

Exam practice – Reading

TEXT A/ Chondromalacia patellae refers to softening and degeneration of the articular hyaline cartilage of the patella that articulates with the trochlear groove of the femur and is a frequent cause of anterior knee pain.

TEXT B/ Chondromalacia patellae tends to occur in young adults. There is a recognized female predilection, partly due to differences in lower-limb alignment and biomechanics. It can either occur in isolation or secondary to other conditions, including direct trauma, patellar dislocation, chronic patellar instability/subluxation, patella alta, quadriceps imbalance, synovial plicae. Structural factors such as genu valgum, pes planus, or increased Q-angle may further contribute to abnormal patellofemoral loading.

TEXT C/ Patients with chondromalacia patellae usually present with anterior knee pain on walking up or down stairs. Additionally, there may be knee pain when kneeling, squatting, or after sitting for long periods of time. Knee stiffness, crepitus and effusions may also be present. In some cases, a history of patellar dislocation may be present. Some patients may present with quadriceps wasting or atrophy.

Plain radiographs of the knee cannot assess for chondral changes directly and can only demonstrate features of osteoarthritis (OA) involving the patellofemoral joint in end-stage disease. A joint effusion may be visible. Lateral and skyline views are more helpful to assess for shallow excavation in the subchondral bone involving the patella. CT arthrography can be used to diagnose plicae and focal cartilage defects but can be insensitive to early chondral injury. MRI is the modality of choice for assessing patellar cartilage. T1 – poor sequence for cartilage; surface irregularity and subtle signal change may be inapparent; areas of hypointensity may be seen in cartilage; hypointense subchondral reactive bone marrow edema pattern may be seen; secondary changes of osteoarthritis may be seen. T2/PD – best sequences for assessing cartilage; most patients with chondromalacia patellae have focally increased signal in the cartilage or focal contour defects in the cartilage surface; abnormal cartilage is usually high signal compared to normal cartilage; finding range from a subtle increase in signal to complete loss of cartilage. In the absence of effusion, plicae may be difficult to identify.

TEXT D/ Initial management is non-operative with a reduction of strenuous activities, NSAIDs, and exercises to stretch and strengthen the quadriceps muscle (especially vastus medialis).

A variety of operative options exist including: arthroscopic debridement and lavage – diagnostic but only offers short term symptomatic relief, articular resurfacing, surgical correction for instability, patellectomy.

TEXT E/ General imaging differential considerations include: dorsal defect of the patella: on the superolateral corner of the patella, bone marrow edema at the inferior pole as a result of either jumper's knee/ Sinding-Larsen-Johansson disease or patellar sleeve fractures.

Task. Match the texts A-E with the statements 1-7 below. Write your answers in the chart:

1.	2.	3.	4.	5.	6.	7.

1. There is higher susceptibility among certain patient populations.
2. It affects the glassy connective tissue that acts as a shock-absorbing surface in joints.
3. It can result from a knee injury.
4. Mechanical symptoms like grinding, or a sensation of roughness beneath the patella may be present.
5. Considered the "gold standard" among other assessment options.
6. Recommendations include activity modification and avoidance of repetitive overload.
7. It involves a comprehensive evaluation of potential conditions presenting with similar symptoms.

Sources:

Farooq S, Elfeky M, Hng J, et al. Chondromalacia patellae. Reference article, Radiopaedia.org (Accessed on 25 Feb 2026) <https://doi.org/10.53347/rID-9173>



mgr Joanna Mazur