

Flowchart: Differential Diagnosis of Knee Pain

This guide is designed for use by physicians and physician extenders to assist in identifying potential causes of knee pain. It is intended solely for healthcare providers, and not for patient use. Every patient is unique and requires a comprehensive evaluation, including a full medical history, physical examination, and imaging review, to arrive at an accurate diagnosis. This tool should not be used as a definitive diagnostic resource but as a guide to explore possible diagnoses.

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1. Does X-ray show a Bone Lesion?

- **Yes** → Benign or Malignant Lesion
 - **No** → Go to #2
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2. Pain described as "burning," "tingling," or "numbness"?

- **Yes** → Neurologic
 - **Is symptom along the posterior leg or knee?**
 - **Yes** → Sciatica
 - **No** → Referred or Neuropathy
 - **No** → Go to #3
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3. Pain Location around the Knee:

- **Pain is Anterior:**
 - **Pain around patella** → Go to #4

- Pain superior to patella → Go to #5
 - Pain inferior to patella → Go to #6
 - Pain is Medial:
 - Pain anterior-medial joint line → Go to #7
 - Pain medial joint line → Go to #8
 - Pain inferior to medial joint line → Go to #9
 - Pain superior to medial joint line → Go to #10
 - Pain is Lateral:
 - Pain anterior-lateral joint line → Go to #11
 - Pain lateral joint line → Go to #12
 - Pain is Posterior → Go to #13
 - Pain is Diffuse or Non-specific → Go to #14
 - Pain in the Groin → Go to #15
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4. Pain around Patella:

- Trauma: Yes
 - Able to do straight leg raise (extensor mechanism intact)?
 - Sensation of kneecap dislocation or X-ray shows patella dislocated/subluxated → Patella Dislocation
 - X-rays negative:
 - Pain over medial patella or patella subluxates laterally → Patella Dislocated and Reduced
 - No pain over medial patella → Knee/Patella Contusion
- Unable to do straight leg raise:
 - Pain over patella:
 - X-rays show fracture → Patella Fracture
 - Pain over quadriceps/superior pole → Quadriceps Tendon Tear
 - Pain over patella tendon/inferior pole → Patella Tendon Tear

- **Non-specific pain or joint swelling** → Synovitis
- **Trauma: No**
 - **X-rays show patellofemoral arthritis:**
 - **Yes** → Patellofemoral Arthritis
 - **No** → Consider:
 - **Swelling: Yes**
 - **Swelling anteriorly/intra-articular** → Synovitis
 - **Extra-articular swelling** → Prepatellar Bursitis
 - **Crepitance: Yes** → Patella Chondromalacia
 - **Crepitance: No** → Anterior Knee Pain Syndrome

5. Pain Superior to Patella:

- **Trauma: Yes**
 - **Unable to do SLR (extensor mechanism not intact)** → Quadriceps Tear
 - **Able to do SLR** → Partial Quadriceps Tear or Tendonitis
- **Trauma: No** → Quadriceps Tendonitis

6. Pain Inferior to Patella:

- **Trauma: Yes**
 - **Patella tendon tear:**
 - **Unable to do SLR** → Extensor Mechanism Not Intact
 - **Able to do SLR** → Extensor Mechanism Intact
- **Trauma: No** → Patella Tendonitis

7. Pain Anterior-Medial Joint Line:

- **MRI Results:**
 - **Anterior horn medial meniscal tear**
 - **Subchondral Insufficiency Fracture**
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8. Pain Medial Joint Line:

- **Trauma: No:**
 - **X-ray shows joint space narrowing:**
 - **Yes** → Arthritis
 - **No** → Consider:
 - **Cystic swelling along medial joint line** → Medial Meniscal Cyst
 - **No swelling** → Meniscus Tear or Tibia Subchondral Insufficiency Fracture
 - **Trauma: Yes:**
 - **X-ray shows fracture** → Tibia Plateau Fracture
 - **No fracture** → Medial Meniscal Tear or MCL Sprain (Mid-Substance)
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9. Pain Inferior to Medial Joint Line:

- **Trauma: No** → Pes Tendonitis
 - **Trauma: Yes** → MCL Sprain (Insertion) or Proximal Tibia Fracture
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10. Pain Superior to Medial Joint Line:

- **Trauma: No** → Medial Plica
 - **Trauma: Yes** → MFC Fracture or MCL Sprain (Origin)
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11. Pain Anterior-Lateral Joint Line:

- **At the Joint Line** → Anterior Horn Lateral Meniscal Tear
 - **Inferior to the Joint Line** → Lateral Infrapatellar Bursitis
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12. Pain Lateral:

- **Trauma: No:**
 - **Pain over IT Band** → Iliotibial Band Tendonitis
 - **Pain over Gerdy's Tubercle** → Iliotibial Band Tendonitis
 - **Pain over lateral joint line:**
 - **X-rays show arthritis** → Lateral Compartment DJD
 - **No arthritis** → Lateral Meniscal Tear or Meniscal Cyst
 - **Trauma: Yes** → LCL Sprain
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13. Pain Posterior:

- **Trauma: No** → Baker's Cyst, Posterior Horn Meniscal Tear, Hamstring Pain, Sciatica
 - **Trauma: Yes** → PCL Tear, Posterior Lateral Corner Injury, Tibia Plateau Fracture, or Knee Dislocation
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14. Pain is Diffuse or Non-Specific:

- **Trauma: Yes:**
 - **Positive Lachman's or Anterior Drawer Test** → ACL Tear
- **Trauma: No:**
 - **Effusion:**
 - **Yes** → Synovitis, Infection, Arthritis, or Inflammatory Arthritis (e.g., Gout, Pseudo Gout, Rheumatoid Arthritis, Psoriatic Arthritis, Lupus, Lyme's Disease)

- **No** → Mild Arthritis or Meniscal Tear
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15. Pain in the Groin:

- **X-rays show arthritis** → Hip Arthritis
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