

Muscles of the Lower Extremity

(For each action listed, only the muscles primarily involved in its production are listed.)

Joint	Action	Muscle	Innervation	Comments
Hip	Flexion	iliopsoas: a) psoas major b) iliacus	a) L1-L3 ventral rami b) femoral nerve	
		rectus femoris	femoral nerve	
		sartorius	femoral nerve	
		tensor fasciae latae	superior gluteal nerve	
		adductor longus & brevis	obturator nerve	
		adductor magnus (adductor portion)	obturator nerve	
		pectineus	femoral nerve	
	Extension	gluteus maximus	inferior gluteal nerve	
		semitendinosus	tibial nerve	
		semimembranosus	tibial nerve	
		biceps femoris (long head)	tibial nerve	
		adductor magnus (hamstring portion)	tibial nerve	
		Abduction	gluteus medius & minimus (lesser gluteals)	superior gluteal nerve
	tensor fasciae latae		superior gluteal nerve	
	Adduction	adductors (longus, brevis, magnus)	obturator nerve	
		gracilis	obturator nerve	
		pectineus	femoral nerve	
		obturator externus	obturator nerve	
		Lateral Rotation	sartorius	femoral nerve
	gluteus maximus		inferior gluteal nerve	
	obturator externus		obturator nerve	
	piriformis		S1-S2	
	obturator internus		nerve to obturator internus	This muscle group, in addition to piriformis, dynamically stabilize the hip joint.
	superior gemellus		nerve to obturator internus	
	inferior gemellus		nerve to quadratus femoris	
	quadratus femoris	nerve to quadratus femoris		
	Medial Rotation	tensor fasciae latae	superior gluteal nerve	
gluteus medius & minimus		superior gluteal nerve		

Lower Extremity Muscle Chart

Knee	Flexion	semitendinosus	tibial nerve	
		semimembranosus	tibial nerve	
		biceps femoris (long and short heads)	tibial nerve (long), common fibular nerve (short)	
		sartorius	femoral	
		gracilis	obturator	
	Extension	quadriceps femoris <ul style="list-style-type: none"> • vastus medialis • vastus intermedius • vastus lateralis • rectus femoris 	femoral nerve	
	Medial Rotation (tibia on femur)	popliteus	tibial nerve	This muscle can also laterally rotate the femur on the tibia when the foot is on the ground.
		semimembranosus	tibial nerve	Medial rotation of the leg by these muscles can only occur with the knee flexed.
		semitendinosus	tibial nerve	
	lateral rotation (tibia on femur)	biceps femoris	tibial nerve (long), common fibular nerve (short)	Lateral rotation of the leg can only occur with the knee flexed.
Ankle (Talocrural)	Plantar Flexion	gastrocnemius	tibial nerve	
		soleus	tibial nerve	
		plantaris	tibial nerve	
		tibialis posterior	tibial nerve	
		flexor hallucis longus	tibial nerve	
		flexor digitorum longus	tibial nerve	
		fibularis longus & brevis	superficial fibular nerve	
	Dorsiflexion	tibialis anterior	deep fibular nerve	
		extensor digitorum longus	deep fibular nerve	
		fibularis tertius	deep fibular nerve	
		extensor hallucis longus	deep fibular nerve	

Lower Extremity Muscle Chart

Ankle (Subtalar & Transverse Tarsal)	Eversion	fibularis longus & brevis	superficial fibular nerve	
		extensor digitorum longus	deep fibular nerve	
		fibularis tertius	deep fibular nerve	
	Inversion	tibialis anterior	deep fibular nerve	
		tibialis posterior	tibial nerve	
		flexor digitorum longus	tibial nerve	
		flexor hallucis longus	tibial nerve	
		extensor hallucis longus	deep fibular nerve	
<p>The primary function of the intrinsic muscles of the foot is to absorb the energy of impact at heel-strike and to maintain the arches of the foot during foot-flat. Their role in producing movements at the joints of the foot is functionally and clinically insignificant. See Lab Manual for further discussion.</p>				
Toes	Extension 2-5	extensor digitorum longus	deep fibular nerve	
	Extension 2-4	extensor digitorum brevis	deep fibular nerve	
	Extension Great Toe	extensor hallucis longus	deep fibular nerve	
		extensor hallucis brevis	deep fibular nerve	
	Flexion 2-5	flexor digitorum longus	tibial nerve	
		flexor digitorum brevis	medial plantar nerve	
	Flexion 2-5	quadratus plantae	lateral plantar nerve	
	Flexion Great Toe	flexor hallucis longus	tibial nerve	
		flexor hallucis brevis	medial plantar nerve	
	Flexion Little Toe	flexor digiti minimi brevis	lateral plantar nerve	