

APPENDIX



Muscles by Pain Referral Zone

This is an outline of muscles organized by pain referral zones. Each heading indicates an area in which pain might be experienced; under it is a list of muscles that typically refer pain to that area.

Head and neck

Head

Top of head (vertex)

Sternocleidomastoid

Splenius capitis

Back of head

Trapezius

Sternocleidomastoid

Semispinalis capitis

Semispinalis cervicis

Splenius cervicis

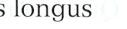
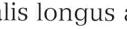
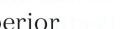
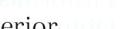
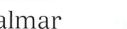
Suboccipital group

Occipitalis

Digastric

Temporalis

Temporal (side of head)	Upper thoracic back
Trapezius	Scalenes
Sternocleidomastoid	Levator scapulae
Temporalis	Supraspinatus
Splenius cervicis	Trapezius
Suboccipital group	Multifidi
Semispinalis capitis	Rhomboids
Frontal (forehead)	Splenius cervicis
Sternocleidomastoid	Triceps brachii
Semispinalis capitis	Biceps brachii
Frontalis	Back of shoulder
Zygomaticus major	Deltoids
Ear and temporomandibular joint (TMJ)	Levator scapulae
Medial and Lateral Pterygoids	Scalenes
Masseter	Supraspinatus
Sternocleidomastoid (clavicular)	Teres major
Eye and eyebrow	Teres minor
Sternocleidomastoid (sternal)	Subscapularis
Temporalis	Serratus posterior superior
Splenius cervicis	Latissimus dorsi
Masseter	Triceps brachii
Suboccipital group	Trapezius
Occipitalis	Iliocostalis thoracis
Orbicularis oculi	Front of shoulder
Trapezius	Infraspinatus
Cheek and jaw	Deltoids
Sternocleidomastoid (sternal)	Scalenes
Masseter	Supraspinatus
Lateral pterygoid	Pectoralis major
Trapezius	Pectoralis minor
Digastric	Biceps brachii
Medial pterygoid	Coracobrachialis
Platysma	Arm, forearm, wrist, and hand
Orbicularis oculi	Back of arm
Zygomaticus major	Scalenes
Toothache	Triceps
Temporalis	Brachii
Masseter	Deltoid
Digastric	Subscapularis
Neck	Supraspinatus
Back of neck	Teres major
Trapezius	Teres minor
Multifidi	Latissimus dorsi
Levator scapulae	Serratus posterior superior
Splenius cervicis	Coracobrachialis
Infraspinatus	Scalenus minimus
Throat and front of neck	Front of arm
Sternocleidomastoid	Scalenes
Digastric	Infraspinatus
Medial pterygoid	Biceps brachii
Upper back, shoulder, and arm	Brachialis
Upper back and shoulder	Triceps brachii
	Supraspinatus
	Deltoids

Sternalis		Front of chest
Scalenus minimus		Side of neck
Subclavius		Side of neck
Elbow to finger		Back of (dorsal) wrist and hand
Outside of the elbow (lateral epicondyle)		Extensor carpi radialis brevis
Supinator		Extensor carpi radialis longus
Brachioradialis		Index to little finger extensors
Extensor carpi radialis longus		Extensor indicis
Triceps brachii		Extensor carpi ulnaris
Supraspinatus		Subscapularis
Fourth and fifth finger extensors		Coracobrachialis
Anconeus		Scalenus minimus
Inside of the elbow (medial epicondyle)		Latissimus dorsi
Triceps brachii		Serratus posterior superior
Pectoralis major		First dorsal interosseous
Pectoralis minor		Base of thumb and radial hand
Front, or inner (antecubital) surface, of the elbow		Supinator
Brachialis		Scalenes
Biceps brachii		Brachialis
Back of (dorsal) forearm		Infraspinatus
Triceps brachii		Extensor carpi radialis longus
Teres major		Brachioradialis
Extensores carpi radialis longus and brevis		Opponens pollicis
Point of the elbow (olecranon)		Adductor pollicis
Triceps brachii		First dorsal interosseous
Serratus posterior superior		Flexor pollicis longus
Radial forearm		Volar finger (palm side)
Infraspinatus		Flexores digitorum sublimis and profundus
Scalenes		Interossei
Brachioradialis		Latissimus dorsi
Supraspinatus		Serratus anterior
Subclavius		Abductor digiti minimi
Inner (volar) forearm		Subclavius
Palmaris longus		Back of (dorsal) finger
Pronator teres		Extensor digitorum
Serratus anterior		Interossei
Triceps brachii		Scalenes
Ulnar forearm		Abductor digiti minimi
Latissimus dorsi		Pectoralis major
Pectoralis major		Pectoralis minor
Pectoralis minor		Latissimus dorsi
Serratus posterior superior		Subclavius
Inner (volar) wrist and palmar		Torso
Flexor carpi radialis		Upper torso
Flexor carpi ulnaris		Side of chest
Opponens pollicis		Serratus anterior
Pectoralis major		Latissimus dorsi
Pectoralis minor		Front of chest
Latissimus dorsi		Pectoralis major
Palmaris longus		Pectoralis minor
Pronator teres		Scalenes
Serratus anterior		Sternocleidomastoid (sternal)
		Sternalis
		Iliocostalis cervicis
		Subclavius
		External abdominal oblique

Mid-thoracic (middle of the back)	Piriformis
Scalenes	Internal abdominal oblique
Latissimus dorsi	Abdomen
Levator scapulae	Rectus abdominis
Iliocostalis thoracis	Abdominal obliques
Multifidi	Iliocostalis thoracis
Rhomboids	Multifidi
Serratus posterior superior	Quadratus lumborum
Infraspinatus	Pyramidalis
Trapezius	Transversus abdominis
Serratus anterior	Hip, leg and foot
Lower torso	Hip and thigh
Low thoracic back	Side of (lateral) hip and thigh
Diaphragm	Gluteus minimus
Iliocostalis thoracis	Vastus lateralis
Multifidi	Piriformis
Serratus posterior inferior	Quadratus lumborum
Rectus abdominis	Tensor fasciae latae
Latissimus dorsi	Vastus intermedius
Lumbar (lower back)	Gluteus maximus
Longissimus thoracis	Rectus femoris
Iliocostalis lumborum	Front of (anterior) thigh
Iliocostalis thoracis	Adductor longus
Multifidi	Adductor brevis
Rectus abdominis	Iliopsoas
Gluteus medius	Adductor magnus
Iliopsoas	Vastus intermedius
Buttock	Pectineus
Gluteus medius	Sartorius
Quadratus lumborum	Quadratus lumborum
Gluteus maximus	Rectus femoris
Semitendinosus	Mid-front of (medial) thigh
Semimembranosus	Pectineus
Piriformis	Vastus medialis
Gluteus minimus	Gracilis
Rectus abdominis	Adductor magnus
Soleus	Sartorius
Iliocostalis lumborum	Back of (posterior) thigh
Longissimus thoracis	Gluteus minimus
Iliosacral (base of spine and upper edge of pelvis)	Semitendinosus
Gluteus medius	Semimembranosus
Quadratus lumborum	Biceps femoris
Gluteus maximus	Piriformis
Levator ani	Obturator internus
Coccygeus	Knee
Rectus abdominis	Front of (anterior) knee
Soleus	Rectus femoris
Multifidi	Vastus medialis
Pelvis	Adductor longus
Levator ani	Adductor brevis
Coccygeus	Inner surface, toward the front of (anteromedial) knee
Obturator internus	Vastus medialis
Adductor magnus	Gracilis

Rectus femoris	Back of (posterior) ankle
Sartorius	Soleus
Adductor longus	Tibialis posterior
Adductor brevis	Heel
Side of (lateral) knee	Soleus
Vastus lateralis	Quadratus plantae
Back of (posterior) knee	Abductor hallucis
Gastrocnemius	Tibialis posterior
Biceps femoris	Back of (dorsal) forefoot
Popliteus	Extensor digitorum brevis
Semitendinosus	Extensor hallucis brevis
Semimembranosus	Extensor digitorum longus
Soleus	Flexor hallucis brevis
Plantaris	Interossei of foot
Leg, ankle and foot	Tibialis anterior
Front of calf (anterior leg)	Bottom surface of (plantar) midfoot
Tibialis anterior	Gastrocnemius
Adductor longus	Flexor digitorum longus
Adductor brevis	Adductor hallucis
Outside of calf (lateral leg)	Soleus
Gastrocnemius	Interossei of foot
Gluteus minimus	Abductor hallucis
Peroneus longus	Tibialis posterior
Peroneus brevis	Ball of the foot (metatarsal head)
Vastus lateralis	Flexor hallucis brevis
Back of calf (posterior leg)	Flexor digitorum brevis
Soleus	Adductor hallucis
Gluteus minimus	Flexor hallucis longus
Gastrocnemius	Interossei of foot
Semitendinosus	Abductor digiti minimi
Semimembranosus	Flexor digitorum longus
Soleus	Tibialis posterior
Flexor digitorum longus	Back of (dorsal) great toe
Tibialis posterior	Tibialis anterior
Plantaris	Extensor hallucis longus
Front of (anterior) ankle	Flexor hallucis brevis
Tibialis anterior	Back of (dorsal) lesser toe
Peroneus tertius	Interossei of foot
Extensor digitorum longus	Extensor digitorum longus
Extensor hallucis longus	Bottom surface of (plantar) great toe
Outside of (lateral) ankle	Flexor hallucis longus
Peroneus longus	Flexor hallucis brevis
Peroneus brevis	Tibialis posterior
Peroneus tertius	Bottom surface of (plantar) lesser toe
Inner (medial) ankle	Flexor digitorum longus
Abductor hallucis	Tibialis posterior
Flexor digitorum longus	