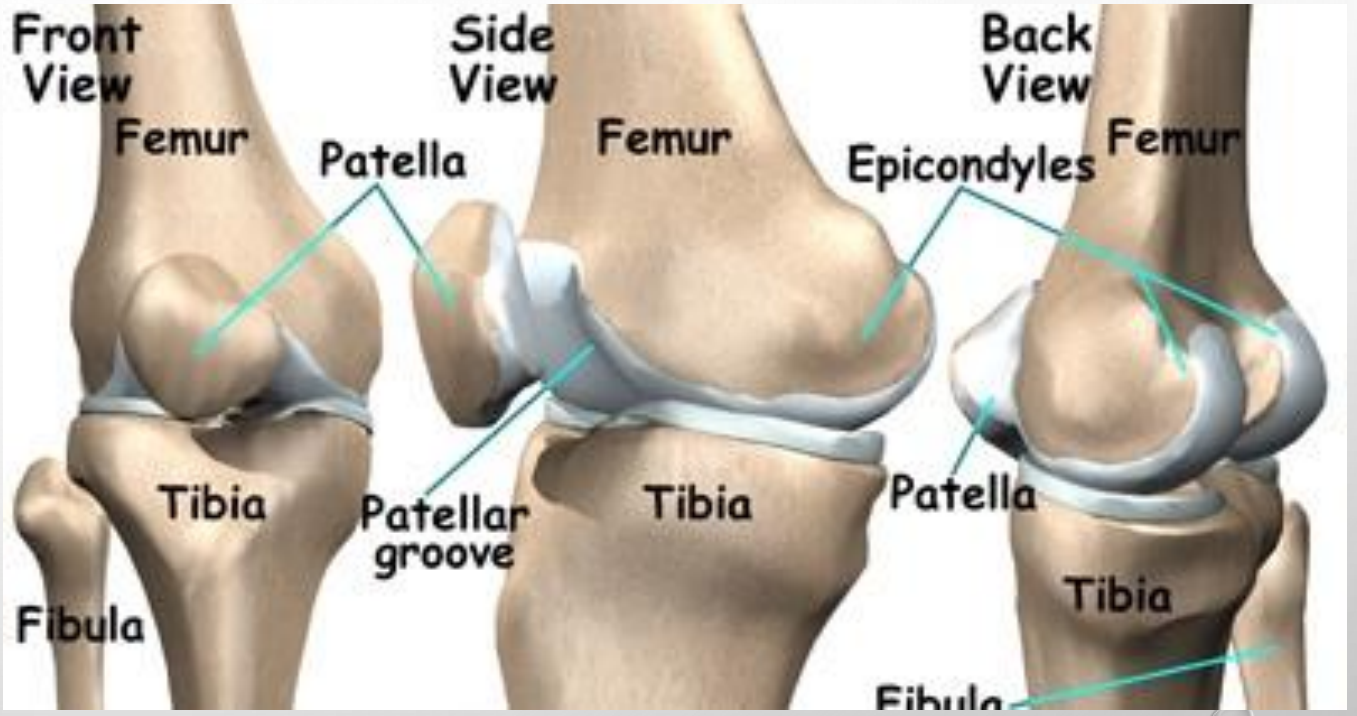


HIP EXAM

KNEE ANATOMY

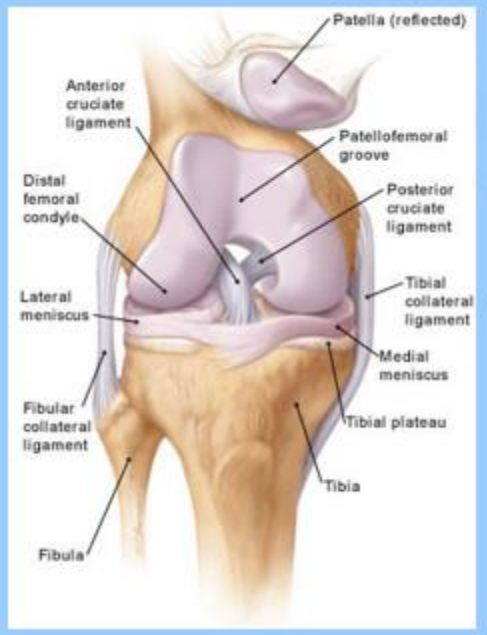
- MAJOR BONY ANATOMY IS FEMUR, TIBIA, FIBULA, AND PATELLA





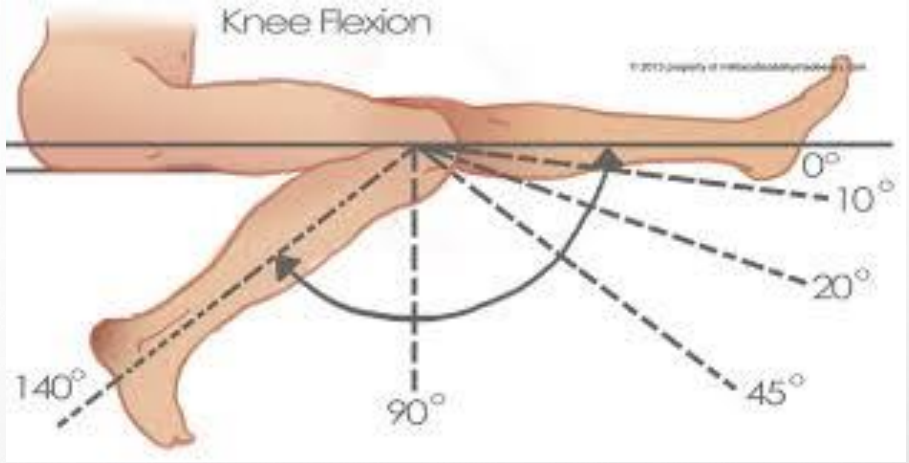
KNEE SOFT TISSUE ANATOMY

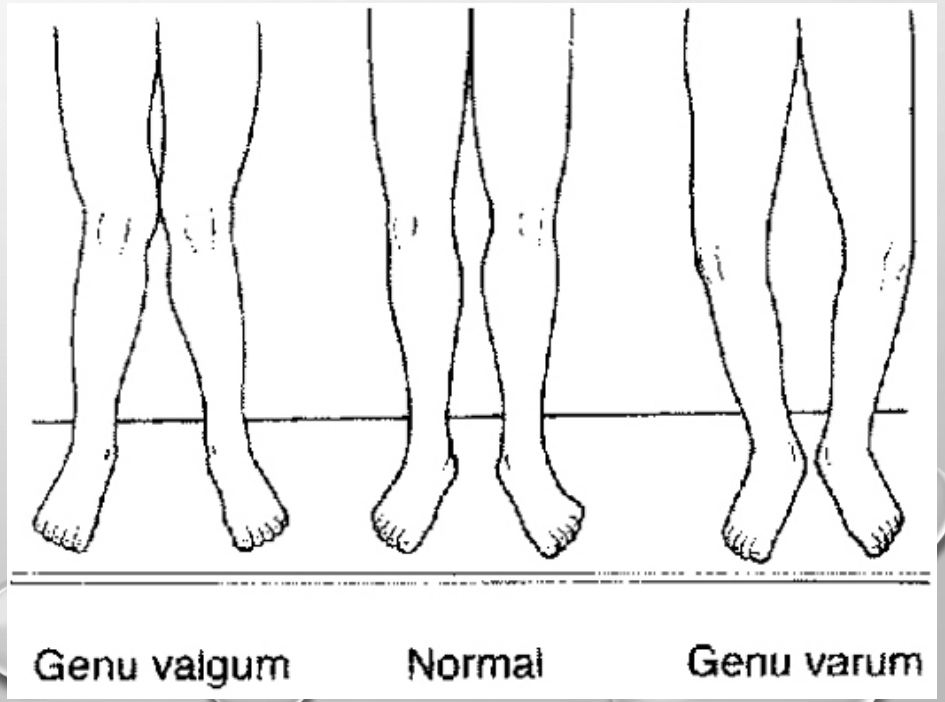
- MAJOR SOFT TISSUE STRUCTURES OF THE KNEE INCLUDE SURROUNDING MUSCLES, MULTIPLE LIGAMENTOUS STRUCTURES, MENISCUS, ARTERIES, VEINS, AND NERVES



KNEE PHYSICAL EXAM

- INSPECTION OF THE KNEES IN BOTH A FLEXED AND EXTENSION POSITION. INSPECT FOR REDNESS, WARMTH, SWELLING, MUSCLE MASS, TONE, AND EFFUSION.
- LOOK AT THE LEG ALIGNMENT. INSPECT FOR GENU VALGUM (KNOCK KNEE) AND GENU VARUM (BOWLEG).
- RANGE OF MOTION NO GREATER THAN 0-15 HYPEREXTENSION AND FLEXION MAX 140 DEGREES (USE A GONIOMETER)
- PALPATION FOR JOINT LINE TENDERNESS MEDIAL OR LATERAL
- PALPATION FOR EFFUSION (BALLOTTEMENT TEST)



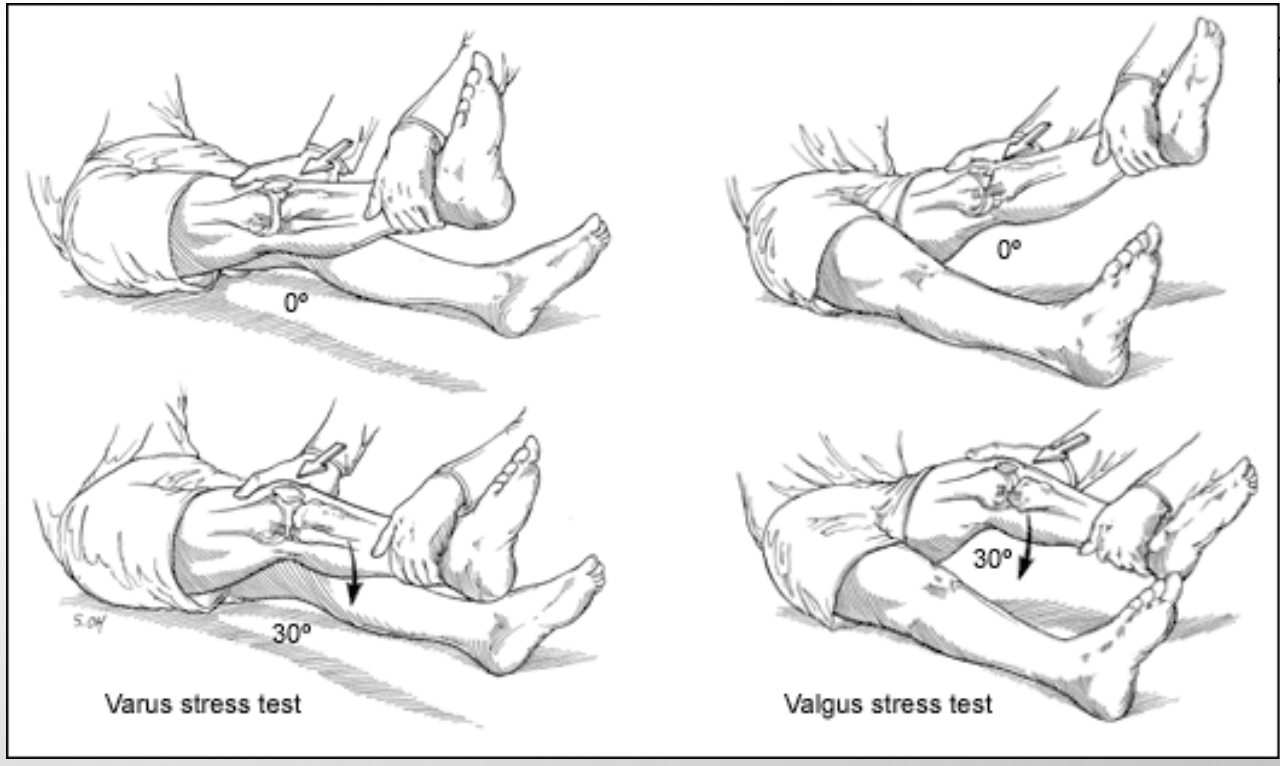


KNEE PROVOCATIVE TEST

- **VARUS STRESS TEST**: PLACE YOUR HAND MEDIAL ASPECT OF THE KNEE WHILE EXERTING FORCE AT THE ANKLE TO EXAMINE FOR LCL LAXITY

- **VALGUS STRESS TEST** IS PLACING THE HAND ON THE LATERAL ASPECT OF THE KNEE FOR STABILITY AND EXERTING FORCE TO EVALUATE FOR MCL LAXITY.

- NOTE THE KNEE MUST BE FLEXED ABOUT 30 DEGREES NOT IN FULL EXTENSION FOR BETTER RESULTS

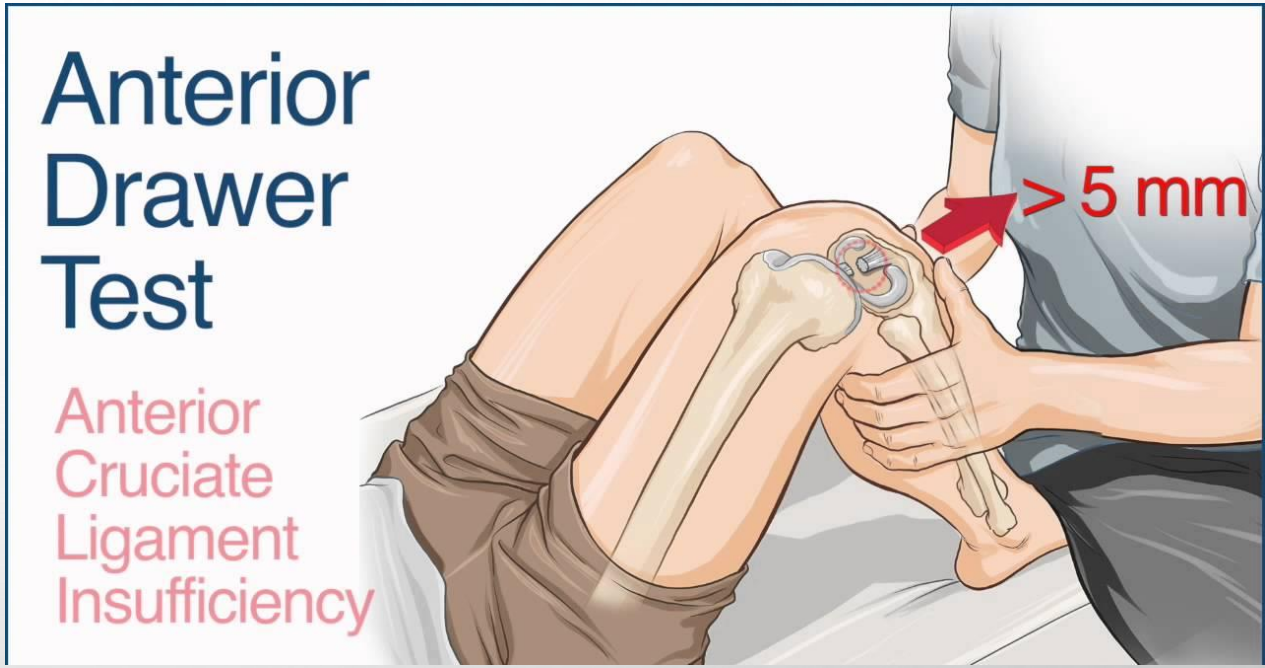


KNEE CONT.

- **POSTERIOR DRAWER**
- HAVE THE PATIENT LIE DOWN, THE RIGHT KNEE FLEXED TO 90 DEGREES, FOOT FLAT ON THE TABLE.
- GENTLY SIT ON THE FOOT. GRASP BELOW THE KNEE WITH BOTH HANDS, WITH YOUR THUMBS MEETING ALONG THE FRONT OF THE TIBIA.
- GENTLY PUSH BACKWARD, GAUGING HOW MUCH THE TIBIA MOVES IN THAT DIRECTION IN RELATION TO THE FEMUR. THE INTACT PCL WILL GIVE A DISCRETE END POINT.

KNEE CONT.

- **ANTERIOR DRAWER**
- HAVE THE PATIENT LIE DOWN, WITH THE RIGHT KNEE FLEXED SUCH THAT THEIR FOOT IS FLAT ON THE TABLE.
- GENTLY SIT ON THE FOOT. GRASP BELOW THE KNEE WITH BOTH HANDS, WITH YOUR THUMBS MEETING ALONG THE FRONT OF THE TIBIA.
- GENTLY PULL FORWARD, GAUGING HOW MUCH THE TIBIA MOVES FORWARD IN RELATION TO THE FEMUR. THE ACL, IF INTACT, WILL PROVIDE A DISCRETE END POINT.



KNEE CONT.

- **LACHMAN** IS ANOTHER TEST FOR ACL STABILITY:
- FOR TESTING THE RIGHT LEG, GRASP THE FEMUR JUST ABOVE THE KNEE WITH YOUR LEFT HAND AND THE TIBIA WITH YOUR RIGHT.
- FLEX THE KNEE SLIGHTLY.
- PULL UP SHARPLY (TOWARDS YOUR BELLY BUTTON) WITH YOUR RIGHT HAND WHILE STABILIZING THE FEMUR WITH THE LEFT. THE INTACT ACL WILL LIMIT THE AMOUNT OF DISTRACTION THAT YOU CAN ACHIEVE. THE INTACT ACL IS DESCRIBED AS PROVIDING A FIRM END POINT DURING LACHMAN TESTING.

KNEE CONTINUE

- **MCMURRAY'S TEST** (MENISCUS TESTING)
- WHEN EXAMINING THE RIGHT KNEE, PLACE YOUR LEFT HAND SO THAT YOUR MIDDLE, INDEX, AND RING FINGERS ARE ALIGNED ALONG THE MEDIAL JOINT LINE.
- GRASP THE FOOT WITH YOUR RIGHT HAND AND FULLY FLEX THE KNEE.
- GENTLY TURN THE ANKLE SO THAT THE FOOT IS POINTED OUTWARD (EVERTED). THEN DIRECT THE KNEE SO THAT IT IS POINTED OUTWARD AS WELL (VALGUS STRESS).
- WHILE HOLDING THE FOOT IN THIS EVERTED POSITION, GENTLY EXTEND AND FLEX THE KNEE. IF THERE IS MEDIAL MENISCAL INJURY, YOU WILL FEEL A "CLICK" WITH THE HAND ON THE KNEE AS IT IS EXTENDED. THIS MAY ALSO ELICIT PAIN.

KNEE CONT.

PATELLAR GRIND TEST (CHONDROMALACIA)

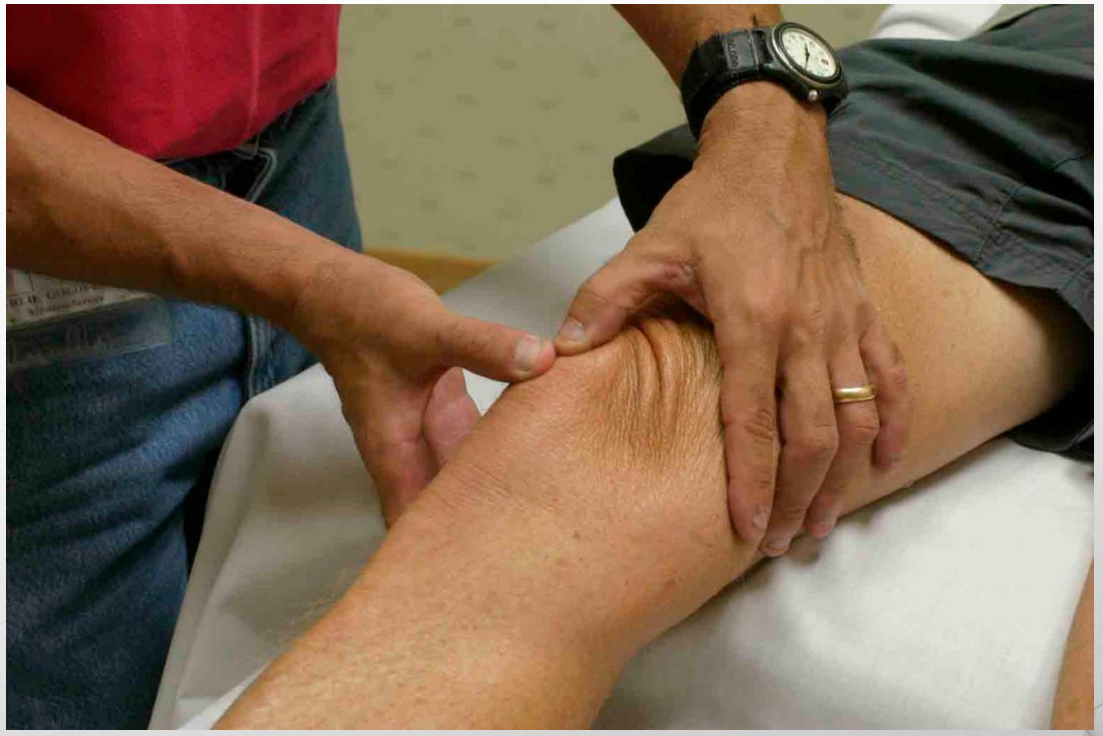
PATELLAR FEMORAL PAIN

HAVE THE PATIENT SLIGHTLY FLEX THE LEG TO BE TESTED.

GENTLY PUSH DOWN ON THE PATELLA WITH BOTH THUMBS, WHICH MAY ELICIT PAIN IN THE SETTING OF CHONDROMALACIA.

NOW, GENTLY MOVE THE PATELLA FROM SIDE TO SIDE AND TRY TO PALPATE ITS UNDERSURFACE. THIS MAY ELICIT PAIN IN THE SETTING OF CHONDROMALACIA.

HOLD THE PATELLA IN PLACE WITH YOUR HAND AND ASK THE PATIENT TO CONTRACT THEIR QUADRICEPS MUSCLE. THIS WILL FORCE THE INFERIOR SURFACE OF THE PATELLA ONTO THE FEMUR, ELICITING PAIN IN THE SETTING OF CHONDROMALACIA.



KNEE CONT.

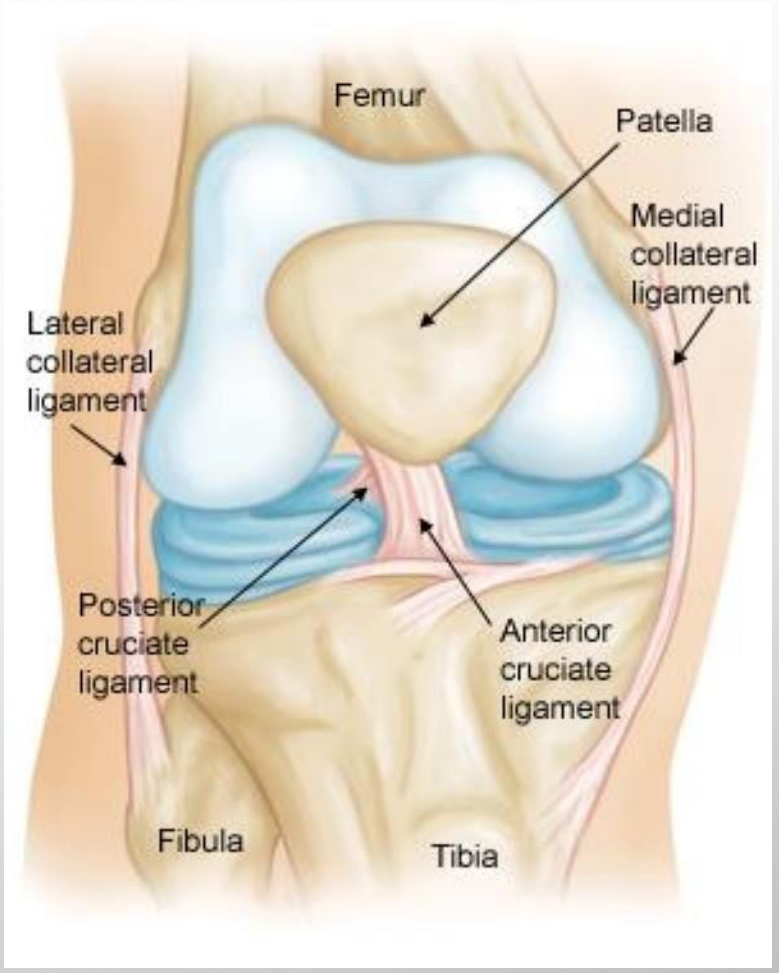
- THESSALY TEST (MENISCAL TEAR)
- THE THESSALY TEST IS A DYNAMIC REPRODUCTION OF JOINT LOADING IN THE KNEE. THE TEST IS PERFORMED AT 5° AND 20°OF FLEXION. THE EXAMINER SUPPORTS THE PATIENT BY HOLDING HIS OR HER OUTSTRETCHED HANDS WHILE THE PATIENT STANDS FLATFOOTED ON THE FLOOR. THE PATIENT THEN ROTATES HIS OR HER KNEE AND BODY, INTERNALLY AND EXTERNALLY, THREE TIMES, KEEPING THE KNEE IN SLIGHT FLEXION (5°). THE SAME PROCEDURE IS THEN CARRIED OUT WITH THE KNEE FLEXED AT 20°.

KNEE

- MEDIAL MENISCUS TEAR
- MOST COMMON (90%)
- LOADED AND TWISTING, PIVOTING, SQUATTING
- CAN BE ACUTE IN WEEKEND WARRIORS OR CHRONIC WITH OLD DEGENERATIVE KNEE
- PAIN MEDIAL JOINT LINE
- POSITIVE PROVOCATIVE TESTING
- X RAY NEG. MRI KNEE (NO CONTRAST)
- INITIAL TREATMENT: ACTIVITY MODIFICATION, NSAIDS, INJECTION, ARTHROSCOPY

KNEE CONT..

- COLLATERAL LIGAMENT INJURY
- MEDIAL MORE COMMON THEN LATERAL
- CONTACT SPORTS
- MANY TIMES, DO WELL CONSERVATIVELY
- EXAM FOR INSTABILITY
- X-RAY FOR AVULSION INJURY
- MRI IF GROSSLY UNSTABLE
- START BY CHECKING UNINJURED SIDE

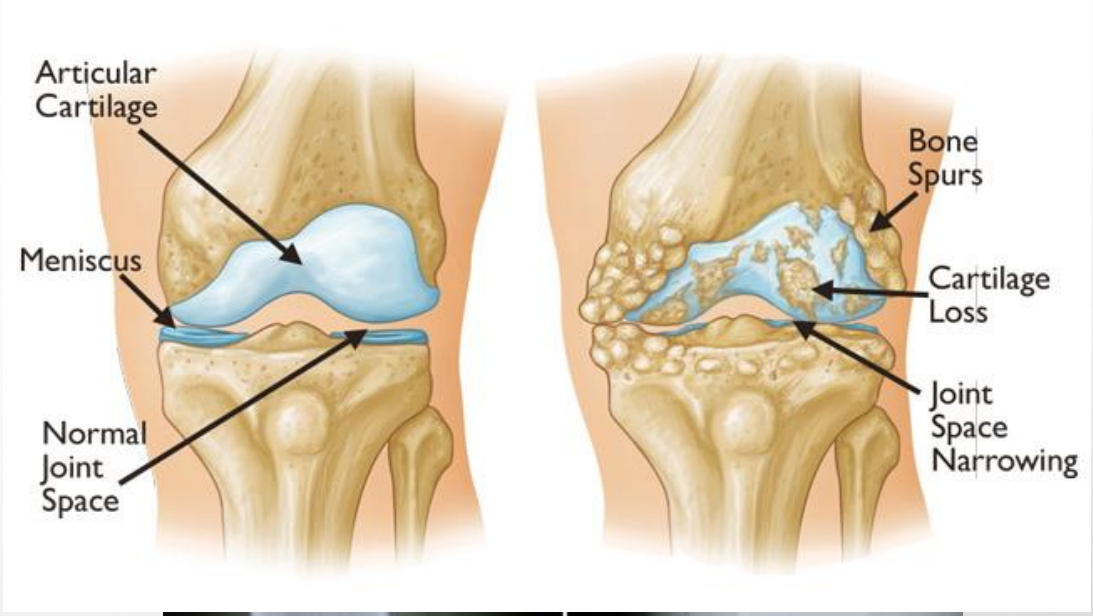


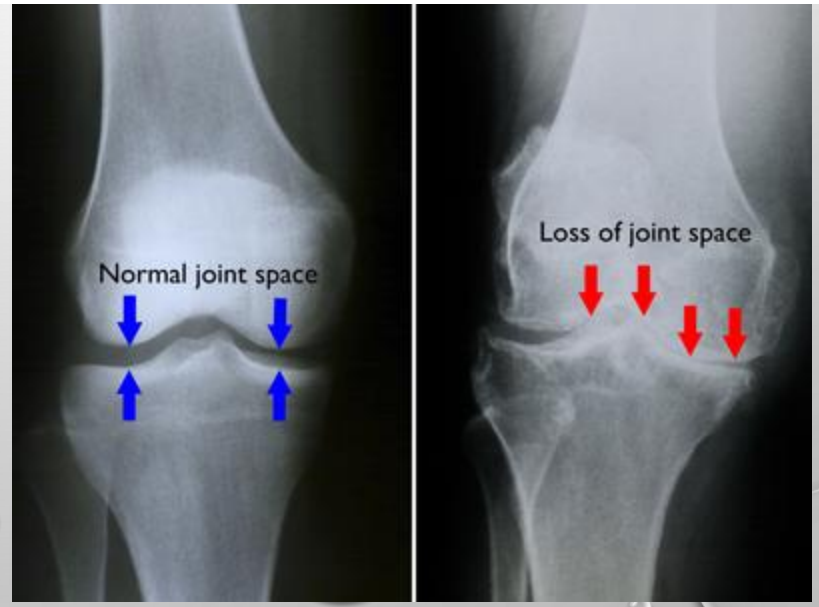
KNEE CONT..

- ACL TEAR
- SUDDEN DECELERATION INJURY
- MORE COMMON WOMEN THAN MEN
- FELT POP, SIGNIFICANT ACUTE EFFUSION (BLOOD FROM TEAR), SEVERE PAIN
- POSITIVE FOR ANTERIOR INSTABILITY.
- HARD TO CHECK ACUTELY DUE TO PAIN & SWELLING
- ICE, BRACE, ACTIVITY MODIFICATION, MRI (NON CONTRAST)
- IN YOUNGER PATIENTS NEEDS TO BE FIXED IN OLDER LESS ACTIVE PATIENTS CAN BE LEFT TORN.
- LONG RECUPERATION POST OP

KNEE OA

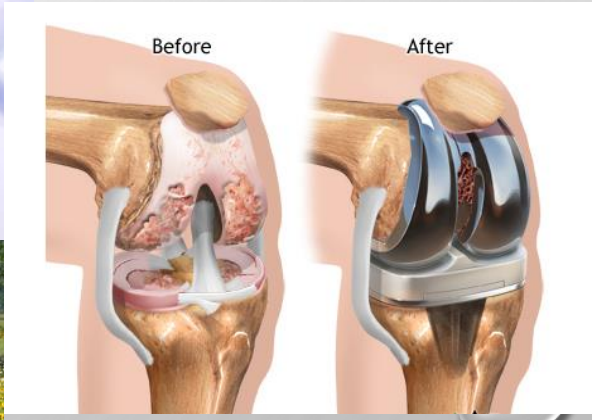
- OSTEOARTHRITIS IS THE MOST COMMON FORM OF ARTHRITIS IN THE KNEE. IT IS A DEGENERATIVE, "WEAR-AND-TEAR" TYPE OF ARTHRITIS THAT OCCURS MOST OFTEN IN PEOPLE 50 YEARS OF AGE AND OLDER, BUT MAY OCCUR IN YOUNGER PEOPLE, TOO.
- IN OSTEOARTHRITIS, THE CARTILAGE IN THE KNEE JOINT GRADUALLY WEARS AWAY. AS THE CARTILAGE WEARS AWAY, IT BECOMES FRAYED AND ROUGH, AND THE PROTECTIVE SPACE BETWEEN THE BONES DECREASES. THIS CAN RESULT IN BONE RUBBING ON BONE AND PRODUCE PAINFUL BONE SPURS.
- OSTEOARTHRITIS DEVELOPS SLOWLY AND THE PAIN IT CAUSES WORSENS OVER TIME.
- X-RAYS OF THE KNEE IN THIS POPULATION ARE BEST IF COMPLETED WEIGHT BEARING





KNEE OA TREATMENT

- LIFESTYLE MODIFICATION (LOWER IMPACT ACTIVITIES SUCH AS SWIM/ BIKING)
- PHYSICAL THERAPY TO STRENGTHEN COLLATERAL MUSCLES FOR STABILITY
- TOPICAL AGENTS SUCH AS BIO FREEZE OR CAPSAICIN CREAM
- GLUCOSAMINE/ CHONDROITIN
- NSAIDS/ APAP
- CORTICOSTEROID INJECTIONS (ABOUT 3 PER YEAR MAX)
- VISCOSUPPLEMENTATION (EUFLEXA/ SUPARTZ/ HYLAGEN/ SYNVISC)
- TOTAL KNEE ARTHROPLASTY



KNEE EXAM

REFERENCES

- IMAGES PURCHASED FROM SHUTTERSTOCK OR PRIVATE COLLECTION
- VIDEO ARE FROM PRIVATE COLLECTION
- AMERICAN ACADEMY OF ORTHOPEDIC SURGERY (AAOS) HTTPS://WWW.AAOS.ORG/
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- UP TO DATE HTTPS://WWW.UPTODATE.COM/CONTENTS/PHYSICAL-EXAMINATION-OF-THE-KNEE

THANK YOU, SKIN, BONES, HEARTS & PRIVATE PARTS