

Table 17.2 Manual Muscle Testing for the Knee

| Motion | Athlete position | Stabilizing hand placement | Resistance hand placement | Instruction to athlete | Primary muscles tested |
|-------------------------|--|----------------------------|-------------------------------|---|--|
| Knee flexion | Prone, knee extended with foot off table | Pelvis | Distal, posterior tibia | Flex the knee by bringing the heel toward the buttock. Perform also with the tibia externally and internally rotated. | Neutral: Biceps femoris, semimembranosus, semitendinosus ER: Biceps femoris IR: Semimembranosus and semitendinosus |
| Knee extension | Seated, knee flexed to 90° and lower leg hanging off table | Upper thigh | Distal, anterior tibia | Extend the knee by raising the foot toward the ceiling (watch hip rotation). | Quadriceps femoris |
| Medial tibial rotation | Seated, knee flexed to 90° and lower leg hanging off table | Distal femur | Grasping distal medial tibia | Rotate the foot toward the midline of the body. | Semimembranosus, semitendinosus |
| Lateral tibial rotation | Seated, knee flexed to 90° and lower leg hanging off table | Distal femur | Grasping distal lateral tibia | Rotate the foot away from the midline of the body. | Biceps femoris |

ER = external tibial rotation; IR = internal tibial rotation.

From S. Shultz, P. Houglum, and D. Perrin, 2016. *Examination of musculoskeletal injuries*, 4th ed. (Champaign, IL: Human Kinetics).