

## Common Conditions

- Bursitis
- Osgood-Schlatter's/Sinding Larsen's disease
- Patella tracking syndrome
- Meniscoid injuries
- Ligamentous sprains
  - Cruciate (Anterior/Posterior)
  - Co-lateral (Medial/lateral)
- Muscle strains
- OA
- # Tib/fib/femur (Osteomyelitis)
- Runners Knee (Illiotal band Syndrome)

## Bursitis

### Clinical Presentation

- Red, hot, swollen, painful, loss of Fx
  - Housemaid's knee
  - Vicar's knee
  - Pes anserine insertion
- Diagnosis usual made on clinical observations
  - where is the swelling
  - What bursa is in the area
- How many bursa's does the knee have?

**Deep**

Suprapatellar  
Infrapatella

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**Superficial**

Suprapatellar  
Infrapatella

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## Treatment

- Treat the overlying muscle imbalance
- Articulate entire chain
- Advise on RSI and stop aggravating the area
- Avoidance of aggravating exercise
- Avoid kneeling down (carpet fitters/roofers)
- Consider anti-inflammatories
- Local corticosteroid
- If Chronic... sometimes surgical removal is the only course of action with post op rehab

## Vicar's Knee

## Housemaid's Knee

**Dr. Robert Osgood- Dr. Carl Schlatter's (1903)**

Clinical Presentation

- Pain/swelling on tibial tuberosity
- Pain on quad contraction against resistance
- Traction Apophysitis on tuberosity
- Multiple cross training in athletes
- Overtraining Quads
- Onset in teens

Rehab & Treatment

- Lengthen quads thru stretching
- NMT over tuberosity (when appropriate)
- Stop sport

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**ACL/PCL Sprain**



Clinical Presentation

- Pain at time of injury, slow to heal
- Swelling (beware of rapid swelling)
- Instability
- Positive draw test
- Classic caused by loaded rotation of knee on stable platform
- Injury thru impact normally involves co-laterals and meniscus (known as O'Donohue's triad)

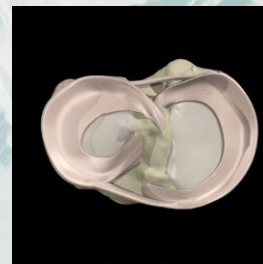


**Treatment**

- Strengthen ham/quads
- Proprioceptive training
- Surgery if rupture or severe instability
  - 2 Types
  - Extraarticular/intraartular tech
- Wash out if haemarthrosis
- Bracing with a knee support




**Meniscus**





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### Clinical Presentation

- Locking out/giving way commonly reported
- Pain to the outside of the knee which gradually comes on.
- Pain comes on during a run and gets worse.
- Injury is aggravated by running up hills.
- Tenderness along the joint line of the knee.
- McMurrays test is positive.
- A lump may be present in the joint line of the knee.



### Types Of Tear

### Rehab & Treatment

- MRI scan?
- Perform an arthroscopy to debris & repair
- Strengthen & lengthen
- Neuromuscular joint margin
- Articulation
- Advise Hot/Cold TTT and rest area
- Treat entire chain
  - MET,NMT
- Correct foot mechanics with orthotic's



### Illiotalbial Band Syndrome



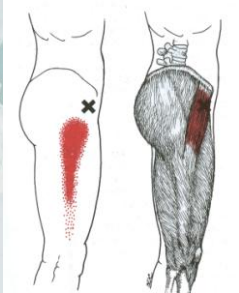
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#### Clinical Presentation


- Gradual or rapid onset
- Pain over the ITB due to friction
- Bursitis under tendon
- Inflammatory signs/symptoms reported
- Exercise becomes more aggravating
- Poor warm up/warm down
- Overtraining



### Rehab & Treatment



- Self massage
- Advice
  - Stretching ITB
  - Hot/cold TTT
  - Self massage
  - Rest injury
  - Planned return to exercise
- Trigger point ITB/TFL
- Neuromuscular
- MET

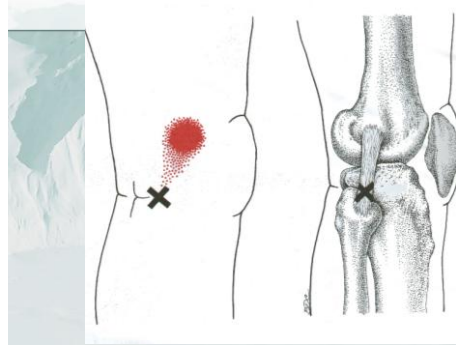


### Co-Lateral Ligament




Clinical Presentation

- Normally and impact injury in contact sports
- Poorly managed previous injury
- Can present as an RSI
- Pain over the medial/lateral aspect of knee
- Needs to be DD'ed from possible underlying bursa or meniscus
- CH will help & good follow up questioning

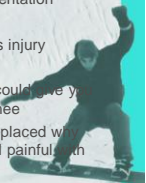


**Knees don't come with a lifetime guarantee!!!**

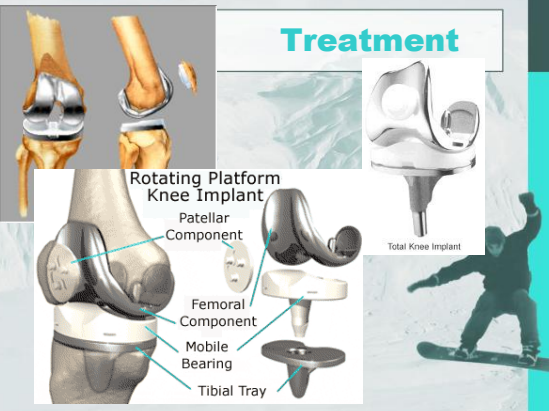


Clinical Presentation

- Differentiate between acute and chronic presentations using CH
- If chronic, it is what it is!!!
- Age related (not common under 45yrs)
- Painful, swollen,
- Joint Deformity / loss of normal ROM/Fx
- Diagnosis based on clinical presentation
- X-Ray?? (new guidelines)
- History of previous trauma/sports injury
- Consider what other conditions could give you a red, hot, swollen and painful knee
- Also consider if joint has been replaced what would it be red, hot, swollen and painful with reduced Fx



**Treatment**

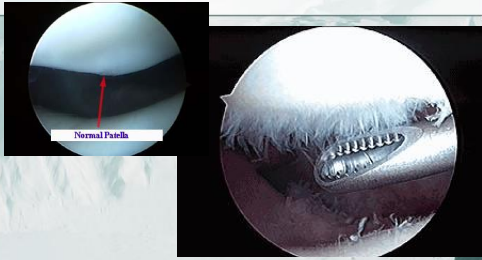


**Treatment & Rehab**

- Initially lengthen quads and hamstring using a combination of
  - Soft tissue/NMT/MET
  - Articulation knee in pain free ROM
  - Articulate (entire chain)
  - Advice on power building using therband
- Long term refer to Gym for
  - well leg training
  - eventually up to 4 pieces of CV
  - weight training



## Retro Patella Wear Chondmalacia Patella



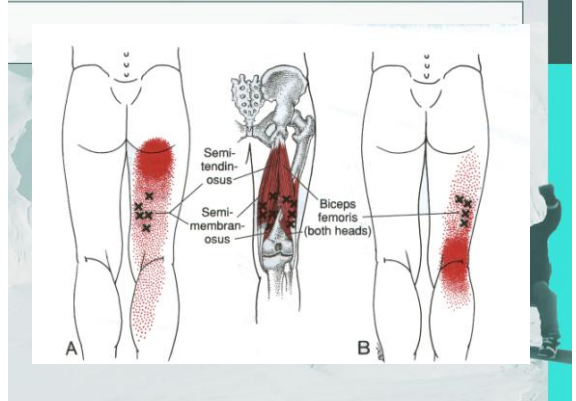
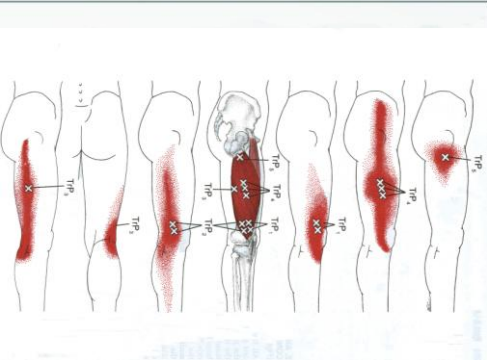
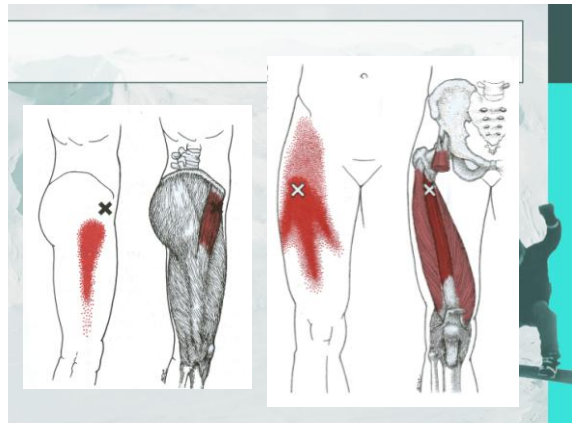
Softening and degenerative changes in the posterior surface of the patella

## Clinical Presentation

- Anterior knee pain (with or without effusion)
- Pain when patella drawn over femoral condyles
  - WF: climbing/descending stairs, hill walking, running
  - squatting, kneeling, sitting long periods
- Creptus may be reported
- Classic causes overuse/maltracking due to Exs pronation
- Cartilage changes due to excessive compression
- 4 grades of wear described
  - GD 1. Small fissures seen in cartilage
  - GD 2. Fissures upto 1.3 cm without invasion into the subchondral bone
  - GD 3. Fissuring, fragmentation and fibrillation which extends to the subchondral bone
  - GD 4. Osteoarthritis changes and adaptive remodelling (sp)

## Treatment & Rehab

- REST & AVOIDANCE
- Assess muscle imbalance & power train
- Correct Exs pronation & advise on shock absorbing runners
- Cold/Hot Application (10x daily)
- Advise stretching Lex groups
- NMT & T/P Quads, ITB, Hams and Calf



## Case Study

A 40 year old male presents with right knee pain with a PMI over the anterior aspect. No neuro symptoms reported.

The onset he describes as 2001 while marathon training. The injury was sustained having run a marathon in June of that year and coming back into training too quickly and running an unofficial marathon 1 month later.

On follow up questioning he describes no locking out or giving way or weakness. Deep swelling is noted only when patient attempts to return to running.

He describes the pain as a 2/10 with occasional short lived sharp pain on certain movements which is 7/10

No treatment or advice has been sought, no investigations have been undertaken

NAR on FMH/PMH



• **What follow up questions do you need to ask?**

• **With this info, what's you working Hypo/diagnosis**

• **What's your DD?**

• **What's your examination routine based on the above?**



## Follow Up questions???

- Does your knee ever lock out or give way
- What's it like when you climb/descend stairs
- Any swelling
  - Rapid Swelling?
  - Gradual Swelling?
- Do you stretch on a regular basis
  - Calf/ITB/Quads/Hamstring/Adductors
  - Specific knee orientated BF:/ WF

