Using the Muscle Charts:

Students should be aware of all muscles listed in the charts below. You will be required to know the action for all muscles in the chart, as well as innervation for all but one of the muscles. You will also be asked to know origins and insertions of some of these muscles, based on the color-coding as described below.

If a box is shaded in light blue on the muscle charts, you are expected to know this information for the exam, as written here. This includes all actions, and innervations (except for the grey box by the psoas), and some origins and insertions. We may ask you about any of the information in the blue boxes.
For the boxes shaded in light green, we will not ask you about that specific origin or insertion on the exam. ***However,*** you should have an understanding of the location of the muscle, including the general area of that origin and insertion so that you can understand so that you can understand the action of that muscle. For example, understanding that a muscle inserts on the proximal phalanx rather than the distal phalanx tells you that it can only act on the metatarsophalangeal joint, not the interphalangeal joints of that toe. Understanding origin and insertion of muscles around the hip can help you understand why one muscle may internally rotate the hip but another may externally rotate the hip. If you don't have a general understanding of origin and insertion, it is difficult to understand the action of a muscle.

***Some sources provide differing synergistic movements for some muscles. Therefore, your book may differ from this chart on some of these small movements. This is also true for the origins and insertions. **You will only be tested on the actions, origins, and insertions provided in this chart.**

Gluteal Muscles

Muscle	Action(s)	Origin	Insertion	Innervation
Gluteus Maximus	Extends, laterally rotates, and abducts the hip	Iliac crest, sacrum, coccyx	Iliotibial tract (to Gerdy's tubercle) Gluteal tuberosity of femur	Inferior gluteal nerve
Gluteus Medius	Abducts and medially rotates hip	Posterior iliac crest	Greater trochanter of femur	Superior gluteal nerve
Gluteus Minimus		Lateral ilium		

Lateral Rotators of the Hip

Muscle	Action(s)
Piriformis	Laterally rotate the hip
Quadratus Femoris	
Superior Gemellus	
Inferior Gemellus	
Obturator Internus	
Obturator Externus	

Posterior Thigh Muscles

Muscle	Action(s)	Origin	Insertion	Innervation
Biceps Femoris	*Long Head*: extends hip *Long & Short Head*: flexes and laterally rotates knee	*Long head*: Ischial tuberosity *Short head*: Linea aspera	Head of fibula	*Long head*: Tibial division of sciatic nerve *Short head*: Common fibular (peroneal) division of sciatic nerve
Semimembranosus	Extends hip and flexes knee; medially rotates knee	Ischial tuberosity	Medial condyle of tibia	Tibial division of sciatic nerve
Semitendinosus			Pes anserine insertion	

Anterior Thigh Muscles

Muscle		Action(s)	Origin	Insertion	Innervation
Psoas Major		Flex the hip	Transverse processes of lumbar vertebrae	Lesser trochanter, merge to form the Iliopsoas	
Iliacus			Iliac fossa		Femoral nerve
Sartorius		*Hip*: flexion, abduction & lateral rotation *Knee*: flexion & medial rotation	Anterior superior iliac spine (ASIS)	Pes anserine insertion	
Quadriceps Muscle Group	**Rectus Femoris**	*Hip*: flexion *Knee*: extension	Anterior inferior iliac spine (AIIS)	Quadriceps tendon to patella and then patellar ligament to tibial tuberosity	
	Vastus Intermedius	Extends knee	Anterolateral femur		
	Vastus Lateralis		Greater trochanter, gluteal tuberosity, linea aspera		
	Vastus Medialis		Linea aspera		

Medial Thigh Muscles

Muscle	Action(s)	Origin	Insertion	Innervation
Gracilis	*Hip*: Adduction, medial rotation *Knee*: Flexion, medial rotation	Inferior ramus of pubis	Pes anserine insertion	Obturator nerve
Adductor Brevis	Adducts, medially rotates, and flexes hip		Linea aspera of femur	
Adductor Longus		Pubic tubercle		
Pectineus		Pectineal line of pubis	Pectineal line of femur	Femoral nerve & obturator nerve
Adductor Magnus	*Adductor part*: Adducts, medially rotates, and flexes hip *Hamstring part*: extends and laterally rotates hip	Inferior ramus of pubis Ischial tuberosity	Linea aspera Adductor tubercle	*Adductor part*: Obturator nerve *Hamstring part*: Tibial division of sciatic nerve

Lateral Thigh Muscle

Muscle	Action(s)	Origin	Insertion	Innervation
Tensor Fasciae Latae	Flexes, abducts and medially rotates hip	Iliac crest posterior to anterior superior iliac spine (ASIS)	Iliotibial tract (IT band, to Gerdy's tubercle)	Superior gluteal nerve

Leg: Anterior Compartment Muscles

Muscle	Action(s)	Origin	Insertion	Innervation
Extensor Digitorum Longus	Extends MTP, PIP, & DIP of toes 2–5, dorsiflexes & everts ankle	Lateral condyle of tibia; anterior fibula; interosseous membrane	Distal phalanges of toes 2–5	Deep fibular (peroneal) nerve
Extensor Hallucis Longus	Extends MTP & IP of great (1st) toe, dorsiflexes & inverts ankle	Anterior fibula	Distal phalanx of great (1st) toe	
Fibularis (Peroneus) Tertius	Dorsiflexes and weakly everts ankle	Anterior distal fibula	Base of 5th metatarsal	
Tibialis Anterior	Dorsiflexes & inverts ankle	Lateral condyle and proximal tibia	1st Metatarsal & first (medial) cuneiform	

Leg: Superficial Posterior Compartment Muscles

Muscle	Action(s)		Origin/Insertion	Innervation
Gastrocnemius	Flexes knee; plantar flexes ankle	Posterior surfaces of femoral epicondyles	Calcaneus (via calcaneal [Achilles] tendon)	Tibial nerve
Soleus	Plantar flexes ankle	Head and proximal shaft of fibula; medial border of tibia		
Plantaris	Weak knee flexor and weak ankle plantar flexor	Lateral supracondylar ridge of femur	Posterior calcaneus	

Leg: Deep Posterior Compartment Muscles

Muscle	Action(s)	Origin	Insertion	Innervation
Flexor Digitorum Longus	Plantar flexes and weakly inverts ankle; flexes MTP, PIP. & DIP of toes 2–5	Posteromedial tibia	Distal phalanges of toes 2–5	Tibial nerve
Flexor Hallucis Longus	Plantar flexes & weakly inverts ankle; flexes MTP & IP of great toe	Posterior inferior fibula	Distal phalanx of great (1^{st}) toe	
Tibialis Posterior	Plantar flexes & inverts ankle	Fibula, tibia	2^{nd} -5^{th} Metatarsals, distal tarsals	
Popliteus	Medially rotates tibia to unlock knee; flexes knee	Lateral condyle of femur	Posterior, proximal tibia	

Leg: Lateral Compartment Muscles

Muscle	Action(s)	Origin	Insertion	Innervation
Fibularis (Peroneus) Longus	Everts ankle, assist plantar flexion of ankle	Head and superior portion of fibula, lateral condyle of tibia	Base of 1^{st} metatarsal, medial cuneiform	Superficial fibular (peroneal) nerve
Fibularis (Peroneus) Brevis		Mid-lateral fibula	Base of 5^{th} metatarsal	

Dorsal Surface of Foot

Muscle	Action(s)	Origin	Insertion	Innervation
Extensor Hallucis Brevis	Extends MTP joint of great toe	Calcaneus	Proximal phalanx of great toe	Deep fibular (peroneal) nerve
Extensor digitorum Brevis	Extends MTP & both IP joints of toes 2–4		Middle phalanges of toes 2–4	

Plantar Surface of Foot				
Muscle	**Action(s)**	**Origin**	**Insertion**	**Innervation**
Adductor Hallucis	Adducts great toe (MTP)	*Transverse head*: 3rd-5th MP joints *Oblique head*: Bases 2nd-4th metatarsals	Proximal phalanx of great toe	Lateral plantar nerve
Flexor Digiti Minimi Brevis	Flexes MTP joint of toe 5	5th Metatarsal	Proximal phalanx of toe 5	
Dorsal Interossei	Abducts toes (MTP)	Adjacent sides of metatarsals	Proximal phalanges toes 2–4	
Plantar Interossei	Adducts toes (MTP)		Proximal phalanges toes 3–5	
Abductor Digiti Minimi	Abducts 5th toe (MTP)	Calcaneus	Proximal phalanx of 5th toe	
Quadratus Plantae	Aligns flexor digitorum longus tendons to aid flexion of toes 2–5 (all joints)		Flexor digitorum longus tendons	
Flexor Digitorum Brevis	Flexes MTP and PIP joints of toes 2–5		Middle phalanges of toes 2–5	Medial plantar nerve
Abductor Hallucis	Abducts great toe (MTP)		Proximal phalanx of great toe	
Flexor Hallucis Brevis	Flexes MTP joint of great toe	Cuboid & lateral (3rd) cuneiform	Proximal phalanx of great toe	
Lumbricals	Flexes MTP joints & extends PIP & DIP joints of toes 2–5	Flexor digitorum longus tendons	Extensor digitorum longus tendons	1st: Medial plantar nerve 2nd -4th:: lateral plantar nerve