

Lower Extremity Muscle Quiz Answer Key PDF

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The gluteus medius is primarily involved in which movement?

- A. Hip flexation
- C. Hip abduction ✓**
- D. Hip adduction
- B. Hip extension

What is the primary action of the tibialis anterior muscle?

- A. Plantarflexation
- C. Hip extension
- D. Knee flexation
- B. Dorsiflexation ✓**

What nerve innervates the quadriceps muscle group?

- A. Sciatic nerve
- C. Femoral nerve ✓**
- D. Tibal nerve
- B. Obturator nerve

Which muscle is part of the hamstring group?

- A. Vastus lateralis
- C. Rectus femoris
- D. Gluteus minimus
- B. Semitendinosus ✓**

Which muscle is located in the calf and assists in plantarflexation?

A. Soleus ✓

C. Gracilis

D. Pectineus

B. Sartorius

How do plantarflexors and dorsiflexors contribute to walking and running mechanics?

Plantarflexors, such as the gastrocnemius and soleus, help propel the body forward during the push-off phase, while dorsiflexors, like the tibialis anterior, control foot placement and prevent dragging during the swing phase.

What are the primary differences in function between the gluteus maximus and gluteus medius?

The gluteus maximus is primarily responsible for hip extension and external rotation, whereas the gluteus medius primarily facilitates hip abduction and stabilizes the pelvis.

Which muscles are involved in knee flexation?

A. Biceps femoris ✓

C. Rectus femoris

D. Semimembranosus ✓

B. Semitendinosus ✓

Explain the significance of the femoral artery in the vascular supply of the lower extremity.

The femoral artery is the main arterial supply to the lower extremity, providing blood to the thigh and branching into the popliteal artery, which further supplies the knee and lower leg.

Outline the rehabilitation process for a hamstring strain.

1. Rest and protect the injured area. 2. Apply RICE (Rest, Ice, Compression, Elevation) for the first 48-72 hours. 3. Gradually introduce gentle stretching and range of motion exercises. 4. Progress to strengthening exercises focusing on the hamstrings and surrounding muscles. 5. Incorporate sport-specific drills and functional training. 6. Return to full activity only when pain-free and strength is restored.

Which muscles are primarily responsible for hip extension?

A. Gluteus maximus ✓

C. Rectus femoris

D. Vastus lateralis

B. Semitendinosus ✓

Discuss the impact of a sciatic nerve injury on lower extremity function.

The impact of a sciatic nerve injury on lower extremity function includes reduced strength and coordination in the leg muscles, altered gait patterns, and potential loss of sensation, leading to difficulties in walking, standing, and performing everyday tasks.

Describe the role of the quadriceps muscle group in daily activities.

The quadriceps muscle group plays a crucial role in daily activities by enabling knee extension, which is necessary for movements such as walking, running, squatting, and climbing stairs.

Which artery supplies blood to the thigh region?

A. Popliteal artery

C. Anterior tibial artery

D. Posterior tibial artery

B. Femoral artery ✓

Which muscles contribute to hip stabilization?

A. Gluteus maximus ✓

C. Tibialis anterior

D. Vastus intermedius

B. Gluteus medius ✓

Which muscle is commonly associated with shin splints?

A. Gastrocnemius

C. Soleus

D. Plantaris

B. Tibialis anterior ✓

Which muscles are innervated by the sciatic nerve?

- A. Biceps femoris ✓**
- C. Semimembranosus ✓**
- D. Rectus femoris
- B. Vastus medialis

What are common injuries associated with the lower extremity muscles?

- A. Patellar tendinitis ✓**
- C. Rotator cuff tear
- D. Shin splints ✓**
- B. Hamstring strain ✓**

Which of the following muscles are part of the adductor group?

- A. Adductor magnus ✓**
- C. Gracilis ✓**
- D. Gluteus maximus
- B. Sartorius

Which muscle is primarily responsible for knee extension?

- A. Biceps femoris
- C. Gluteus maximus
- D. Tibialis anterior
- B. Rectus femoris ✓**