Dorsiflexion is the movement of the foot and ankle in which the foot is flexed upward towards the leg. It is the opposite movement of plantar flexion, where the foot is pointed downward. Dorsiflexion involves the muscles and tendons located in the anterior compartment of the leg and plays a crucial role in various activities such as walking, running, and maintaining balance.

Several muscles contribute to dorsiflexion, including:

Tibialis anterior: This muscle is the primary dorsiflexor of the foot. It runs along the front of the shin and helps lift the foot, allowing the toes to clear the ground during the swing phase of walking.

Extensor digitorum longus: Located on the lateral side of the tibia, this muscle extends the toes and assists in dorsiflexion.

Extensor hallucis longus: Situated medial to the extensor digitorum longus, this muscle extends the big toe and also aids in dorsiflexion.

These muscles work together to contract and pull the foot upward, allowing for movements such as lifting the foot while walking, bringing the toes toward the shin, or preparing for activities like jumping or kicking a ball.

Dorsiflexion is essential for maintaining balance and stability. When walking, the foot goes through a sequence of dorsiflexion during the swing phase and plantar flexion during the stance phase. This alternating movement helps clear the toes off the ground and ensures proper foot positioning for efficient locomotion.

Impairments or limitations in dorsiflexion can have functional implications, such as difficulty in walking, running, ascending or descending stairs, and may be associated with conditions like ankle sprains, muscle strains, nerve injuries, or certain neurological disorders.