



Knee Pain & Tenderness: Differential Diagnoses by Location

Location of pain and tenderness can often be very helpful in establishing an initial differential diagnosis. Location is based on both subjective pain (have the patient point to the pain during the history) and objective findings (e.g., point of maximum tenderness during static palpation). The specific anatomical location of pain/tenderness leading to identification of the tissues involved is very important in reaching a correct diagnosis. A discrete knowledge of anatomy is critical. This information can then be combined with other salient features from the history (e.g., mechanism of injury) and the physical (response to orthopedic testing).

Generalized or variable pain patterns

Some conditions produce generalized or variable pain. These conditions include arthritides, infections such as Lyme, joint effusions, hemarthrosis, fractures, tumors, radiculopathies & other referred pain from the back, sciatica, metastatic neoplasm, fibromyalgia (usually medial).

Intra-capsular Pain



Knee trauma

- **Meniscus****
- **Cruciate****
- Fracture

Non-traumatic (overuse or insidious onset)

- **Meniscus****
- **Osteoarthritis****
- Joint mouse
- Plica
- Cruciate
- Inflammatory joint disease (e.g., RA)
- **Infection†**

Note: The authors have attempted to offer guidance relative to which conditions may be more common and which rare. Prevalence statistics for many of these conditions are unknown, especially in a chiropractic setting—the annotations are the judgments of the authors.

** = A very common cause to consider, should be high on the differential.

* = A common condition to consider.

† = Statistically rare—but, because of its serious nature, may be important to keep in mind if only to rule out.

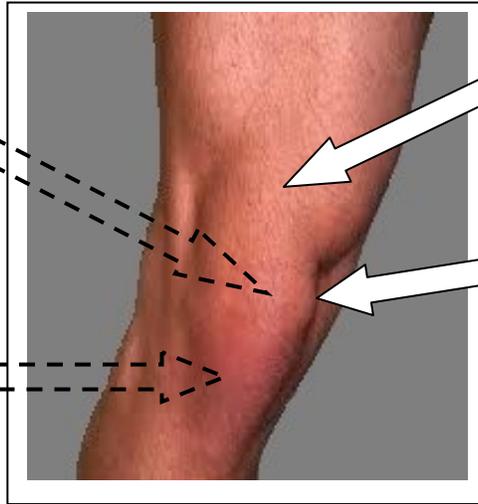
Diagram by Location Anterior Knee Pain

Patellar pain

Trauma	Non-traumatic
<ul style="list-style-type: none"> Contusion** Dislocation* /subluxation Patellar fracture 	<ul style="list-style-type: none"> Patellofemoral pain syndrome** OA** Chondromalacia* Prepatellar bursitis Stress fracture Dislocation/subluxation

Inferior to patella

Trauma	Non-traumatic
<ul style="list-style-type: none"> Infrapatellar tendon tear Tibial fractures Fat pad inflammation 	<ul style="list-style-type: none"> Jumpers knee** Osgood Schlatter's** Sinding-Larsen-Johansson's Tibial stress fractures Fat pad inflammation or entrapment Infrapatellar bursitis Osteoid osteoma† Ewing's and osteosarcoma's†



Superior to patella

Trauma	Non-traumatic
<ul style="list-style-type: none"> Quadriceps contusion* Tendon rupture Distal femoral fracture 	<ul style="list-style-type: none"> Quadriceps tendinopathy*/suprapatellar effusions Osteoid osteoma† Ewing's† Fibrosarcoma & osteosarcoma† Giant cell tumors†

Medial or lateral to patella

Trauma	Non-traumatic
<ul style="list-style-type: none"> Patellar dislocation or subluxation* MCL sprain* Symptomatic synovial plica 	<ul style="list-style-type: none"> Symptomatic synovial plica** Referral from hip/SI joint or proximal femur* Peripatellar neuritis

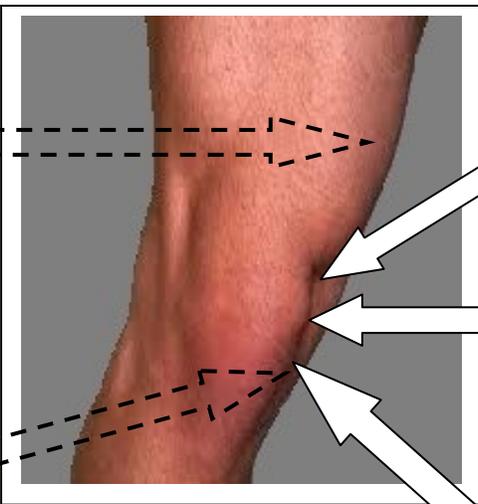
Medial Knee Pain

Distal thigh

Trauma	Non-traumatic
<ul style="list-style-type: none"> Quadriceps strain,* contusions* & myositis ossificans† Hamstring tendon tear Femoral fracture 	<ul style="list-style-type: none"> Semitendinosus tendinopathy** or strain Quadriceps tendinopathy Chronic strains Femoral stress fracture

Proximal leg

Trauma	Non-traumatic
<ul style="list-style-type: none"> Tennis leg* Contusions* Tibia fx Thrombophlebitis 	<ul style="list-style-type: none"> Tennis leg* Tib stress fx Thrombophlebitis Tumor†



Superior to joint line

Trauma	Non-traumatic
<ul style="list-style-type: none"> MCL sprain* Patellar dislocation/retinacular tear† Femoral fracture Symptomatic plica 	<ul style="list-style-type: none"> Symptomatic plica** Referred pain from upper femur/hip/SI* MCL sprain Saphenous neuritis Tumor†

Joint line

Trauma	Non-traumatic
<ul style="list-style-type: none"> Meniscus tear** MCL sprains** (pain crosses the joint line) Joint surface injury* Coronary lig sprain* 	<ul style="list-style-type: none"> Meniscus tear** Joint surface pathology (e.g., OA)* Osteochondritis dissecans Coronary lig capsulitis MCL sprains† (pain crosses the joint line)

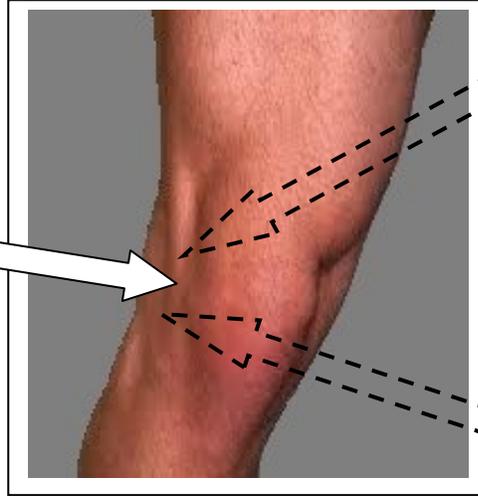
Inferior to joint line

Trauma	Non-traumatic
<ul style="list-style-type: none"> Pes anserine tendinopathy/bursitis Tibial fracture 	<ul style="list-style-type: none"> Pes anserine tendinopathy/Bursitis* Tibial stress fracture* Tumor†

Lateral Knee Pain

Joint line

Trauma	Non-traumatic/chronic
<ul style="list-style-type: none"> • Meniscus tear* • Coronary lig sprain* • LCL sprain (pain may cross joint line)* • Joint surface injury • Lateral condylar osteochondritis† 	<ul style="list-style-type: none"> • Meniscus tear* • Coronary lig. capsulitis* • Discoid meniscus (child) • Chronic lateral instability (pain may cross joint line) • LCL sprain†



Superior to joint line

Trauma	Non-traumatic/chronic
<ul style="list-style-type: none"> • Contusion** • Biceps muscle-tendon tear • Common peroneal neuropathy 	<ul style="list-style-type: none"> • ITB syndrome** • Biceps tendinopathy* • Tumor†

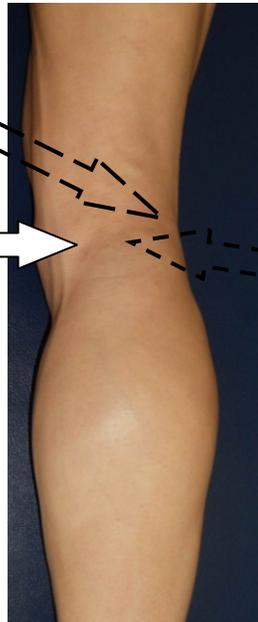
Inferior to joint line

Trauma	Non-traumatic/chronic
<ul style="list-style-type: none"> • Peroneal neuropathy* • Fibular fracture • Proximal tib-fib sprain • Biceps tendon strain/tear • Popliteus strain • Gastrocnemius strain 	<ul style="list-style-type: none"> • Proximal tib-fib joint dysfunction*, instability or capsulitis • Peroneal neuropathy* • Fibular stress fx • Radiculitis (early) • Popliteus tendinopathy/MFTP • Biceps tendinopathy • Tumor†

Posterior Knee Pain

Posterolateral/Posteromedial

Trauma	Non-traumatic
<ul style="list-style-type: none"> • Hamstring strain • Gastrocnemius strain/rupture 	<ul style="list-style-type: none"> • Gastrocnemius tendinopathy or myofascitis* • Hamstring tendinopathy • Osteochondritis dissecans



Posterior Center

Trauma	Non-traumatic
<ul style="list-style-type: none"> • Baker's cyst with internal derangement** • Tear posterior horn of meniscus** • ACL tear* • PCL tear • Posterior capsular sprain • Acute compartment syndrome 	<ul style="list-style-type: none"> • Baker's cyst with attendant internal derangement** • Tear posterior horn of meniscus** • Sciatica/ referred pain* • DVT • Posterior capsulitis • Popliteus tendinopathy or myofascitis • Chronic compartment syndrome • Sarcoma† • Infections†

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