

1

Nayan Kothari, MD, MACP, FRCP, (Edin), FACP

Dr. Kothari is the Chair of the Department of Medicine and Chief Academic Officer at St. Peter's University Hospital. He also serves as the Program Director for St. Peter's Internal Medicine Residency Program.



2

Disclosure

Dr. Kothari has no financial or nonfinancial conflicts of interest relative to this activity.

3

3

Malignancy and Inflammatory Myopathies

- Malignancy may precede, occur concurrently or follow DM/PM
- Typically occurs in older patients and more common in DM
- Evaluation for malignancy is warranted in older patients with DM and who are refractory to treatment
- Age appropriate and gender specific screening is indicated

4

4

Test Your Knowledge

A 26-year-old woman diagnosed with dermatomyositis one year ago is evaluated for a recurrence of muscle weakness, particularly in her lower limbs, of 3-months duration. At the time of the diagnosis, her CK was 3580 U/L, and findings of EMG and muscle biopsy were consistent with dermatomyositis.

Treatment with high-dose prednisone was initially associated with resolution of the rash, recovery of her strength, and normalizing of CK. Her rash has not recurred.

5

5

Test Your Knowledge

PE is remarkable only for isolated lower-limb weakness (proximal). CK is 165 U.L.

Which of the following is the most likely cause of patient's recurrent weakness?

- Dermatomyositis
- Inclusion body myositis
- Corticosteroid-induced myopathy
- Hypothyroidism
- Disuse atrophy

6

6

DM/PM Summary

- Only ITIS with minimal pain/WEAKNESS is the chief complaint
- Weakness is PROXIMAL
- In neuropathy symptoms are DISTAL
- Treatment: Steroids and immunosuppression.
- Remember steroid myopathy
- Do not do MALIGNANT workup
- Do only routine age and gender specific health screening

7

7

DM/PM Summary (cont)

- ANA is present in 80 percent
- Serum AST and ALT levels may be elevated in myositis mimicking liver disease
- AST and ALT are not liver specific
- The presence of Gottron papules and heliotrope rash is virtually diagnostic of DM

8

8

DM/PM Summary (cont)

- Serum AST and ALT may be elevated in myositis mimicking liver disease
- If myositis is unresponsive to treatment, consider a diagnosis of inclusion body myositis

9

9

Amyloidosis AL (Light chain)

- Nephrotic syndrome (enlarged kidneys)
- Restrictive cardiomyopathy
- Carpal tunnel syndrome
- PERIarticular amyloid deposition (shoulder pads) and joint effusions
- Acquired factor X deficiency

10

10



11

11

Amyloidosis AA

- Causes: Rheumatoid arthritis, FMF, leprosy, tuberculosis, osteomyelitis, skin popping
- Nephrotic syndrome
- Cardiomyopathy is RARE

12

12

B2 Microglobulin Associated Amyloidosis

- Seen in patients on dialysis
- Carpal tunnel syndrome is the most common manifestation
- Subchondral bone erosions and destructive arthropathy
- Pseudorheumatoid arthropathy

13

13

Test Your Knowledge

A 42-year-old woman has a 3-month history of pain and nondependent swelling of both ankles, low-grade intermittent fever, fatigue, and a 4.5-kg (10 lb) weight loss. She also has "painful bruises" of the lower extremities that last for several weeks and then resolve. On physical examination, temperature is 37.7°C (99.8°F). A tender dark-red Subcutaneous Nodule measuring 1 cm is present on the right lateral lower leg. Both ankles are erythematous and show marked soft tissue swelling that extends to the distal lower extremities. Motion of the ankles causes moderate pain. The remainder of the joint examination and the general physical examination are normal.

Which of the following diagnostic studies should be done next?

- A. CT scan of the chest
- B. Radiographs of the ankles
- C. Radiograph of the chest
- D. Bone scan

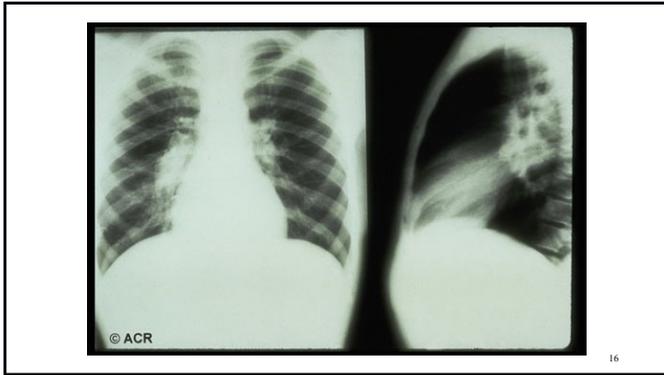
14

14



15

15

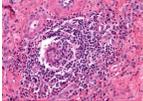


16

Sarcoid Arthropathy

- Two patterns are recognized – Early and Late
- Early (Lofgren's syndrome)
- Acute arthritis/PERLarthritis of ankles associated with EN and hilar adenopathy
- Excellent prognosis
- Steroids rarely indicated

Lofgren syndrome is highly specific for sarcoidosis, obviating the need for tissue biopsy



17

17

Test Your Knowledge

A 50-year-old male is evaluated because of pain in right groin, lower back, and hands. The groin pain is worse when he walks. On PE internal rotation of the right hip elicits pain. The second and third MCP joints are swollen and tender. X-rays show severe osteoarthritis of the right hip.

Which of the following is the best test to confirm the diagnosis?

- A. Rheumatoid factor
- B. HLA-B 27
- C. Serum iron and iron binding capacity
- D. Fasting plasma glucose
- E. Serum uric acid

18

18

Hemochromatosis

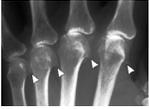
- Arthritis
- Cardiomyopathy
- Diabetes mellitus
- Skin pigmentation
- Hypogonadism



19

Hemochromatosis - Arthritis

- Osteoarthritis in unusual joints
- DJD of MCP joints (Iron Fist sign)
- Chondrocalcinosis and pseudogout



20

Osteoarthritis/Degenerative Joint Disease (DJD)

- Non-Systemic
- Slowly progressive
- DIP, PIP, First CM, AC, Weight bearing
- Spares MCPs
- Morning stiffness less than 30 minutes
- Crepitus/ Bony swelling

21

Test Your Knowledge

A 26-year-old woman has the gradual onset of a dull ache over the anterior surface of both knees, right more so than left. Pain occurs when walking up or down stairs or squatting, is made worse by prolonged sitting, and is relieved after brief walking. The patient is physically active and runs approximately 15 miles each week but has stopped running because of the pain. Examination of the knees shows no effusion or instability. Ballottement of the patellae discloses mild tenderness. Radiographs of the knees are normal.

22

22

Test Your Knowledge

Which of the following is the most appropriate management?

- A. Naproxen
- B. Arthroscopy
- C. Rest, quadriceps muscle strengthening exercises, and hamstring stretching exercises
- D. Injection of the knees with corticosteroids
- E. Resumption of normal activity

23

23



24

24



25

Osteoarthritis - Therapy

- Acetaminophen is NOT beneficial even at high doses.
- Low dose NSAIDs
- Tramadol if NSAIDs are contraindicated or ineffective
- Use topical NSAIDs
- Intra-articular steroids and hyaluronan have limited value
- Quadriceps-strengthening exercises for OA of knees
- Do not do arthroscopic lavage or debridement
- Lab tests are not necessary to diagnose OA
- Weight loss can lower the risk of developing OA

26

26

Test Your Knowledge

A 73-year-old woman has OA involving multiple joints (DIP, base of thumbs, knees, C and LS spine). She has tried OTC analgesics, physical therapy, intra articular steroid and hyaluronic acid injections and OTC NSAIDs. She was recently diagnosed with a peptic ulcer disease. She has coronary artery disease, hypertension, diabetes mellitus. Medications include enalapril, carvedilol, metformin, atorvastatin, pantoprazole, and low-dose aspirin.

Vital signs are normal. Heberden nodes are present. Both knees have bony enlargement with crepitus. ROM of the cervical spine is diminished.

Which of the following is the most appropriate treatment?

- Gabapentin
- Ibuprofen
- Topical capsaicin
- Duloxetine
- Oxycodone

27

27

Test Your Knowledge

A 75-year-old woman is seen for pain in finger joints. She reports pain at the base of both thumbs. She has difficulty opening jars. Current medications are acetaminophen 2 to 3 g daily and quinapril 20 mg daily for hypertension.

Her BP is 162/88, heart rate is 70/min. BMI is 30. Physical examination abnormalities are found only in musculoskeletal system. Several DIP joints of her hands show bony enlargement without tenderness. The first CMC joints of both hand are tender. The knees extend fully with crepitus.

A CBC and chemistry are normal.

28

28

Test Your Knowledge

Which of the following is the treatment next?

- A Naproxen
- B Hydroxychloroquine
- C Tramadol
- D Diclofenac gel
- E Physical therapy

29

29

Crystals

- Hydroxyapatite (BCP)
- Uric Acid
- CPPD



30

30

Hydroxyapatite (BCP)

- Primarily a mineral in bone and teeth
- Milwaukee shoulder-Knee syndrome
- Hemorrhagic effusion in the elderly
- Destructive arthropathy
- Tendinitis/Bursitis

31

31

Test Your Knowledge

A 73-year-old woman has a 2-year history of pain in her right shoulder and both knees associated with progressively decreased range of motion and significant disability. Physical examination discloses a frail, elderly woman. Motion of the right shoulder is markedly decreased in all planes. The right shoulder appears larger than the left and has a large effusion. Examination of the knees shows good range of motion and small effusions bilaterally.

Radiographs show migration of the humeral head superiorly toward the acromion and destructive erosive changes in the humeral head and both knees. A radiograph of the right shoulder shows calcifications of the soft tissues surrounding the joint capsule of the shoulder. Arthrocentesis of the right shoulder yields a thick, chalky fluid.

Polarized light microscopy of the fluid shows abundant, dense, amorphous material with no birefringent crystals.

32

32

Test Your Knowledge

Which of the following is the most likely diagnosis?

- Frozen shoulder
- Basic calcium phosphate crystal disease (Milwaukee Shoulder-Knee syndrome)
- Calcium pyrophosphate dihydrate deposition disease
- Tophaceous gout
- Reflex sympathetic dystrophy

33

33



34

Milwaukee Shoulder-Knee Syndrome

- Typically affects frail elderly women
- Chronic shoulder pain and a large noninflammatory effusion
- Rotator cuff tear leads to upward migration of humeral head

35

35



36

Neuropathic Arthropathy (Charcot)

- Destructive arthritis due to denervation
- Usually involves weight bearing joints
- Patient has pain but is less than expected
- Causes include syphilis (knees), diabetic neuropathy (feet), and syringomyelia (shoulder)
- Joint replacement is not considered because of rapid loosening

37

37



38

38

Calcific Periarthritis

- A BCP deposition disease (calcium hydroxy apatite)
- Self-limited
- Acute pain and swelling around the tendon sheaths adjacent to diarthrodial joints
- Shoulder is the most common site
- Homogenous calcific densities adjacent to the joint during the acute phase

39

39

Calcific Periarthritis (cont)

- Crystals are NOT birefringent
- Complete resorption of calcification occurs after several weeks
- Responds to NSAIDs and local corticosteroid injection
- Surgical debridement rarely indicated

40

40



41

41

Test Your Knowledge

A 24-year-old woman is evaluated because of a 12-hour history of fever, chills and severe pain and swelling of her right ankle. One year ago, the Patient underwent successful cadaveric renal transplantation following development of rapidly progressive glomerulonephritis. Maintenance therapy includes prednisone and cyclosporine. She is sexually active.

Physical examination shows an exquisitely tender and swollen right ankle. The blood urea nitrogen level is 30 mg/dL, and the serum creatinine level is 1.0 mg/dL. Analysis of synovial fluid obtained by arthrocentesis shows 20,000 leukocytes/ μ L and needle-shaped, negatively birefringent crystals.

42

42

Test Your Knowledge

Which of the following most likely contributed to the development of crystals in this patient's synovial fluid?

- A. Cyclosporine
- B. Prednisone
- C. Hyperphosphatemia
- D. Hyperoxalemia
- E. Hypercalcemia

43

43

Gout

- Asymptomatic hyperuricemia
- Acute Gout
- Intercritical Gout
- Chronic tophaceous Gout



44

44



45

Test Your Knowledge

A 68-year man is seen for a 4-week history severe lower leg pain, swelling and redness. The pain is over the shin and ankle. He was treated with a course of cephalexin followed by clindamycin without relief. He has a h/o gout and atrial fibrillation. Medications include allopurinol, colchicine, and apixaban.

Vital signs are normal. The left lower shin is red, warm, and tender. The erythema is not sharply demarcated. The left ankle is swollen, warm, and tender. There is no skin breakdown. Tophi are present over the elbows.

ESR is 90 mm/h and serum uric acid is 6.8 mg/dL. Blood cultures performed one week ago are negative. X-rays are normal. Aspiration of the left ankle yields no fluid.

46

46

Test Your Knowledge

Which of the following is the most appropriate next step in management?

- A. Indomethacin
- B. IV clindamycin
- C. MR of the leg
- D. Prednisone
- E. Surgical debridement

47



48

48

Gout

- Strongly **NEGATIVELY** birefringent **INTRACELLULAR** needle shaped crystals
- Serum uric acid level is not helpful for diagnosis
- Treatment is different for acute and chronic disease

49

49

Test Your Knowledge

A 76-year-old man seeks advice regarding dietary modification to help prevent gout flares. He recently experienced his first episode of podagra. At his initial visit, serum urate level was 7.2 mg/dl. History is also significant for HTN, for which he takes losartan. On PE vital signs are normal. BMI is 27. The remainder of the PE is normal.

In addition to meat restriction, increased intake of which of the following may help to decrease this patient's risk of gout flares?

- Leafy green vegetables
- Low fat dairy products
- Red wine
- Shellfish
- Fruit juice

50

50

Test Your Knowledge

A 55-year-old man is diagnosed with HTN. Other than a single episode of podagra 6 months ago, his medical history is unremarkable. He takes no medications. His father and brother have gout.

On PE, BP is 152/100. Rest of the vital signs are normal. BMI is 24. The remainder of the PE is unremarkable. Lab studies show a normal BUN, creatinine, electrolytes and the serum urate is 7.9 mg/dl.

Which of the following antihypertensive drugs is the most appropriate for this patient?

- Hydrochlorothiazide
- Lisinopril
- Losartan
- Metoprolol

51

51

Test Your Knowledge

A 53-year-old man is evaluated for a 5-year history of recurrent gout attacks involving various joints. Episodes are becoming more frequent and severe. He has hypertension and CKD stage 3. Medications include lisinopril and metoprolol. Patient is of Thai Descent.

Vital signs are normal. There are no tophi or swollen joints. Serum urate is 9.2 mg.dL.

Which of the following is the most appropriate next step in management?

- A. Begin allopurinol
- B. Begin probenecid
- C. Measure ANA
- D. Order HLA-B 5801 allele testing
- E. Start low dose prednisone

52

52

Allopurinol - Indications

- Nephrolithiasis/ Tophi
- Renal insufficiency (adjust dose)
- Prophylaxis before cytolytic therapy
- Urinary excretion of >1000 mgs of UA in 24 hours
- Adjust dose with Azathioprine and 6 MP

53

53

Gout

- An increased UA level alone is not diagnostic of gout
- A normal US level at the time of acute attack does not rule out gout
- Gout related soft tissue inflammation can mimic cellulitis
- Rule out infection even when UA crystals have been identified
- Do not use allopurinol and azathioprine together
- Do not prescribe colchicine in patients with renal failure

54

54

Gout

An elevated uric acid level alone is not diagnostic of gout.

A normal uric acid level at the time of an acute attack does not rule out gout. Cytokines are uricosuric, and therefore uric acid levels may drop during the attack.

Acute gout attack may coexist with bacterial infection

55

55

CPPD Disease

- It is a PSEUDO disease
- Pseudo gout
- Pseudo RA
- Pseudo OA
- Pseudo septic
- Pseudo Charcot
- Pseudo rheumatic fever
- Pseudo spondylitis

56

56

CPPD Disease

- HYPERparathyroidism
- HYPOthyroidism
- HYPOmagnesemia
- HYPOphosphatasia
- Hemochromatosis, Wilson's Disease, Ochronosis

57

57



58

CPPD Disease Crystal

- Pleomorphic
- Weakly positively birefringent

59

59

Test Your Knowledge

50-year old farmer has intermittent migratory arthritis affecting his knees and other large joints for the past three years. For the past six months he has low grade fever, crampy abdominal pain, and 10 lb weight loss, and diarrhea. Colonoscopy was normal. He was diagnosed to have uveitis after he complained of visual disturbance. He is on no medications.

On physical examination his BMI is 21. Right eye has mild redness. A grade 2 systolic murmur is heard. The abdomen is diffusely tender. Joints have full range of motion without inflammation.

60

60

Test Your Knowledge

The skin is hyperpigmented in sun exposed areas.
LABS: Hematocrit 33 percent. Platelet 480,000.
ESR 38mm/hr, Serum albumin 2.9 g/dl, ANA, RF, ANCA are negative.
PPD and urinalysis are negative. CT abdomen shows mild enlargement of spleen and several mesenteric lymph nodes.

Which of the following tests is most likely to confirm the diagnosis?

- A. Bone marrow biopsy with cultures
- B. Repeat colonoscopy with blind biopsies.
- C. Synovial fluid analysis during next flare
- D. Small bowel biopsy
- E. PET scan

61

61

Test Your Knowledge

A 55-year-old man is evaluated for 1-month history of back pain and lower limb swelling during the past 2 weeks. He had a goiter removed 5 years ago. He takes levothyroxine.

Vital signs are normal. There is a 2 plus lower limb edema. HCT is 34 percent, creatinine of 2.1 mg/dL and a normal urinalysis. US shows bilateral hydronephrosis. Non-contrast CT shows a soft tissue mass surrounding the infrarenal aorta without lymphadenopathy. The ureters are encased within the mass.

Which of the following is the most likely diagnosis?

- A. Germ cell tumor
- B. IgG4 disease
- C. Lymphoma
- D. Peritoneal mesothelioma

62

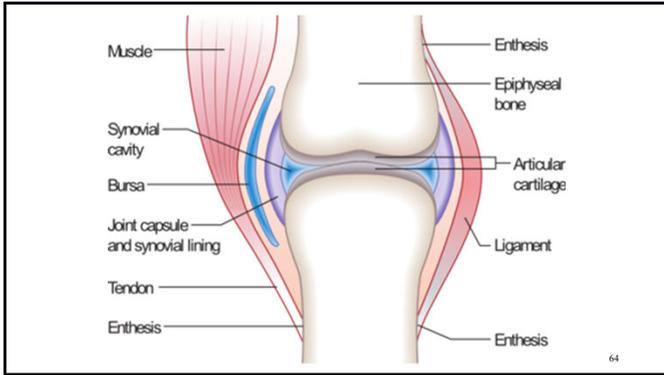
62

SPORTS MEDICINE Soft Tissue Rheumatism



63

63



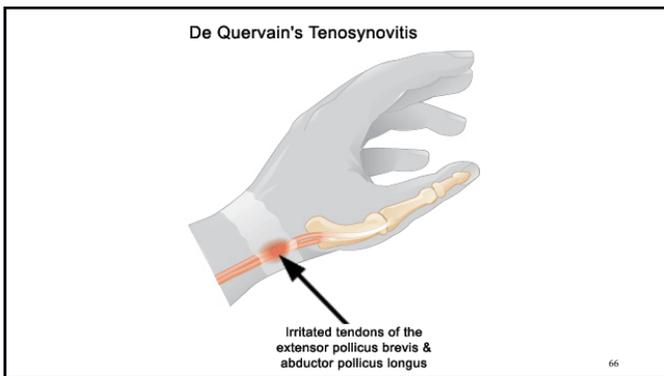
64

Overuse Syndromes

- Repetitive motion of a particular body part resulting in micro trauma to musculotendinous unit
- Treatment includes rest of the affected part, along with a progressive exercise program
- NSAIDs
- Avoid narcotics
- Local steroid injection

65

65



66

De Quervain's Tenosynovitis

- Tenosynovitis of the abductor pollicis longus and extensor pollicis brevis
- Occupational repetitive injury
- Pain on the radial aspect of the wrist and the thumb base during pinch grip and grasping
- Common misdiagnosis: OA of the first carpometacarpal joint
- Finkelstein's test is positive

67

67

De Quervain's Tenosynovitis (cont)

- In a positive Finkelstein test, pain increases when the thumb is folded across the palm and the fingers are flexed over the thumb as the examiner passively deviates the wrist toward the ulnar side
- Treatment: Local heat, NSAID, immobilization, local steroid injection and, rarely surgery

68

68

Diabetic Cheiroarthropathy

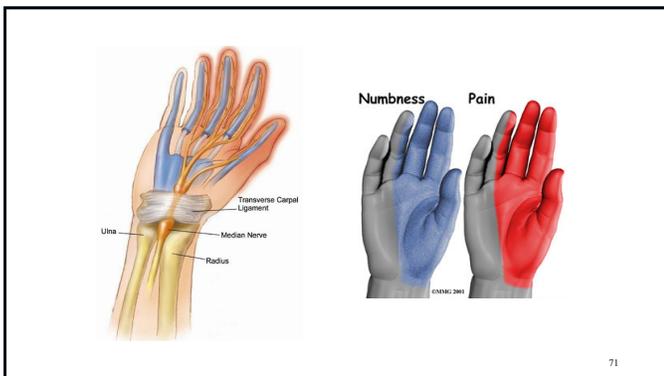
- Insidious and progressive
- Microvascular complications
- Positive prayer sign

69

69



70



71

Carpal Tunnel Syndrome

- Most common entrapment neuropathy
- Common Causes: Connective tissue disease, occupational injuries, diabetes mellitus, hypothyroidism, acromegaly, pregnancy, dialysis
- Paresthesia of the three and a half lateral digits
- Pain may extend *proximally* to the arm

72

Carpal Tunnel Syndrome (cont)

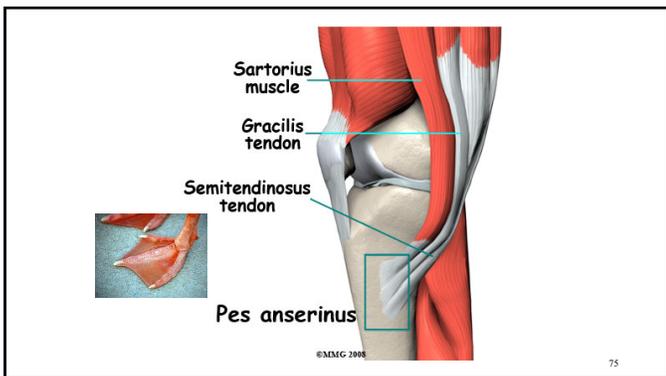
- Diminished sensation over medial nerve distribution
- Thenar muscle strength decreased
- Diagnosis is clinical
- Electrodiagnostic studies confirm the diagnosis
- Treat the underlying cause
- Splinting, local corticosteroid injection, NSAIDs and surgery

73

73



74



75

Bursitis – Anserine

- The Pes Anserinus (goose foot) is composed of the conjoined tendons of the sartorius, gracilis, and the semitendinosus muscles
- Seen in middle aged to elderly overweight women
- Commonly associated with OA of the knees
- Pain and tenderness over the medial aspect of the knee about 2” below the joint margin
- Pain worsens on stair climbing
- Treatment: Local depot corticosteroid injection

76

76

Test Your Knowledge

A 26- year-old woman is evaluated for lateral knee pain and distal thigh pain of 6 weeks duration. She is a long-distance runner. The pain is worse when she runs downhill. She has had no trauma and reports no catching, grinding, or locking.

Vital signs are normal. Tenderness is noted 2 cm proximal to the lateral femoral condyle. With patient supine, pain is reproduced with repeated flexion and extension of the knee as thumb pressure is applied to the lateral femoral condyle. There is no joint line tenderness, effusion, or ligament laxity with applied stress.

77

77

Test Your Knowledge

Which of the following is the most likely diagnosis?

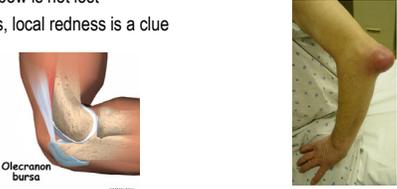
- A. Iliotibial band syndrome
- B. Lateral collateral ligament tear
- C. Lateral meniscus tear
- D. Meralgia paresthetica

78

78

Bursitis - Olecranon

- Secondary to trauma
- May be caused by gout or rheumatoid arthritis or uremia (hemodialysis)
- Motion of the elbow is not lost
- In septic bursitis, local redness is a clue



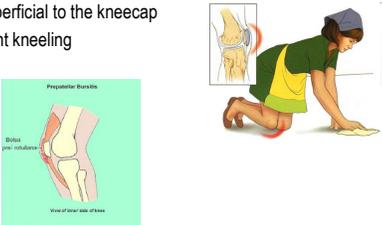
Olecranon bursa

79

79

Bursitis - Prepatellar

- Also called "housemaid's knee"
- Pain and swelling is superficial to the kneecap
- May result from frequent kneeling



Prepatellar Bursitis

Bursa pain relief

View of knee with bursa

80

80

Test Your Knowledge

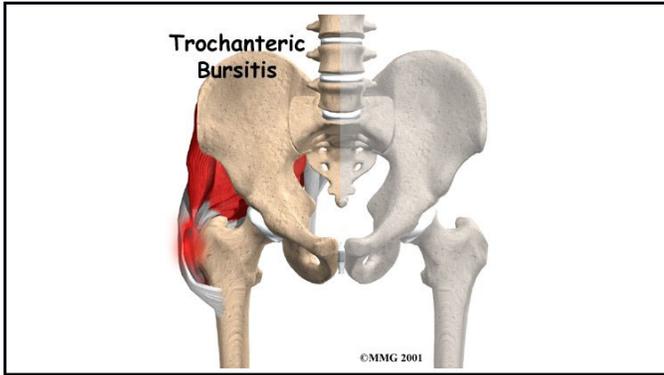
A 78-year-old moderately obese woman is evaluated because of night hip pain that worsens when she goes up and down stairs. She says she cannot sleep on her right side because of pain over the hip. She has been active and in good health. On physical examination, moving the hip through rotation, flexion, and extension does not elicit pain, but abduction reproduces the pain minimally. There is tenderness to pressure over the lateral aspect of the right hip.

Which of the following is the best next step in this patient's management?

- Order a radiograph of the right hip
- Prescribe a nonsteroidal anti-inflammatory drug
- Inject the painful spot with corticosteroid
- Refer the patient for physical therapy
- Advise the patient to use hot packs on the area for 20 minutes, three times daily.

81

81



82

Bursitis – Trochanteric

- Middle-aged or elderly women are more commonly affected
- Aching over the trochanteric area and lateral thigh (may be referred to the knee)
- Walking and lying on the affected side increases pain
- Pain worsens at night
- Radiculopathy is a common misdiagnosis
- Point tenderness is helpful in diagnosis
- Treatment: Local depot corticosteroid injection

83

83

Test Your Knowledge

A 38-year-old schoolteacher is referred to you for evaluation of left lateral hip pain. She describes a persistent burning sensation over the outer thigh that has been present for six weeks. Neither direct pressure to the area nor hip or lower back movement influence this localized area of pain.

On examination there is full range of motion of both hips and the lumbar spine. There are no focal areas of tenderness on palpation of the lower back or pelvis region. Sensory exam reveals that pinprick and light touch are abnormal in a 10 x 6 oval shaped area over the anterolateral left thigh. The straight leg raise is negative, and deep tendon reflexes and distal motor strength are preserved.

84

84

Test Your Knowledge

You suspect that the diagnosis is:

- A. Meralgia paresthetica
- B. Left sided lumbar disc herniation
- C. Trochanteric bursitis
- D. Complex regional pain syndrome type I
- E. Ischial bursitis

85

85

Test Your Knowledge

A 47-year-old man is evaluated for burning pain in the lateral right thigh that began insidiously and has persisted for several weeks. The pain increases on standing or walking and decreases on sitting or lying down but has otherwise remained constant over the past 4 to 5 weeks. He has no other pain, weakness, or trauma to the leg. He has been able to perform his job as a taxi driver without limitation. Except for the pain in his leg, he feels well. His history is significant only for obesity. He takes no medications, has no allergies, and denies cigarette, alcohol, or illicit drug use. He has gained almost 9 kg (20 lb) in the past 6 months.

On physical examination, the patient is a large, middle-aged man in no acute distress. His blood pressure is 116/78 mm Hg, pulse rate is 68/min. The right hip and knee have full active and passive range of motion without pain. Motor strength in all muscle groups is 5/5; knee-and ankle-stretch reflexes are 2+ and equal in both legs. The patient has an area of hypoesthesia along the right anterior lateral thigh above the knee; he can feel a monofilament when it touches the bottom of his feet. The rest of his sensory examination is normal. Pulses in both legs are 2+ and equal.

86

86

Test Your Knowledge

Results of laboratory studies from 2 months ago include a hemoglobin A_{1c} level of 4% and a fasting plasma glucose level of 89 mg/dL.

What is the most appropriate next diagnosis study?

- A. Plain films of the lumbar spine
- B. No further testing
- C. Vitamin B₁₂ level analysis
- D. Magnetic resonance imaging of the lumbar spine
- E. Nerve conduction study

87

87

Test Your Knowledge

For the past 6 months, a 52-year-old woman has noted recurrent moderately severe pain and tenderness in the region of the right elbow. The pain occurs mainly with the use of the arm and hand. She has noted no pain or tenderness in other joints. She has felt well generally, except for some occasional fatigue.

Examination of the right arm shows marked tenderness near the distal end of the lateral aspect of the humerus; range of motion is normal; and there is no redness or swelling. Resisted wrist extension exacerbates the elbow pain.

Which of the following tests would most likely provide the diagnosis?

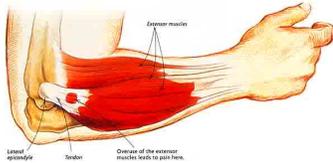
- A. Rheumatoid factor
- B. Antinuclear antibodies (ANA)
- C. Erythrocyte sedimentation rate (ESR)
- D. Radiograph of the elbow
- E. No further testing is necessary

88

88

Epicondylitis – Lateral (Tennis Elbow)

- An overuse syndrome
- Localized tenderness directly over the lateral epicondyle is diagnostic
- Pain may occur during handshakes or lifting a briefcase



89

89

Epicondylitis – Lateral (Tennis Elbow)

Treat as overuse syndrome

Epicondylitis - Medial (golfers elbow):

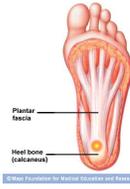
- Involves flexor carpi radialis
- Local pain and tenderness occurs over the medial epicondyle
- Resistance to flexion of the wrist causes pain

90

90

Plantar Fasciitis

- Pain on the plantar surface of the heel with weight bearing and tenderness on palpation
- Causes include overuse and inflammatory spondyloarthropathies
- Management is NSAIDs, use of heel-cup orthoses, arch support, or local injection with corticosteroids



91

91

Tendinitis - Achilles

- Causes:
- Trauma, overuse, improper shoes, spondyloarthropathies, gout, rheumatoid arthritis, CPPDD disease
 - Pain, tenderness over the area of insertion
 - Crepitus on dorsiflexion may be present
- Treatment:
- NSAIDs, rest, shoe correction, heel lift, and occasionally a splint
 - Do not inject steroid as the tendon is susceptible to rupture

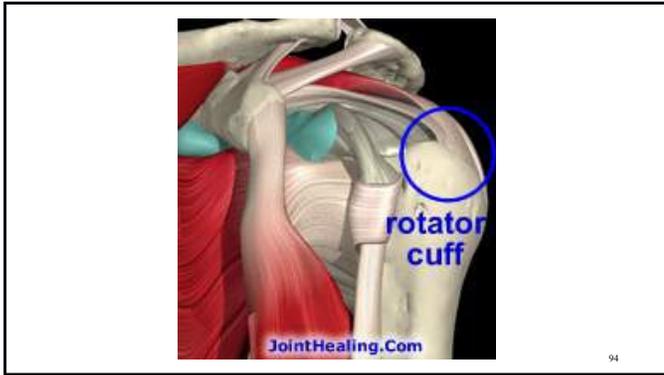


92

92



93



94

Tendinitis-Rotator Cuff

- Acute or chronic
- Pain on active abduction (60 to 120 degrees) and when lowering the arm
- Calcific deposits at the supraspinatus tendon may be present
- These deposits may resolve spontaneously
- Less pain is present on passive abduction than active abduction
- NSAIDs, local corticosteroids and lidocaine injections are used for treatment

95

Rotator Cuff Tear

- As many as 50% of patients with rotator cuff tear have no history of trauma
- Shoulder pain, weakness on abduction and loss of motion
- Drop arm test-the ability to actively maintain 90 degrees of passive shoulder abduction occurs in large tears
- Normal abduction does NOT rule out tear
- Diagnosis is established by ultrasound, or MRI

96
