QUESTION 40 OA
A 75-year-old woman has bilateral knee osteoarthritis, diabetes and ischaemic heart disease. Functionally she can walk two kilometres with pain in her back usually causing her to stop. She presents with a four-week history of severe pain in the right knee on weight bearing. This pain is minimally improved with non-steroidal anti-inflammatory drugs, paracetamol and intra-articular corticosteroid injection, and there is no history of trauma or falls. On examination there is no heat but a small effusion, the knee is tender along the medial joint line and ligaments appear normal. Her X-ray report suggests moderate changes consistent with osteoarthritis. Which of the following investigations is most likely to provide the diagnosis?
A. Gallium scan.
B. Bone scan.
C. Computed tomography (CT) scan.
D. Magnetic resonance imaging (MRI) scan.
E. Arthroscopy.

Clinical features
- Pain related to activity
- Morning stiffness usually last <30mins
- “knees give way”
- Pain at night reflect chronic inflammatory arthritis

Examination
Arthritis of hip can cause referred pain to the knee
Range of movement of hip should be assessed to see whether movement at hip jt induces knee pain of whether there is groin tenderness

<table>
<thead>
<tr>
<th>Condition</th>
<th>Features According to History</th>
<th>Features of Physical Examination</th>
<th>Laboratory Features</th>
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</thead>
<tbody>
<tr>
<td>Chronic inflammatory arthritis, including rheumatoid arthritis</td>
<td>Prominent morning stiffness Other joints affected</td>
<td>Other joints swollen or tender</td>
<td>Increased erythrocyte sedimentation rate Inflammatory synovial fluid</td>
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<tr>
<td>Gout or pseudogout</td>
<td>Other joints affected (especially in cases of gout)</td>
<td>Other joints swollen or tender</td>
<td>Inflammatory synovial fluid containing crystals</td>
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<td>Hip arthritis</td>
<td>Relatively young age of the patient Predominance of patellofemoral symptoms</td>
<td>Tenderness only over the patellofemoral joint</td>
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<td>Chondromalacia patellae</td>
<td>Pain with hip rotation Groin tenderness</td>
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<tr>
<td>Anserine bursitis</td>
<td>Tenderness distal to the knee over the medial tibia</td>
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<tr>
<td>Trochanteric bursitis</td>
<td>Lateral hip pain</td>
<td>Tenderness in the region of the lateral hip</td>
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<tr>
<td>Iliotibial band syndrome</td>
<td>Nocturnal or continuous pain</td>
<td>Tenderness of the iliotibial band</td>
<td>Bloody synovial fluid Possibility of an abnormal radiograph</td>
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<tr>
<td>Joint tumors</td>
<td>Prominent mechanical symptoms (e.g., buckling or locking)</td>
<td>Tenderness over the joint line Positive McMurray test</td>
<td>Meniscal tear on MRI</td>
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<tr>
<td>Meniscal tear</td>
<td>Prominent mechanical symptoms</td>
<td>Positive Lachman test</td>
<td></td>
</tr>
<tr>
<td>Anterior cruciate ligament tear</td>
<td>Prominent mechanical symptoms</td>
<td>Anterior cruciate ligament tear on MRI</td>
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</tbody>
</table>

* Knee pain is defined as chronic if it is present for at least six weeks. MRI denotes magnetic resonance imaging.
† Tenderness of the iliotibial band is usually lateral to the knee over the insertion site of the iliotibial band in the fibular head or superior to that, where it courses over the lateral femoral condyle.
‡ No physical examination maneuver for meniscal tears has both high sensitivity and specificity. Tenderness at the joint line has a sensitivity of 79 percent and a specificity of 15 percent, whereas a McMurray test has a sensitivity of 53 percent and a specificity of 59 percent. A McMurray test is positive if a click is palpable over the medial or lateral tibiofemoral joint line during flexion and extension of the knee during varus (medial tear) or valgus (lateral tear) stress. These data are derived from studies of acute tears, and diagnostic data are not available for chronic tears.
§ A Lachman test is positive if there is excessive anterior translation of the tibia at 30 degrees of knee flexion.
Advanced OA, meniscal tears are nearly universal
Anterior cruciate ligament tears are common – no change to tx

Ix:
Radiography is indicated in the workup of pt if knee pain is nocturnal or is activity related.
If knee pain persists after effective therapy for OA, a radiograph may reveal clues to a missed diagnosis
Finding correlate poorly with the severity of pain
May be normal in persons with diease

Xray changes:
1) Jt space narrowing
2) Osteophytes
3) Osteosclerosis
4) Sunchondral cysts

MRI
- diagnostic
- Not suggested in workup of older persons with chronic knee pain
- Findings : meniscal tears

Nonpharmacologic Treatment

1) Weakness of quadriceps muscles
   a. Caused by disuse and inhibition of muscle contraction
   b. Severity of pain directly correlated with degree of muscle weakness
   c. Strengthening improve stability of jts and lessen pain

2) Combination of exercise and wt loss (4.6kg)
   a. Reduced pain
   b. Improved physical function

3) Acupuncture
   a. Reduce pain but effect small

Pharmacologic treatment

1) Paracetamol
2) NSAIDS
3) Glucosamine – no difference from placebo
4) Intrarticular corticosteroid injections
   - Effect last for 1-3 weeks

Answer D. MRI