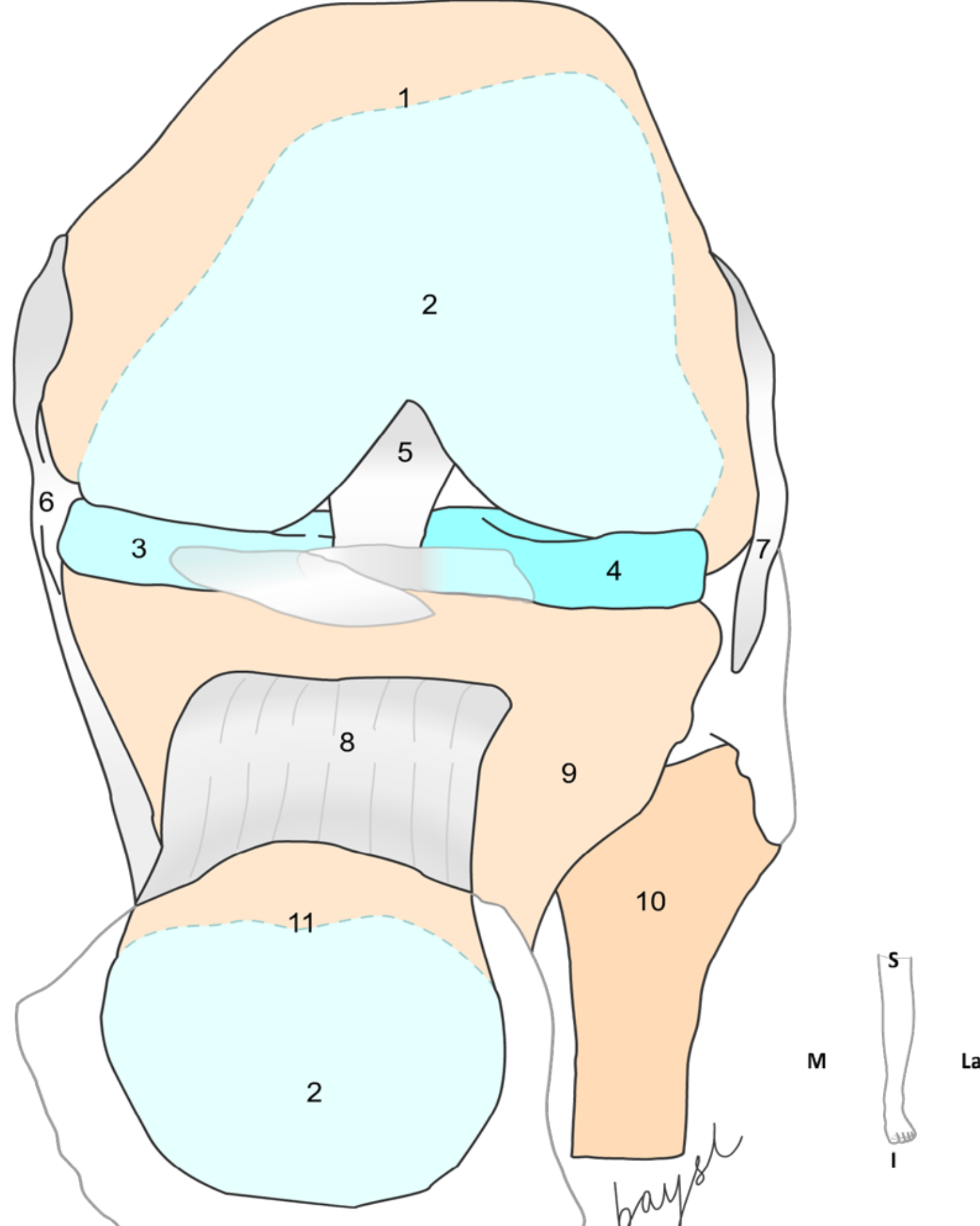


THE KNEE



- | | | |
|-----------|---|--|
| Cartilage | } | 1. Femur |
| | | 2. Articular Cartilage (covering femur and patella) |
| | | 3. Medial meniscus |
| | | 4. Lateral meniscus |
| Ligaments | } | 5. Anterior cruciate ligament |
| | | 6. Medial collateral ligament |
| | | 7. Lateral collateral ligament |
| | | 8. Patellar ligament |
| | | 9. Tibia |
| | | 10. Fibula |
| | | 11. Patella |

Anterior aspect of left knee showing the synovial joint that connects three bones; the femur, tibia and patella. The joint surfaces are lined with hyaline cartilage.

The articulating surfaces of the knee joint include the tibiofemoral and the patellofemoral surfaces.

The medial and lateral menisci of the knee are fibrocartilaginous structures that serve as shock absorbers to the region, they also increase the stability of the joint.

The main ligaments in the knee joint are:

- Cruciate ligaments – the anterior and posterior cruciate ligaments connect the femur and the tibia. The anterior cruciate ligament helps to prevent an anterior dislocation of the tibia while the posterior cruciate ligaments helps to prevent a posterior dislocation of the tibia.
- Collateral ligaments – the tibial and fibular collateral ligaments help to prevent excessive medial or lateral movements by stabilising the hinge movements of the knee joint.
- Patellar ligament – this allows for extension at the knee joint.

The knee joint allows for extension, flexion, lateral rotation, and medial rotation movements.

CLINICAL CORRELATION

1. Tearing of the anterior cruciate ligament – this can occur either by overexertion of force or hyperextension. An anterior cruciate ligament tear can be tested by drawing the tibia forward, movement of the tibia in this direction may indicate a torn ligament.
2. Patellar dislocation – this tends to occur laterally and is a common injury amongst many athletes. A patellar dislocation can be tested by applying pressure to the medial surface of the patella which will cause discomfort to the patient, indicating a patellar dislocation.

Question(s)

- Discuss the structures that provide cushioning and act as shock absorbers in the knee joint.
- Describe the structures that provide stability to the knee joint.