Not Head & Shoulders, Knees, Not Toes

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Objectives

- Participant will be able to verbalize common orthopedic knee and shoulder problems seen in primary care clinic.
- Participant will be able to explain the difference between surgical vs non-surgical orthopedic problems.
- Participant will be able to verbalized treatment options for common knee and shoulder problems.

Knee-Joe

- Joe, 62 year-old male with progressive left knee pain. Pain is dull ache, worse at end of day, when he sits for a long time and when he goes for long care rides, knee stiffens up. Pain limits his activity. Difficult to do exercise due to pain. He comes home from work and puts his leg up. Some swelling of knee in evening. He uses Ice pack. Takes Tylenol 2-3 x \ day.
  No allergies, No tobacco, no hx of stomach problems. Occasional social alcohol.
- Medical Problems- DM hga1c 9.2,
- VS stable
- BMI 45 Wt. 325#
- Family-Father-CAD, DM, Mother-DM, COPD
- Other Questions???

Knee-History

- History
  - History of prior Knee surgery
  - History of injury, slow progression of symptoms. Acute vs chronic?
  - Locking, catching, giving out, hyperextension.
  - Aggravating symptoms-walking, stairs, twisting
  - What relieves his symptoms
  - Use assist devices
  - Other treatment options tried

Knee-Joe

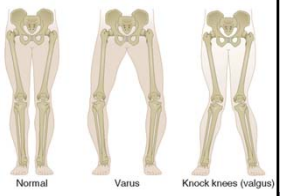
- Denies knee injury
- Arthroscopy of knee 4 years ago for knee pain with debridement of meniscus.
- Going up and down stairs make pain worse
- Uses Cane at times
- Knee gives out occasional but no other mechanical symptoms.
- Tylenol helps a little but does not last very long.
- Had PT after knee scope, no bracing

Knee-PE

- Observation
  - Gait – Normal, limping (antalgic), shuffling, or cannot walk
  - Swelling – Effusion versus other soft tissue swelling (eg, bursitis)
  - Ecchymosis and other signs of injury (eg, abrasions)
  - Muscle atrophy

Knee-PE

- Alignment – Varus (knee bends outward) or valgus (knee bends inward)
- Skin changes – Scars (surgical or traumatic), rash
- ROM Knee and Hip-Compare contralateral side
  - Hip rom-Hip OA can cause knee pain

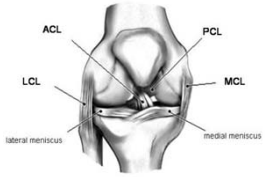


KNEE-PE

- Palpation
  - Quadricep Patella tendon
  - Medial/lateral joint line
  - Crepitus with flexion
  - Posterior-baker's cyst
  - Patella
  - NVI/SILT-check pulses, sensation

KNEE-PE

- Stability Test
  - Posterior Drawer –PCL
  - Anterior Drawer-ACL
  - Lachman-PCL
  - Mcmurray-Medial/Lateral



Knee-Joe

- Positive scars from prior knee arthroscopy
- Tenderness to palpation across the medial joint line.
- Mild knee effusion
- Mild quad weakness
- Uses Cane in left arm

KNEE

- Patellofemoral pain syndrome (PFPS)
  - It is the most common cause of knee pain seen by primary care physicians
  - frequently encountered overuse disorder that involves the patellofemoral region and often presents as anterior knee pain in the setting of normal x-rays.
  - Treatment-PT-core, hip, quad strengthening and stretching sometimes taping and bracing.

KNEE

- Internal derangement
  - Rest/ice/elevate the knee.
  - Avoid positions and activities that place excessive pressure on the knee joint until pain and swelling resolve. Such activities include: squatting, kneeling, twisting and pivoting, repetitive bending.
  - Encourage the use of crutches if the pain is severe.
  - Prescribe a patellar restraining brace if quadriceps strength is poor and the knee frequently "gives out."

KNEE

- **Factors suggest conservative therapy will be successful**
  - **Symptoms develop over 24 to 48 hours after the acute injury (as opposed to immediately after)**
  - **The patient is able to bear weight**
  - **There is minimal swelling**
  - **The knee has full range of movement with pain only at or near full flexion**
  - **Pain on McMurray testing occurs only with deep knee flexion**

Common Knee Problems

Condition	Features	PE	lab
Chronic inflammatory arthritis/RA	Morning stiffness Other joints	Other joints swollen or tender	Increase ESR
Gout/pseudogout	Other joints affected	Other joint swollen or tender	Synovial fluid crystals May have high uric acid
Hip Arthritis		Pain with ROM of hip	
Chondromalacia patellae	Young age with PF symptoms	Tenderness over PF joint	
Anserine Bursitis		Distal to knee over the medial tibia tender	
Trochanteric Bursitis	Lateral hip pain	Tender over lateral hip	
IT band syndrome		Tender of the IT band	

Common Knee Problems

Condition	Features	PE	lab
Joint tumors	Nocturnal or Continuous pain		Bloody synovial fluid Possible x-ray abnormal
Meniscus Tear	Mechanical symptoms locking, buckling	Tenderness over joint line + McMurray	Meniscal tear on MRI
ACL tear	Mechanical symptoms	+ Lachman	Tear on MRi

Knee-Joe

- Plan of Care
  - X-rays-4 view WEIGHT BEARING films
    - AP, Lateral, Flexed PA 45 degree, and Sunrise
  - NSAIDS?
  - PT ?
  - Education of Cane usage
  - Intra-articular injection
  - Does he need a MRI?
  - When to refer to orthopedist.

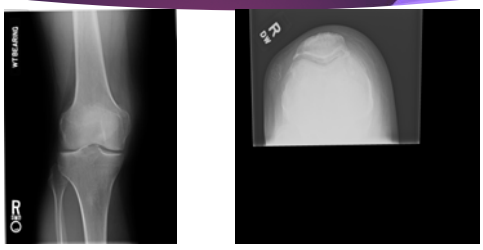
KNEE

- Knee-OA
  - Three compartments-medial, lateral and pf.

Medial most common.

Common complaints-worse with going up and down stairs, inclines, walking. PF oa-difficulty sitting to standing. Can not get up from low chair.

KNEE



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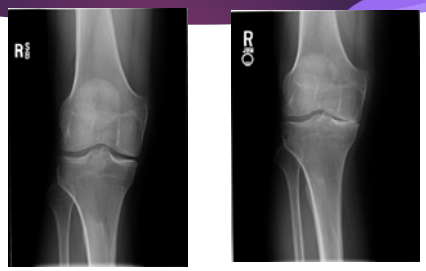


Knee

- MRI-When?
  - Key is history and PE to determine if MRI is needed
  - MRI can show irrelevant information that is not related to symptoms.
  - Costly
  - Studies have shown that MRI shows changes of meniscus torn when it is not actually torn.
  - Research suggests that a fairly high percentage of arthroscopic procedures are performed based on abnormal MRI findings instead of clinical findings.

Knee

- MRI
  - Most people improve after 4-6 weeks of conservative care without MRI. (50%)
  - Even patient with ACL do not require urgent MRI as usually knee rehab is done before surgery.
  - Common situation for urgent MRI (within 4 weeks) is when a younger athletic sustains a traumatic injury such as patella dislocation or is unable to straighten leg and suspect meniscus tears (buckle handle tear of meniscus) needs to be surgically repaired within few months for optimize outcome)

Knee

- MRI
  - Majority knee issues no rush for MRI.
  - Conservative Treatment first.
  - MRI findings early may have patients focus on abnormal findings causes them to take a passive role in treatment.
  - Do not just rely on MRI for treatment.

KNEE

- Conservative Treatment
  - NSAID's-cardiac issues?? NSAID's cream-Diclofenac
  - Analgesic cream, lidocaine ointment, etc
  - Ice/rest
  - Assist devices-cane (need to be educated on proper technique)
  - Bracing
  - PT/iontophoresis

KNEE

- Operative Treatment
- Arthroscopy
  - Bio joint-restorative
    - Living tissue graft, (may take time to get, has to match)
    - Less 55 years old, bmi less that 35, active
    - Can be hip, shoulder, knee, ankle, elbow
  - Joint replacement-unilateral vs total

KNEE

- Intra-articular injections
  - Cortisone
  - Viscosupplementation
  - Amniotic fluid injections
  - Stem Cell injections
  - PRP-stimulate healing “naturally” — regenerative

KNEE

- Pain Management
- Geniculate Nerve Block
- Geniculate Nerve Ablation-RF (new can last up to 2 years)

Knee-Joe

- Lifestyle Changes
  - Exercise-elliptical, Swimming, bicycle
  - Obesity
    - Important risk factor for OA progression
    - Messie and colleagues (2005) concluded that 1# weight lost = 4# reduction in knee joint load per step.
    - Diet (80% of causes of Obesity)
    - DM-hga1c 7.0 (tka Criteria) (injection)

KNEE-Summary

- Key to an accurate knee examination is to evaluate the unaffected knee for comparison
- Conservative Treatment-Physical therapy
- 4 view weight bearing knee x-ray are needed prior to any MRI.
- Severe OA trumps internal derangement.

Shoulder

- Jack, 65 year old male presents to office with c/o increase right shoulder pain after falling on ice with outreached arm 2 weeks ago. Pain is worse with overhead usage, pain keeps him up at night. Taking Motrin which only helps for short time. It limits his activity. He is retired truck driver but works on his farm daily.
  No allergies, No tobacco,
- Medical Problems- Heart Disease PCI 1 year ago
- VS stable
- BMI 35 Wt. 220#
- Family-father heart disease, diabetes,
- Other Questions???

Shoulder-History

- History
  - History of prior Shoulder surgery
  - History of Cervical spine issues/surgery
  - History of injury, slow progression of symptoms. Acute vs chronic?
  - Aggravating symptoms-sleeping, overhead usage
  - Weakness of UE usage
  - What relieves his symptoms
  - Other treatment option has he tried

Shoulder-Jack

- Rotator Cuff repair-10 years ago
- Overhead usage increases pain
- Difficult sleeping
- Motrin helps a little but not last very long.
- No other treatment thus far
- Has had intermittent problems with shoulder pain but nothing as severe as this last 2 weeks

SHOULDER-PE

- Assessment
  - Always compare with other side.
  - Shoulder-History is the Key-repetitive motion, injury, slow progression of sx.
  - Occupation-overhead work, lifting, etc

Shoulder-PE

- INSPECTION/OBSERVATION
  - Posterior, winged scapula symmetrical shoulder height
  - Superior for hx acromioclavicular separation (bump)
  - Anterior-shoulder symmetrical, clavicle,
  - Look for atrophy of muscles
  - Popeye muscle
  - ROM-FF, ABDUCTION, ER, IR
  - Strength-NVI, SILT

Shoulder-PE

Shoulder Test and suspected Diagnosis

Test	How to do Test	Suggested Diagnosis
Apley scratch	Pt touches superior and inferior aspect of opposite scapula	Loss of ROM rotator cuff problem
Neer's	Arm in full flexion-pain	Subacromial impingement
Hawkin's	FF of shoulder 90deg and IR	Supraspinatous tendon impingement
Drop Arm	Arm lower slowly to waist	Rotator cuff tear
Cross-Arm	FE 90 deg and adduction	AC joint arthritis

Shoulder Test and suspected Diagnosis

Test	How to do Test	Suggested Diagnosis
Sulcus	Pulling down on elbow	Inferior glenohumeral instability
O Brien's	90 degrees 10 adduction internal rotation of shoulder-resist downward force	SLAP
Empty Can/Jobe's	90 degrees and complete pronation like empty can. Downward pressure cause pain	Test-Rotator cuff pathology and impingement
Yergason's	Elbow flexed 90 deg with forearm pronated	Bicep tendon

Shoulder Test and suspected Diagnosis

Test	How to do Test	Suggested Diagnosis
Speed's	Elbow flexed 20-30 deg and forearm supinated	Bicep tendon
Lift Off (Gerber's)	IR and lift hand off back Resistance-pain	subscapularis
Spurling's	Spine extended with head rotated to affected shoulder with axially load	Cervical nerve root disorder
Apprehension	Anterior pressure on the humerus with external rotation	Anterior Glenohumeral instability

Shoulder Assessment-Jack

- No instability
- Painful to palpate superior shoulder
- Painful arc
- 4/5 Rotator cuff strength
- ROM Active FF 120 Abduction 90 Passive FF 140 Abduction 110
- IR to back pocket
- + Cross arm

SHOULDER

- Rotator Cuff Tears/tendonitis (weakness)
- Impingement
- Frozen shoulder
- Bicep tendonitis/rupture distal vs proximal
- Bursitis
- Labral tears (age) most old people will have labral tear

Shoulder

- OA-AC and GH-total shoulder vs reverse total shoulder
- Apprehension test for unstable shoulder-hx of dislocations, labral tear.
- Cervical- Spurling's test-performed with the head held in a neutral position. tap or presses down on the top of the head. If this fails to reproduce the patient's pain, the procedure is repeated with the head rotated to the affected side and hyperextended.

SHOULDER

- Severity of functional impairment during testing does not correlate well with the size of a tendon tear.
  - The presence of a rotator cuff tear is difficult to determine in patient's examination reveals only one or two positive tests.
  - Remember referred pain: Is the shoulder really causing their pain, or is it their cervical spine, gallbladder, spleen, or heart.

Shoulder-Jack

- Plan of Care
  - X-rays-Shoulder r/o fracture
  - NSAIDS?
  - PT ?
  - Does he need a MRI?

Shoulder

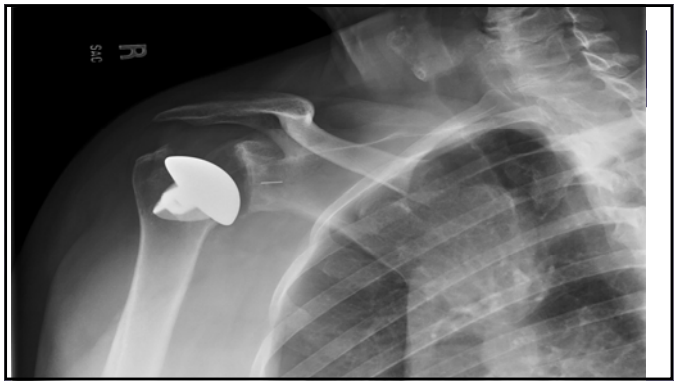
- Conservative Treatment
  - NSAIDS, Rest, analgesic balm, Remember cardiac hx and NSAIDS
  - PT including sometimes modalities-iontophoresis (~50% improvement in shoulder issues that will not need surgery)
  - Injections-subacromial vs intra-articular
  - Surgery (age makes a difference)
  - Old tendons equal poor outcome-smokers poor outcome

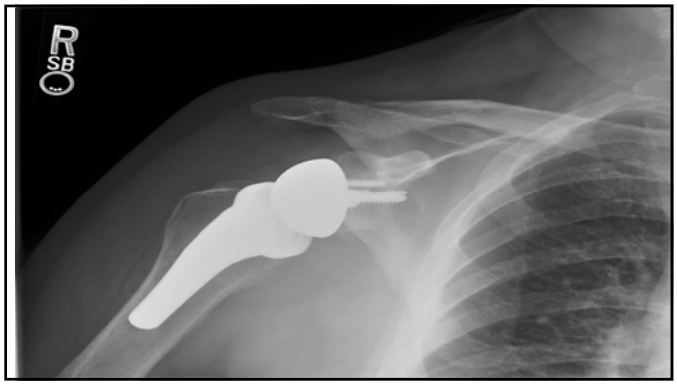
SHOULDER

- Arthroscopy Shoulder-DCE, SAD, RCR
- Reverse Shoulder Replacement
  - Weight limit lifting restrictions-Jack's the farmer
- Total Shoulder Replacement
- Pain Management

Shoulder-Jack

- X-rays of shoulder show Severe GH and AC arthritis
- ? Refer to orthopedist Shoulder subspecialist
- MRI-yes or no?? Not urgent
- PT-Yes
- Intra-articular injection
- TSA





Summary

- There is a lot of orthopedic problems that can be managed in Primary Care.
- Referral to orthopedics after exhausting conservative options.
- History is sometimes just as important as the exam
- Imaging should start with x-rays
- Age/weight/medical problems (DM and smoking) is a big factor in determining surgical options.

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