

Muscles Of The Leg Quiz Answer Key PDF

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Which muscle is primarily responsible for knee extension?

- A. Hamstrings
- B. Quadriceps Femoris ✓**
- C. Gastrocnemius
- D. Soleus

Which nerve innervates the anterior compartment of the thigh?

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

Explain the process and importance of dorsiflex ion in daily activities.

Dorsiflex ion is the action of raising the foot upwards at the ankle joint, which is important for activities such as walking, running, and climbing stairs, as it helps in proper foot placement and balance.

How does the blood supply to the leg muscles adapt during intense physical activity?

The blood supply to the leg muscles adapts by increasing due to vasodilation, enhancing oxygen delivery and waste removal.

Discuss the importance of the gluteus medius in maintaining postural stability.

The gluteus medius plays a vital role in maintaining postural stability by stabilizing the pelvis during single-leg activities and preventing excessive hip adduction, which is essential for proper gait and balance.

Which artery primarily supplies blood to the posterior compartment of the leg?

- A. Femoral artery
- B. Anterior tibialis artery
- C. Popliteal artery
- D. Posterior tibialis artery ✓**

Which muscle is involved in the eversion of the foot?

- A. Tibialis Anterior
- B. Soleus
- C. Peroneus Longus ✓**
- D. Gastrocnemius

Which muscle is part of the hamstring group?

- A. Rectus Femoris
- B. Biceps Femoris ✓**
- C. Adductor Longus
- D. Gluteus Maximus

Which muscle is NOT part of the quadriceps group?

- A. Vastus Lateralis
- B. Vastus Medialis
- C. Biceps Femoris ✓**
- D. Rectus Femoris

Which muscles contribute to hip abduction?

- A. Gluteus Medius ✓**
- B. Gluteus Minimus ✓**
- C. Gluteus Maximus

D. Adductor Magnus

Which muscles are part of the adductor group in the thigh?

- A. Adductor Longus ✓
- B. Adductor Brevis ✓
- C. Semitendinosus
- D. Gracilis ✓

Which muscles are involved in knee flexion?

- A. Quadriceps Femoris
- B. Hamstrings ✓
- C. Gastrocnemius ✓
- D. Soleus

Explain the role of the quadriceps femoris in the gait cycle.

The quadriceps femoris is essential in the gait cycle as it extends the knee during the stance phase to support body weight and aids in leg clearance during the swing phase.

Describe the anatomical differences between the anterior and posterior compartments of the leg.

The anterior compartment of the leg contains the tibialis anterior, extensor hallucis longus, extensor digitorum longus, and fibularis tertius muscles, and is innervated by the deep fibular nerve. The posterior compartment is divided into superficial and deep layers, containing muscles such as the gastrocnemius, soleus, and tibialis posterior, and is innervated by the tibial nerve.

What are the potential consequences of a sciatic nerve injury on leg muscle function?

The potential consequences of a sciatic nerve injury on leg muscle function include muscle weakness, loss of sensation, and impaired coordination, particularly in the muscles innervated by the sciatic nerve.

Which of the following are common conditions affecting the leg muscles?

- A. Plantar fasciitis ✓

B. Carpal tunnel syndrome

C. Shin splints ✓

D. Muscle cramps ✓

Which nerves are responsible for innervating the muscles of the leg?

A. Sciatic nerve ✓

B. Femoral nerve ✓

C. Median nerve

D. Obturator nerve ✓

Which muscles are involved in plantar flexion of the foot?

A. Gastrocnemius ✓

B. Soleus ✓

C. Tibialis Anterior

D. Peroneus Longus

What is the main function of the tibialis anterior muscle?

A. Plantar flexion

B. Knee extension

C. Dorsiflexion and inversion of the foot ✓

D. Hip extension

What is the primary action of the gluteus maximus muscle?

A. Abduction of the thigh

B. Flexion of the hip

C. Extension and lateral rotation of the hip ✓

D. Medial rotation of the thigh