

# Examination Of The Hip and Knee For Busy Practitioners

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# Efficiency



# Outline of Examination of Hip and Knee

- History
  - more likely to lead to diagnosis
- Examination
  - Look
  - Feel
  - Move
  - Special Test's

# Knee Examination

- Standing
  - Limb alignment (varus/valgus/flexion/squinting patella)
  - Muscle wasting
  - Walking
- Sit on side of bed
  - Patella maltracking
  - Feel for crepitus

# Knee Examination

- Lying on bed
  - Look for swelling (effusion/pre-patella) , erythema
  - Feeling for warmth
  - Feeling for tenderness (systematic approach
  - Move
    - SLR
    - Assess ROM
  - Special tests
    - Ligament stability
    - Meniscus tests
    - Patella apprehension test
  - Assess hip and neurovascular status

# Hip Examination

- Standing
  - Look
    - Alignment
    - Pelvic obliquity/ scoliosis
    - Hernia
    - Quads/buttock wasting
  - Moving
    - Walking
  - Special Testing
    - Trendelenberg testing

# Hip Examination

- Lying on Back

- Look

- Leg length

- Feel

- Tenderness

- Move

- Log roll test
    - SLR
    - ROM

- Special Tests

- Test for impingement
    - S-I joint pain
    - Neurovascular screen

- Lying in Side

- Palpation for tenderness (GT, buttock , S-I joint, L-spine)
  - Active abduction hip



# Case 1

- Question A

In regards to the right knee:

(click on all the correct responses)

1. There is a pre-patella bursal effusion
2. The limb alignment is valgus
3. The limb alignment is varus
4. The most likely diagnosis is OA





# Knee Effusion

- Wipe Test



- Patella Tap



# Range of Motion



- Active ROM
- If limited: test passive ROM
  - Locked meniscus
  - Loose body
  - Large joint effusion
  - Osteophytes
  - Pain

# Straight leg raise, Extensor lag

- Tests extensor mechanism
  - Quads/Patella/Patellar tendon
- Painful hips will find this painful



# Case 2

- 42 year old male
- Slipped down slope with acute onset pain in knee
- Unable to weight bear or SLR



# Case 2

- Click on all correct answers
- 1. The diagnosis is a patella fracture
- 2. The diagnosis is a patella tendon rupture
- 3. The diagnosis is an ACL tear
- 4. The diagnosis require surgery within a 2 weeks



# Compare to the Other Side





# MCL - Valgus Stressing

- 0° flexion
  - All medial stabilizers
- 30° flexion
  - MCL and capsule only





# MCL Questions

- Click on all correct answers
  - 1. NSAIDs is beneficial in healing of MCL tears
  - 2. NSAIDs retards the healing of MCL tears
  - 3. Most MCL tears require surgery
  - 4. Surgery accelerates the return to sport following MCL tears

# LCL – Varus Stressing

- 0° flexion
  - All lateral stabilizers
  - Posterolateral corner
- 30° flexion
  - LCL



# Posterior Draw Test - PCL





- Posterior drawer at 90 degree of knee flexion
  - Gd I - tibia anterior to femur on stressing
  - Gd II – tibia aligned with femur
  - Gd III – tibia posterior to femur.

## Acl Tear - Anterior Drawer Test





# ACL Tear - Lachman Test



# ACL Tear

## Pivot Shift Test

Reproduction of Instability Symptoms





# Meniscus - McMurrays Test

## Medial



## Lateral



# Patella Maltracking



# Patella Maltracking



# Patella Apprehension



# Special Tests - Hip

Trendelenberg's Test

# FAddIR

- Flexion
- Adduction
- Internal Rotation
- Induces groin pain with FAI, labral tears and OA





# Femoro-acetabular Impingement (FAI)

- Questions FAI is:

(Click on all correct answers)

1. Uncommon
2. Usually has reduction in hip ROM
3. Usually symptomatic
4. Requires surgery independent of symptoms
5. Often bilateral





# Patrick Test (Faber)

- Flexion, abduction and external rotation hip
- Positive for S-I joint if reproduces buttock pain
- Not specific



# Live Case Presentation

- Troy
- 27 year old detective
- Healthy and fit
- 2006 playing soccer non-contact pivoting injury to left knee
- ACL and MCL tear
- Underwent ACL reconstruction
- Returned to full activities and sport 8 months later
- No problems until May 2014

# Troy – May 2014



# Troy

## Question

(click on all the correct responses)

1. Most likely diagnosis is re-tear of left ACL
2. Most likely diagnosis is tear of right ACL
3. He is likely to have instability while jogging in a straight line
4. Ultrasound is a useful investigation in this setting

# MRI



# ACL Tears

1. Most ACL tears are non-contact
2. The ACL of the contra-lateral knee has over 10% chance of rupture over 5 year
3. The re-rupture rate of an ACL graft is 5-10% over 5 years
4. There is no loss of hamstring strength with hamstring graft harvest

# Answers



# Case 1

- Question A

In regards to the right knee:

(click on all the correct responses)

1. There is a pre-patella bursal effusion – **False**  
(knee joint effusion)
2. The limb alignment is valgus - **False**
3. The limb alignment is varus – **True**
4. The most likely diagnosis is OA - **True**



# Case 2

- Click on all correct answers
- 1. The diagnosis is a patella fracture **False**
- 2. The diagnosis is a patella tendon rupture **True**
- 3. The diagnosis is an ACL tear - **False**
- 4. The diagnosis requires surgery within a 2 weeks - True



# MCL Questions

- Click on all correct answers
- 1. NSAIDs is beneficial in healing of MCL tear - **False**
- 2. NSAIDs retards the healing of MCL tears - **True (and increases the risk if re-injury)**
- 3. Most MCL tears require surgery – **False (very rarley)**
- 4. Surgery accelerates the return to sport following MCL tears – **False (prolongs time for return to sport)**

# Femoro-acetabular Impingement (FAI)

- Questions FAI is:

(Click on all correct answers)

1. Uncommon - **False**  
(10-20% with cam lesions in asymptomatic population.  
80-90% NHL and NFL players)
2. Usually has reduction in hip ROM – **True (loss of IR in flexion)**
3. Usually symptomatic – **False**
4. Requires surgery independent of symptoms – **False (although it increases the risk of OA, surgery not proven to slow its progress)**
5. Often bilateral - **True**



# Troy

## Question

(click on all the correct responses)

1. Most likely diagnosis is re-tear of left ACL – False (right knee)
2. Most likely diagnosis is tear of right ACL – True (non-contact pivoting injury)
3. He is likely to have instability while jogging in a straight line – True (usually only problems with pivoting/side-stepping)
4. Ultrasound is a useful investigation in this setting - False



# ACL Tears

1. Most ACL tears are non-contact – **True (70%)**
2. The ACL of the contra-lateral knee has over 10% chance of rupture over 5 year - **True**
3. The re-rupture rate of an ACL graft is 5-10% over 5 years - **True**
4. There is no loss of hamstring strength with hamstring graft harvested – **False (up to 20 % loss with knee flexion over 60 degrees)**