

Muscles of the mouth	Origin
M. orbicularis oris	juga alveolaria of incisors and inferior part of apertura piriformis
M. levator labii superioris	inferior edge of aditus orbitae
M. levator labii superioris alaeque nasi	angulus medialis orbitae et dorsum nasi
M. levator anguli oris	fossa canina
M. zygomaticus minor	os zygomaticum
M. zygomaticus major	os zygomaticum
M. risorius	fascia masseterica

M. buccinator	processus alveolaris of the posterior teeth et raphe buccopharyngeum
M. depressor anguli oris	basis mandibulae
M. depressor labii inferioris	basis mandibulae
M. mentalis	juga alveolaria of lower incisors

Muscles of eye	Origin
M. orbicularis oculi pars palpebralis and orbitalis	circularly around the orbit, is attached to the eyelids and the bony orbit
M. orbicularis oculi pars lacrimalis	crista lacrimalis posterior

M. corrugator supercilii	sutura nasofrontalis
M. procerus	radix nasi

Nasal muscle	Origin
M. nasalis	juga alveolaria of the upper anterior teeth

Insertion	Action
labial skin	mouth closing, labial constriction, labial puckering
labium superius	elevation of upper lip
sulcus nasolabialis	elevation of upper lip and enlargement of nostril
angulus oris	elevates angulus oris
sulcus nasolabialis	pulls angulus oris laterocranially
sulcus nasolabialis	pulls oral angle laterocranially
angulus oris	traction of oral angle laterocranially

angulus oris	compresses cheeks against molar teeth; sucking and blowing
angulus oris	traction of angulus oris caudally
labium inferius	traction of lower lip caudally
skin of the chin	pulls chin skin cranially, protrudes lower lip

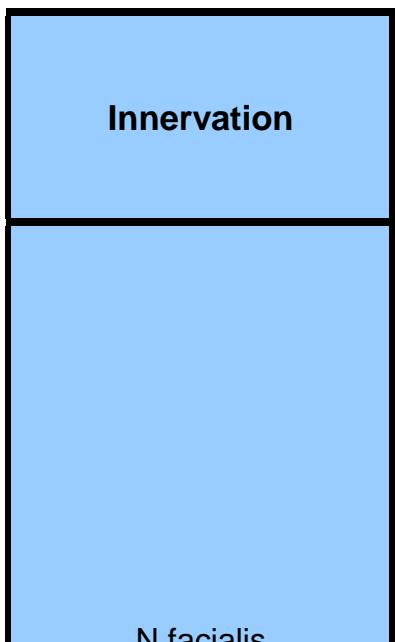
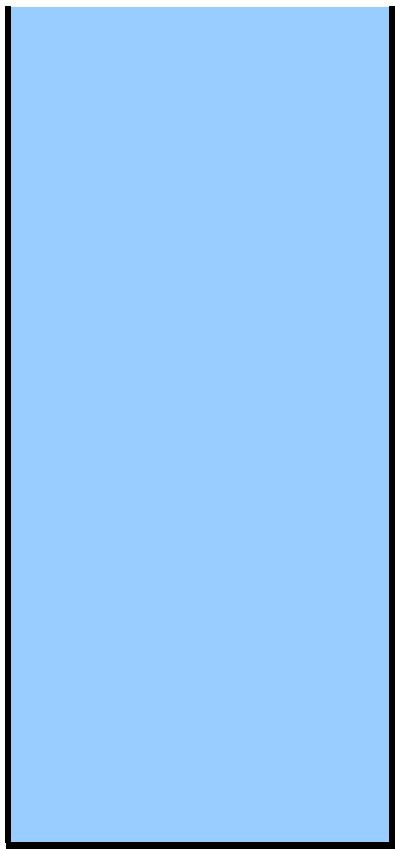
Insertion	Action
d to ligamentum palpebrale mediale	closing the eyelid
margins of the eye-lids	enlarges saccus lacrimalis

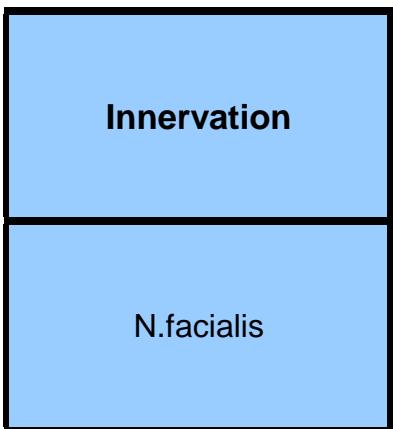
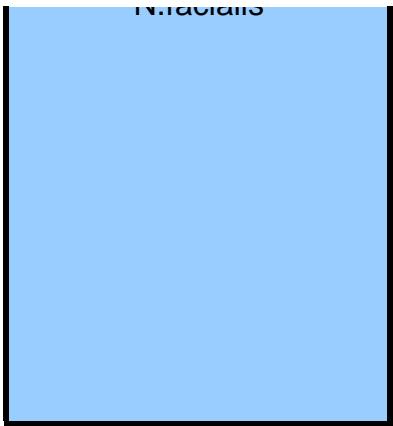
middle and lateral part of the eyebrows	vertical furrowing over radix nasí
glabella	transversal skin folds above radix nasí

Insertion	Action
ala nasi	narrowing of nostril

Innervation

N.facialis





Muscles of epicranius		Origin	Insertion	Action	Innervation
M. occipitofrontalis	venter occipitalis	linea nuchae suprema	galea aponeurotica	traction of the head skin dorsally, and erases forehead wrinkles	N.facialis
	venter frontalis	margo anterior of galea aponeurotica	skin of forehead and eyebrow	contraction causes transversal forehead wrinkles, and elevation of palpebra superior	
M. temporoparietalis		galea aponeurotica	auricular cartilage	pulls auricula cranially	

Masticatory muscles		Origin	Insertion	Action	Innervation
M. temporalis		planum temporale (as far as linea temporalis inf.) and internal surface of temporal fascia	processus coronoideus mandibulae	elevation and retrusion	
M. masseter	pars superficialis	corpus ossis zygomatici et arcus zygomaticus (anterior $\frac{2}{3}$)	tuberositas masseterica	elevation and protrusion	N.trigeminus
	pars profunda	arcus zygomaticus (posterior $\frac{1}{3}$)	external surface of ramus mandibulae	retrusion	
M. pterygoideus medialis	pars medialis	fossa pterygoidea	tuberositas pterygoidea	elevation	
	pars lateralis	tuber maxillae	tuberositas pterygoidea		

M. pterygoideus lateralis	pars superior	facies infratemporalis alae majoris ossis sphenoidalis	discus articularis and fovea pterygoidea	protrusion and depression	
	pars inferior	processus lateralis pterygoidei	discus articularis and fovea pterygoidea		

Superficial muscles	Origin	Insertion	Action
M. platysma	fascia pectoralis et deltoidea	skin over basis mandibulae	stretches cervical skin
M. SCM	manubrium sterni et clavicula (medial $\frac{1}{3}$)	processus mastoideus et linea nuchae superior	bilateral: dorsiflexion of the head and neck; unilateral: lateroflexion of the head and neck; auxiliary inspiratory m.

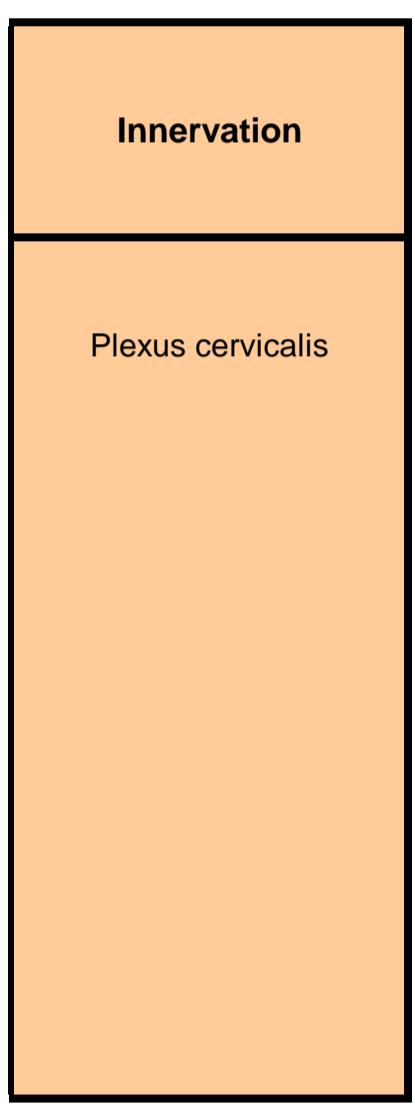
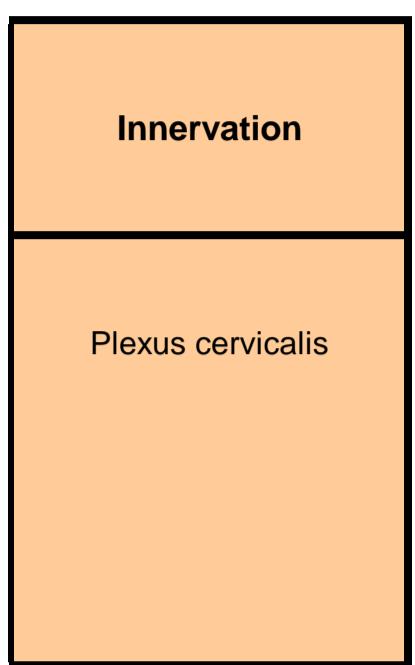
Suprahyoid muscles		Origin	Insertion	Action	Innervation
M. mylohyoideus		linea mylohyoidea	corpus ossis hyoidei et raphe mylohyoidea	mandibular depression; fixed mandible: elevates the hyoid bone	n. mylohyoideus
M. digastricus	venter posterior	incisura mastoidea	os hyoideum	fixed mandible: elevation of the hyoid bone	r. digastricus n. facialis
	venter anterior	os hyoideum	fossa digastrica	fixed hyoid bone: mandibular depression; fixed mandible: elevation of the hyoid bone	n. mylohyoideus
M. stylohyoideus		processus styloideus	os hyoideum	elevates the hyoid bone and pulls it dorsally	n. facialis
M. geniohyoideus		spina mandibulae	os hyoideum	mandibular depression; fixed mandible: elevation of the hyoid bone	brach from C1 and C2

Infrahyoid muscles		Origin	Insertion	Action	Innervation
M. sternohyoideus		manubrium sterni et articulatio sternoclavicularis	os hyoideum	depresses of hyoid bone and larynx	Plexus cervicalis
M. sternothyroideus		manubrium sterni et first rib	cartilago thyroidea (linea obliqua)	depresses larynx	
M. thyrohyoideus		cartilago thyroidea (linea obliqua)	lateral part of body and greater horn of hyoid bone	depresses of hyoid bone	
M. omohyoideus	venter inferior	margo superior scapulae (area nearby lig. transversum scapulae)	intermediate tendon	depresses of hyoid bone and larynx	
	venter superior	intermediate tendon	os hyoideum		

Scalene muscles	Origin	Insertion	Action
M. scalenus anterior et medius	processus transversi of cervical vertebrae	first rib	unilateral: lateroflexion and rotation of neck; bilateral: flexes neck; auxiliary inspiratory muscles
M. scalenus posterior	processus transversi of cervical vertebrae	second rib	

Prevertebral muscles	Origin	Insertion	Action
M. longus colli	The muscle is located in front of body and transverse processes of cervical vertebrae		unilateral: lateroflexion of the head and neck; bilateral: flexes head and neck
M. longus capitis	processus transversi of cervical vertebrae	pars basilaris ossis occipitalis	unilateral: lateroflexion of the head and neck; bilateral: flexes head and neck
M. rectus capitis anterior	processus transversi of atlas	pars basilaris ossis occipitalis	unilateral: lateroflexion of the head and neck; bilateral: flexes head and neck
M. rectus capitis lateralis	processus transversi of atlas	pars basilaris ossis occipitalis	unilateral: lateroflexion of the head and neck; bilateral: flexes head and neck

Innervation
n. facialis - cervical branch
n. accessorius, plexus cervicalis



Thoracic Muscles

M. pectoralis major

pars clavicularis

pars sternocostalis

pars abdominalis

M. pectoralis minor

M. subclavius

M. serratus anterior

Thoracic Muscles

Mm. intercostales externi

Mm. intercostales interni

M. transversus thoracis

sternal part

costal part

Diaphragma

lumbar part, medial crus

lumbar part, lateral crus

Origin	Insertion
clavicula (medial $\frac{1}{2}$)	
manubrium sterni et cartilagines costae (2nd-7th)	crista tuberculi majoris
vagina musculi recti abdominis	
3rd - 5th rib	processus coracoideus scapulae
first rib	clavicula (inferior surface)
cranial 9 ribs	scapula (margo medialis et angulus inferior)

Origin	Insertion
inferior margin of ribs - from the costal tubercle to the beginning of rib cartilage	superior margin of ribs immediately below
superior margin of ribs - costal angle to sternum	inferior margin of ribs immediately above
internal surface of xiphoid process and body of sternum	cartilagines costae verae
inner surface of xiphoid process	
inner surface of cartilage of ribs 7-12	central tendon
ligamentum longitudinale anterius (vertebrae lumbales)	
ligaments jump over the psoas and quadratus muscles	

Action	Innervation
adduction, internal rotation, arm flexion; auxiliary inspiratory m.	
	Plexus brachialis
pulls the clavicle; auxiliary inspiration m	
pulls clavicle → indirectly the shoulder distoventrally; auxiliary inspiration m.	
pulls the clavicle from the backbone; pulls inferior angle laterally → rotates scapula; auxiliary respirat. m.	

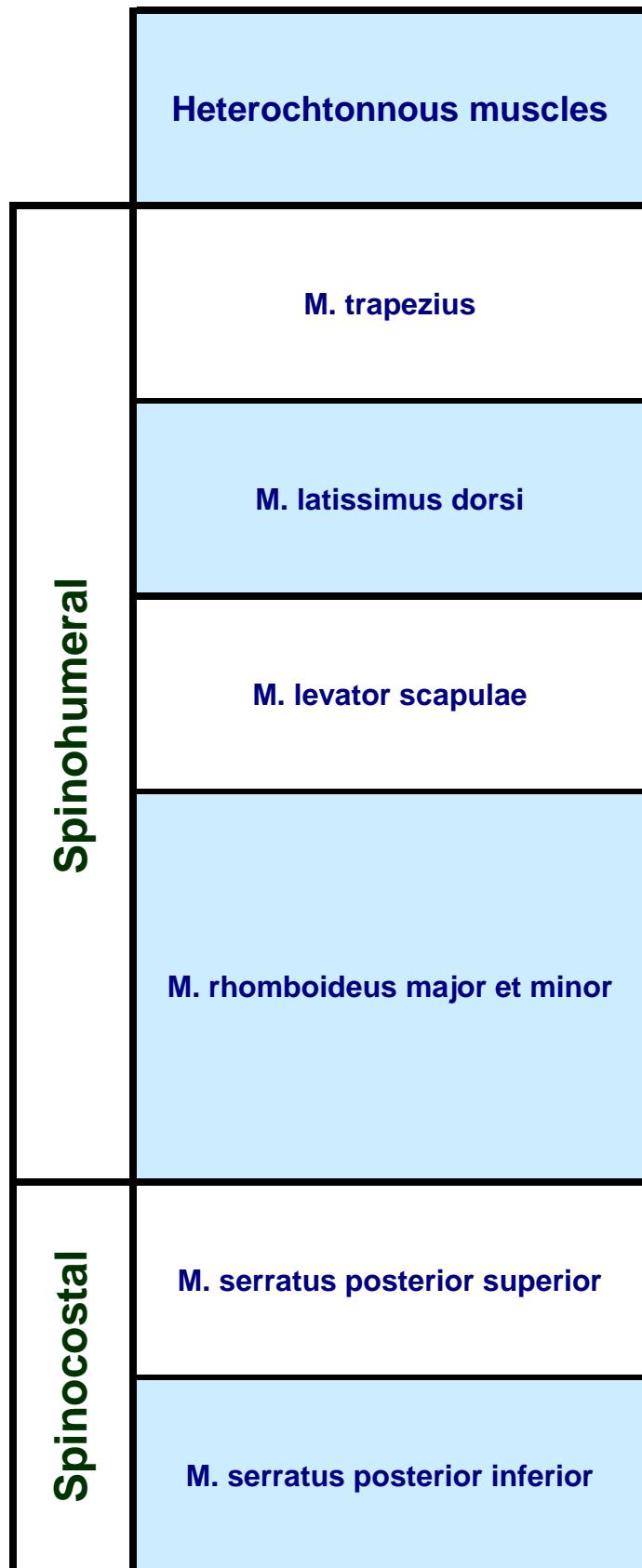
Action	Innervation
elevation of lower ribs, thorax expansion → inspiratory m.	
adduction of cranial ribs to caudal ribs → expiratory m.	Nn. Intercostales
expiratory muscle	
main inspiratory muscle; abdominal press	Plexus cervicalis

Abdominal muscles	Origin
M. rectus abdominis	xiphoid process and costal cartilages 5 - 7
M. obliquus externus abdominis	lower ribs
M. obliquus internus abdominis	fascia thoracolumbalis, crista iliaca, ligamentum inquinale
M. transversus abdominis	fascia thoracolumbalis, crista iliaca, lower ribs
M. quadratus lumborum	The muscle is attached between last

Insertion	Action
tuberculum pubicum	trunk anteflexion; increase abdominal press
crista iliaca, ligamentum inquinale, vagina musculi recti abdominis	\uparrow abdominal press; bilateral - anteflexion, unilateral - contralateral rotation
lower ribs et vagina musculi recti abdominis	auxiliary expiration m, \uparrow abdominal press; bilateral - dorsiflexion, unilateral - homolateral rotation
vagina musculi recti abdominis	auxiliary respiratory m, \uparrow abdominal press; unilateral - homolateral lateroflexion
: rib, iliac crest and lumbar vertebrae	unilateral - homolateral lateroflexion, bilateral - dorsiflexion of backbone

Innervation

Nn. Intercostales



Autochtonous muscles	
	M. semispinalis thoracis et cervicis
	M. semispinalis capitis
	Mm. multifidi
Spinotransversal	M. splenius capitis
	M. splenius cervicis

	Autochtonnous muscles
Sacrospinal	M. longissimus dorsi et cervicis
	M. longissimus capitis
	M. iliocostalis
Spinospinal	Mm. spinales thoracis et cervicis
	Mm. interspinales cervicis
	Mm. intertransversarii posteriores cervicis

Mm. nuchae profundi

**M. rectus capitis posterior
minor**

**M. rectus capitis posterior
major**

**M. obliquus capitis
superior**

**M. obliquus capitis
inferior**

Origin	Insertion
protuberantia occipitalis externa, septum nuchae, processus spinosi C7 and all thoracic vertebrae	lateral $\frac{1}{3}$ of clavicle, acromion and spina scapulae
processus spinosi of caudal thoracic vertebrae, lumbar vertebrae, sacrum, crista iliaca and caudal ribs	crista tuberculi minoris
processus transversi of cranial cervical vertebrae	angulus superior scapulae
processus spinosus of caudal cervical and cranial thoracic vertebrae	margo medialis scapulae
processus spinosus of caudal cervical and cranial thoracic vertebrae	cranial ribs
processus spinosus of caudal thoracic and cranial lumbar vertebrae	caudal ribs

Origin	Insertion
are stretched from transversal to the spinous processes; is located along the whole spine with insertion on the cranial base	jump over 4-5 vertebrae
	jump over 1-3 vertebrae
runs from processus spinosus to processus transversus	cranial base
	cervical vertebrae

Origin	Insertion
	medial part
fill the space between processus spinosus et transversus	cranial base
	lateral part
are stretched between processus spinosus of the thoracic and cervical vertebrae	

Origin	Insertion
tuberculum posterius atlantis	linea nuchae inferior
processus spinosus axis	linea nuchae inferior
processus transversi atlantis	linea nuchae inferior
processus spinosu axis	processus transversi atlantis

Action	Innervation
adduction of shoulder, upper fibres elevates the scapula; the lower part pulls the scapula	n. accessorius, plexus cervicalis
adduction, extension, medially rotation	n. thoracodorsalis
elevates scapula, rotates scapula medially	
pulls the scapula medially and cranially	n. dorsalis scapulae
elevates the ribs → auxillary inspiratory muscle	
auxillary expiratory muscle	nn. intercostales

Action	Innervation
bilateral - dorsiflexion, unilateral - homolateral lateroflexion and contralateral rotation	DR of spinal nerves
bilateral - dorsiflexion, unilateral - lateroflexion and homolateral rotation	

Action	Innervation
bilateral - dorsiflexion, unilateral - homolateral lateroflexion	DR of spinal nerves
unilateral - lateroflexion, bilateral - dorsiflexion	

Action	Innervation
unilateral - homolateral lateroflexion, bilateral - dorsiflexion	
bilateral - dorsiflexion, unilateral - homolateral lateroflexion and rotation	suboccipital nerve
bilateral - dorsiflexion, unilateral - homolateral lateroflexion	
homolateral rotation	

Mm. Humeri

M. subscapularis

M. supraspinatus

M. infraspinatus

M. teres minor

M. teres major

M. deltoideus

Mm. Brachii

M. brachialis

M. coracobrachialis

M. biceps brachii

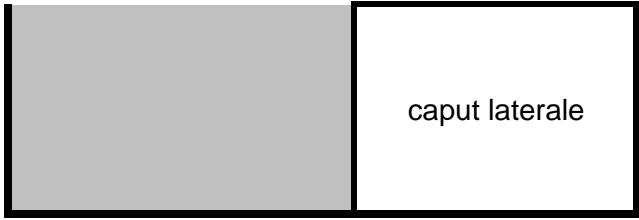
caput longum

caput breve

caput longum

caput mediale

M. triceps brachii



caput laterale

Origin	Insertion
fossa subscapularis	tuberculum minus humeri
fossa supraspinata	superior part of tuberculum majus
fossa infraspinata	middle part of tuberculum majus
margo lateralis scapulae	inferior part of tuberculum majus
angulus inferior scapulae	crista tuberculi minoris
pars lateralis claviculae, acromion and spina scapulae	tuberrositas deltoidea

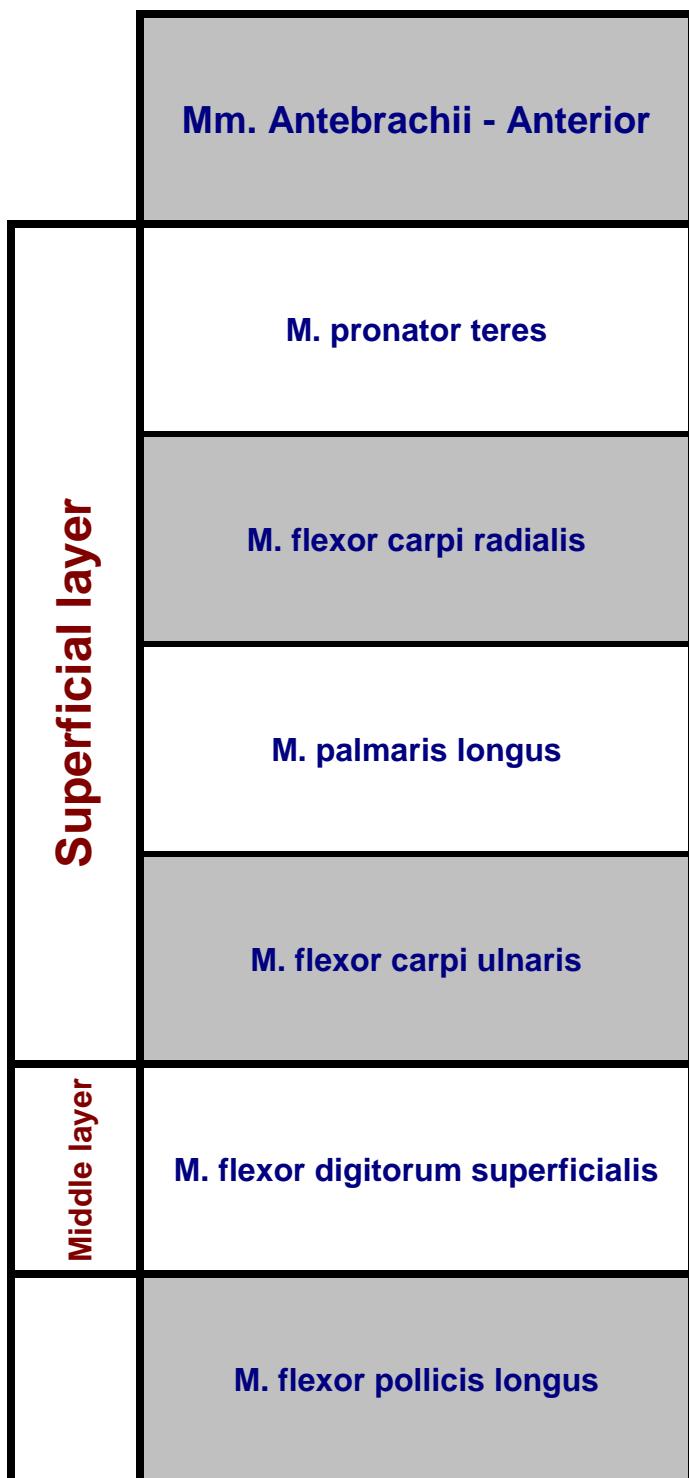
Origin	Insertion
distal ½ of the anterior surface of the humerus	tuberositas ulnae
processus coracoideus scapulae	medial surface of the humerus
tuberculum supraglenoidale	tuberositas radii
processus coracoideus scapulae	
tuberculum infraglenoidale	
dorsal surface of the humerus distally from sulcus n. radialis	olecranon ulnae

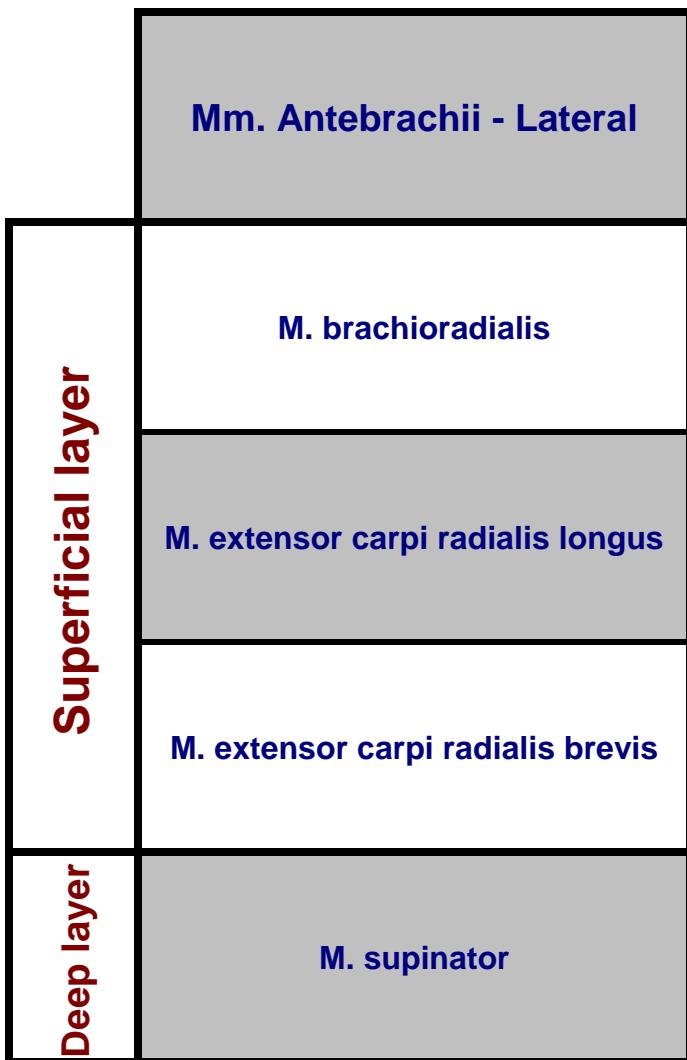
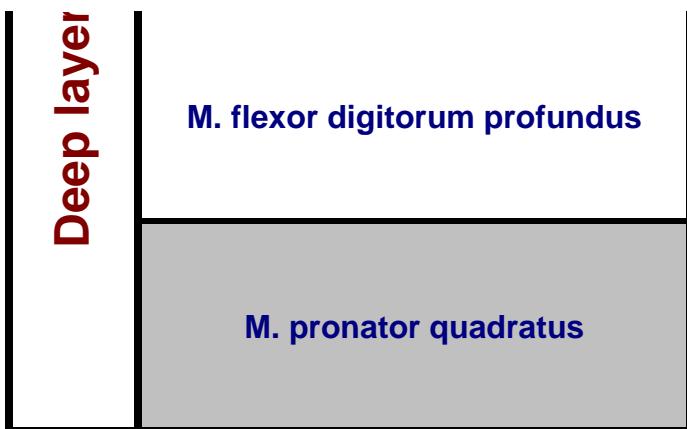
dorsal surface of the humerus
proximally from sulcus n. radialis

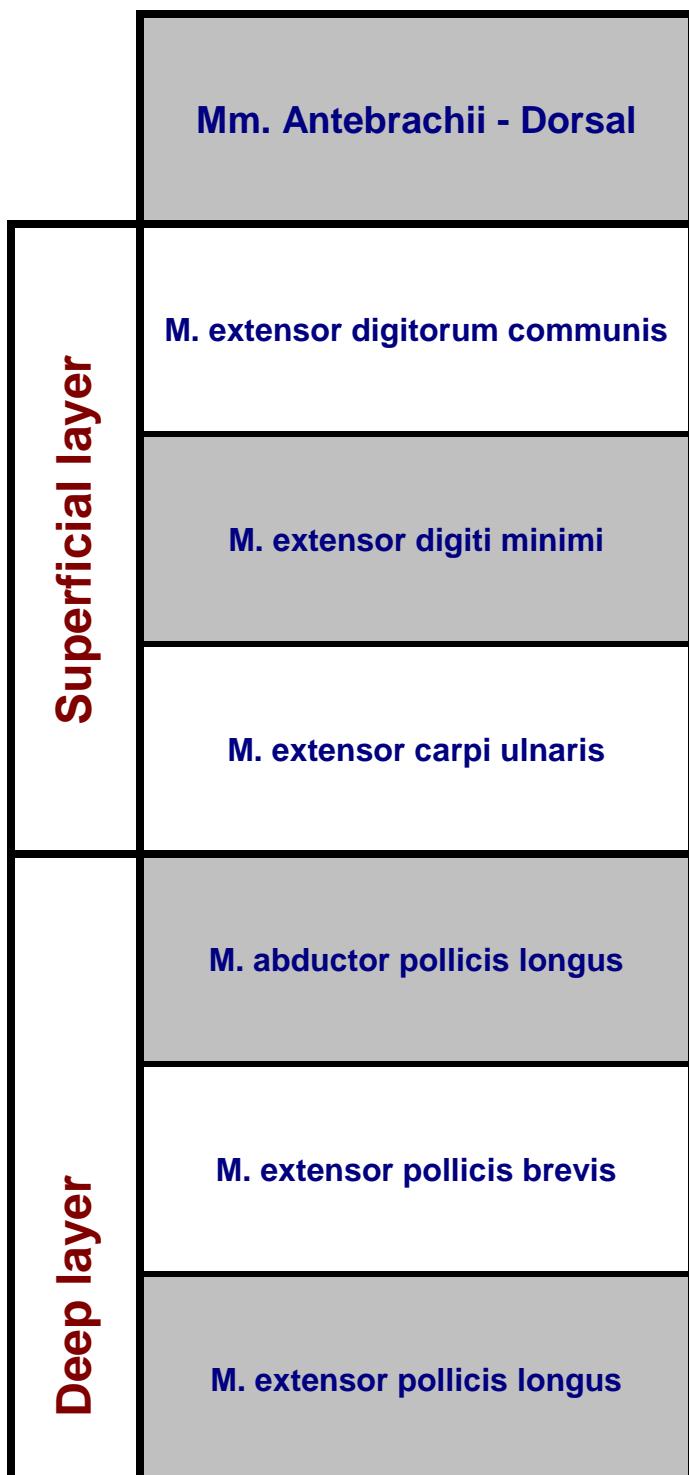
Action	Innervation
humeral pronation	n. subscapularis
humeral supination and abduction	n. suprascapularis
humeral supination	n. axillaris
adduction, extension and humeral pronation	n. subscapularis
abduction, anterior part - anteflexion, posterior part - dorsiflexion	n. axillaris

Action	Innervation
flexion in elbow joint	
adduction and partial anteflexion in the humeral joint	n. musculocutaneus
anteflexion in supinatory position and abduction of the arm	
anteflexion in supinatory position and adduction of the arm	
extension of the elbow joint and adduction of the arm	
extension of the elbow joint	n. radialis

EXTENSION OF THE ELBOW JOINT







M. extensor indicis

Mm. Manus - Thenar

M. abductor pollicis brevis

M. flexor pollicis brevis

M. opponens pollicis

M. adductor pollicis

Mm. Manus - Hypothenar

M. palmaris brevis

M. abductor digiti minimi

M. flexor digiti minimi brevis

M. opponens digiti minimi

Mm. Manus - Middle

Mm. interossei dorsales

Mm. interossei palmares

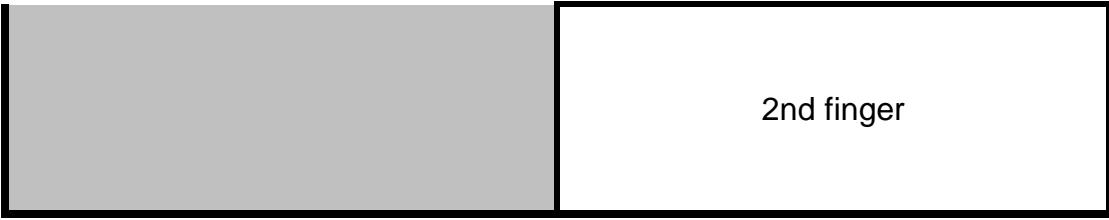
Mm. lumbricales

Origin	Insertion
epicondylus medialis	proximal part of the corpus radii long tendons of the hand
epicondylus medialis and proximal end of the forearm	middle phalanges of 2nd-5th fingers

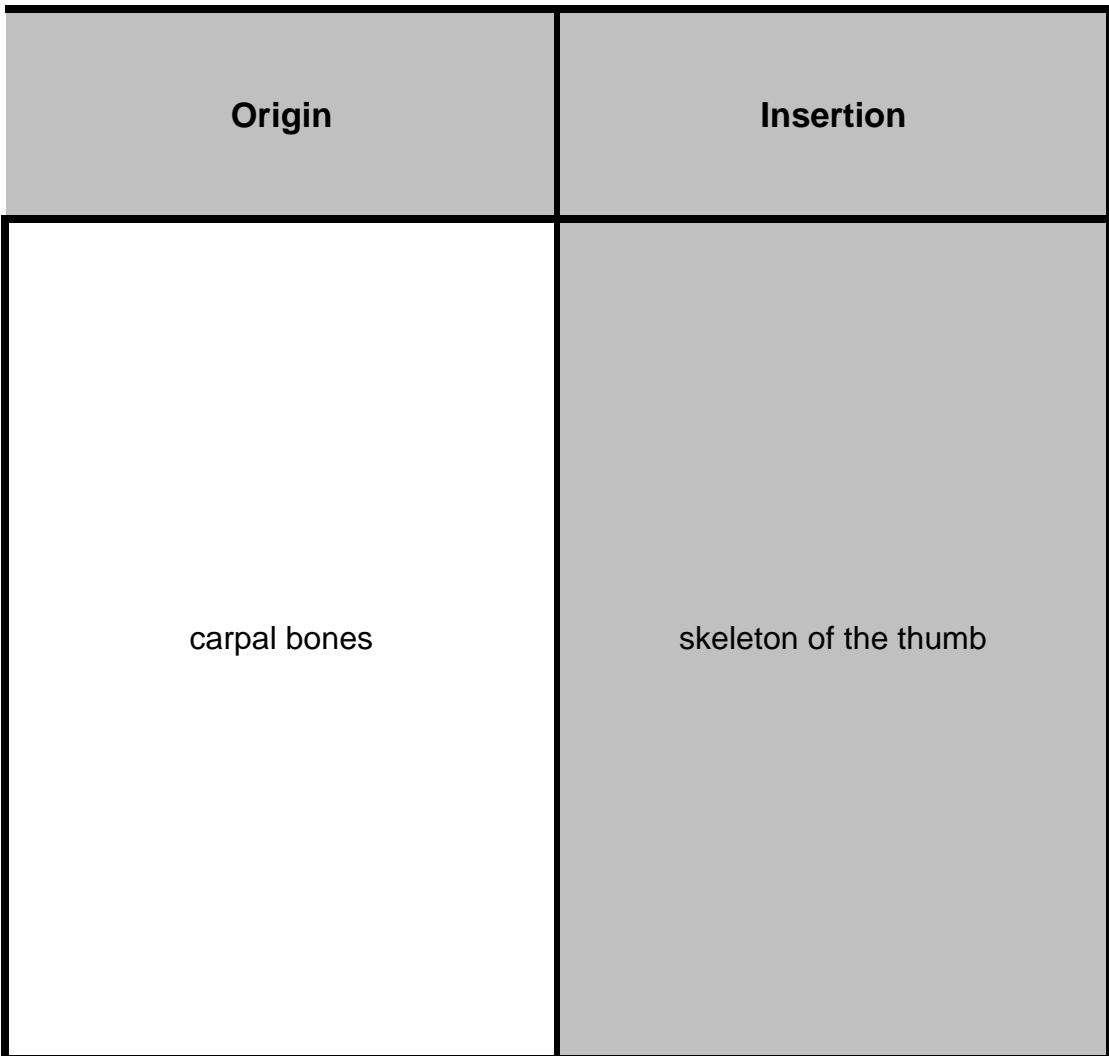
proximal end of the forearm	long tendons on the distal phalanges of the fingers
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Origin	Insertion
lateral margin of the distal end of humerus	processus styloideus radii
epicondylus lateralis	base of the 2nd and 3th metacarpals
epicondylus lateralis, ulna and ligaments around the elbow joint	encircles the radius

Origin	Insertion
epicondylus lateralis	dorsal aponeurosis of the 2nd-5th fingers base of the 5th metacarpal
dorsal surface of proximal end of the forearm	bones of the thumb



2nd finger



Origin

Insertion

carpal bones

skeleton of the thumb

Origin	Insertion
carpal bones	skeleton of the 5th finger

Origin	Insertion

metacarpal bones

proximal phalanges

Action	Innervation
flexion at the elbow joint and pronation of forearm	
flexion at the elbow joint flexion of the hand	n. medianus
	n. ulnaris
flexion at the wrist and the finger joints	n. medianus
flexion of the hand and thumb	n. medianus

flexion of the hand and fingers	n. medianus et ulnaris
pronation of the forearm	n. medianus

Action	Innervation
flexion at elbow joint	
extension of the hand	n. radialis
supination of the forearm	

Action	Innervation
dorsal flexion of the hand extension of the fingers	
abduction of the thumb	n. radialis
extension of the thumb abduction of the thumb	
thumb extension	

extension of the 2nd finger

Action

Innervation

n. medianus

is determined by names of the muscles

n. ulnaris

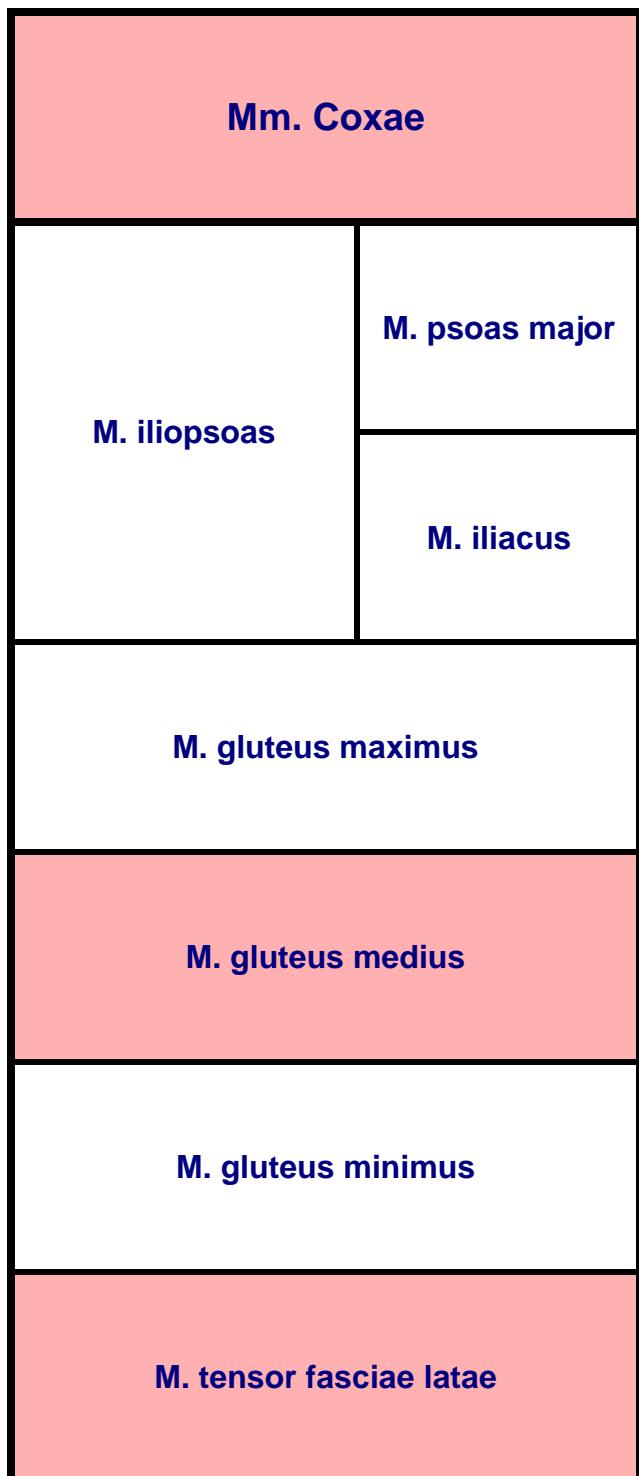
Action	Innervation
is determined by names of the muscles	n. ulnaris

Action	Innervation
	n. ulnaris

III. ulnaris

adduction of the fingers
abduction of the fingers

I. et II. - n. medianus,
III. et IV. - n. ulnaris



M. piriformis

M. obturatorius internus

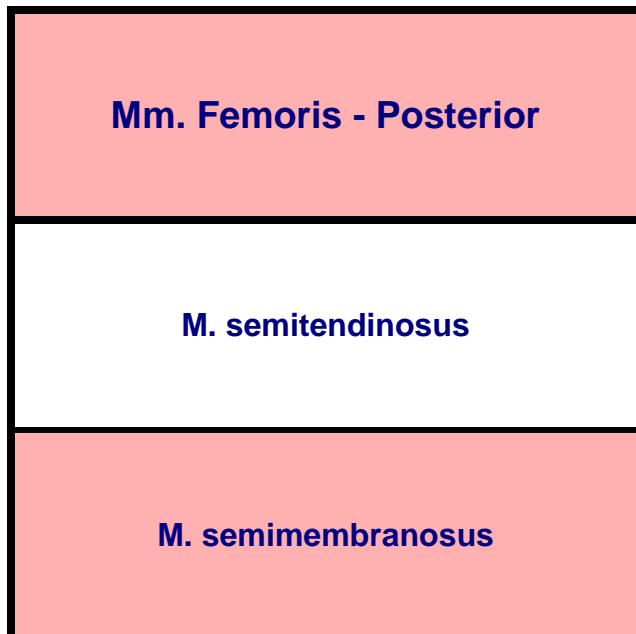
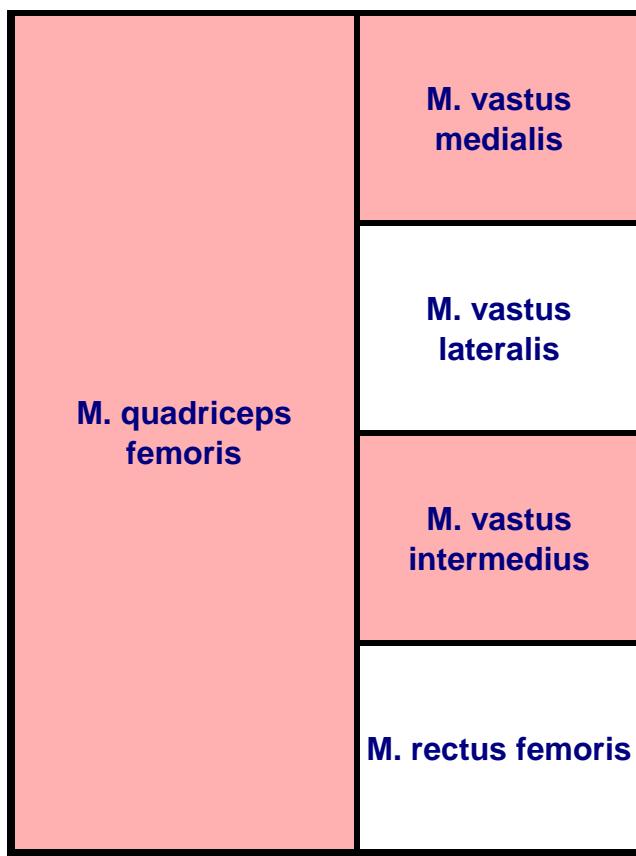
M. gemellus superior

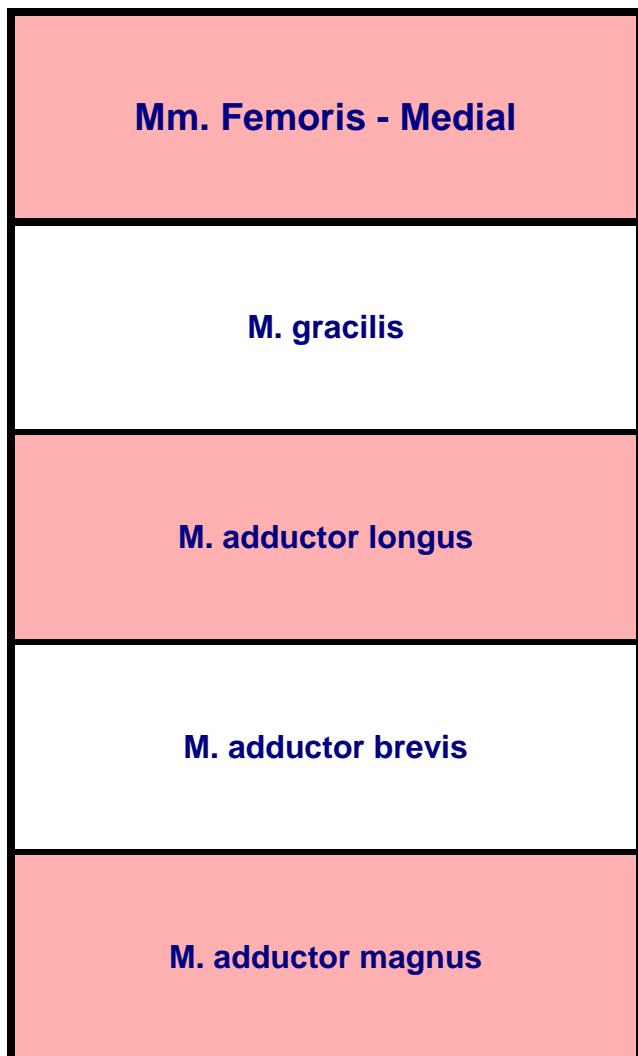
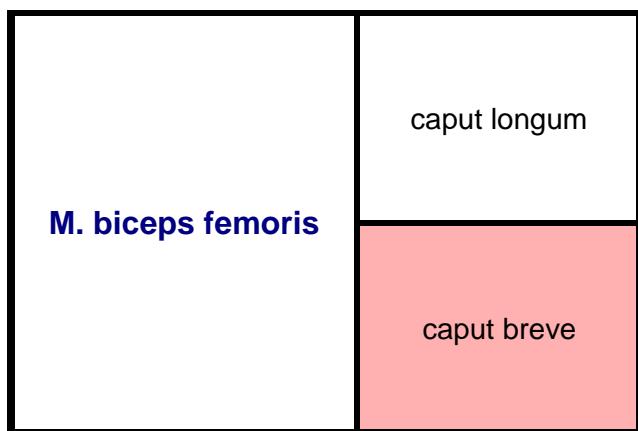
M. gemellus inferior

M. quadratus femoris

Mm. Femoris - Anterior

M. sartorius

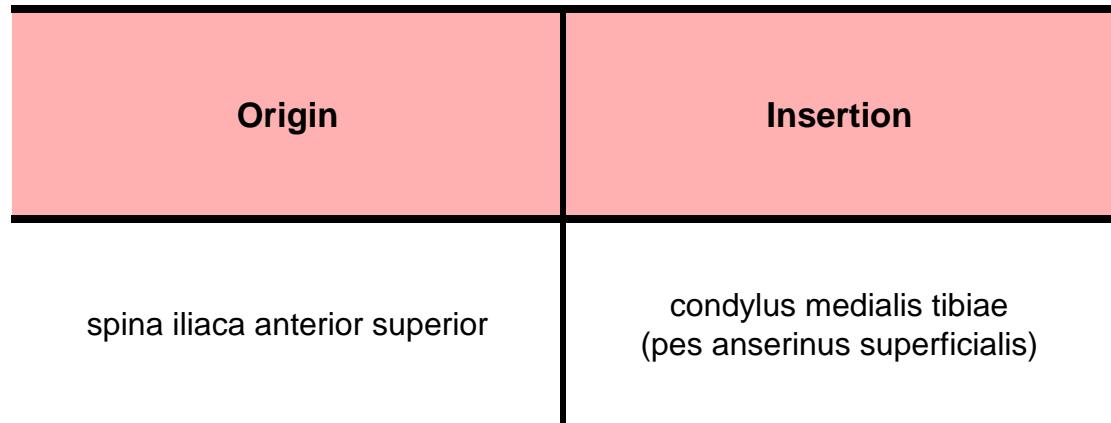
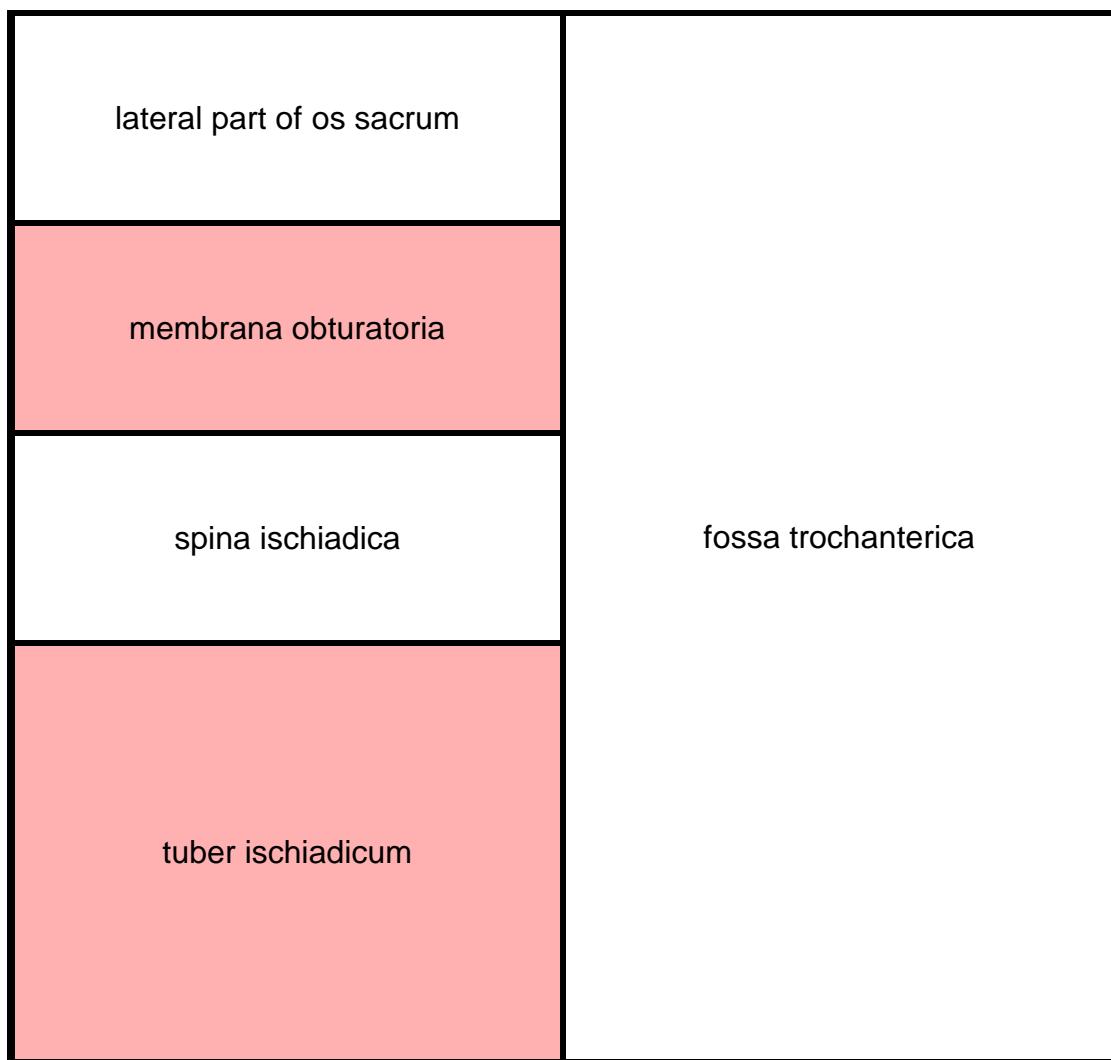




M. pectineus

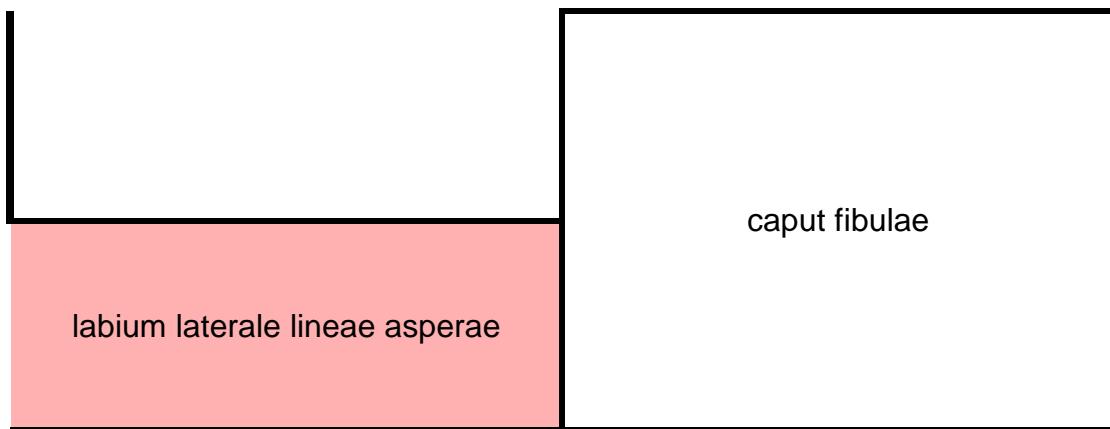
M. obturatorius externus

Origin	Insertion
disci intervertebrales and ligaments along the lumbar backbone	pass through lacuna musculorum to trochanter minor femoris
fossa iliaca	
external surface of the pelvis	trochanter major and tuberositas glutea femoris
spina iliaca anterior superior	into tractus iliotibialis

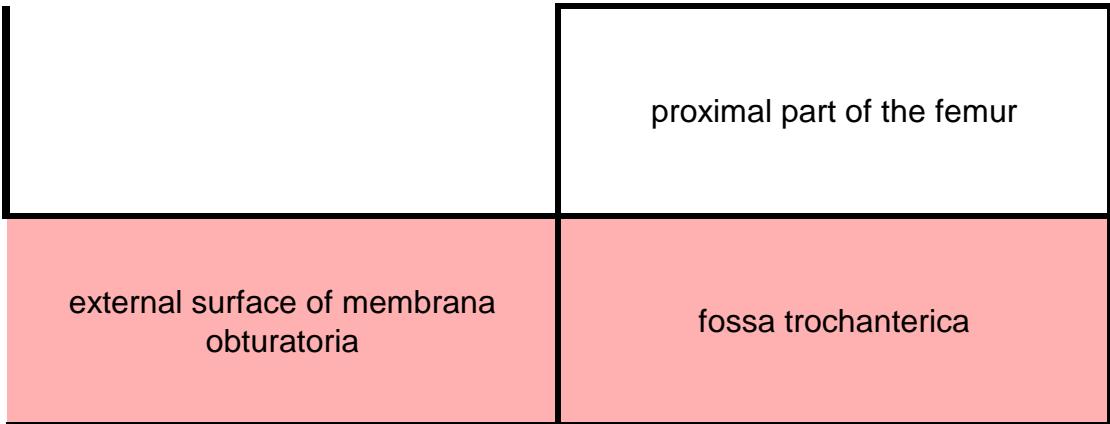


labium mediale lineae asperae	
labium laterale lineae asperae	
corpus femoris	patella → ligamentum patellae into tuberositas tibiae
spina iliaca anterior inferior	

Origin	Insertion
tuber ischiadicum	condylus medialis tibiae (pes anserinus superficialis)



Origin	Insertion
	condylus medialis tibiae (pes anserinus superficialis)
bones surrounding foramen obturatorius	linea aspera femoris
	linea aspera et condylus medialis femoris



Action	Innervation
iliac joint flexion	plexus lumbalis
abduction, extension flexion at the hip joint	plexus sacralis (n. gluteus superior et inferior)
tension of the tractus iliotibialis (stabilization on knee extension)	

supination at the hip joint	plexus sacralis

Action	Innervation
flexion at the knee joint and the hip joint	

<p>extension at the knee joint</p>	<p>plexus lumbalis (n. femoralis)</p>
<p>flexion at the hip joint extension at the knee joint</p>	

Action	Innervation
<p>flexion at the hip joint</p>	<p>plexus sacralis</p>

extension at the knee joint

(n. ischiadicus)

Action

Innervation

flexion at the knee joint
adduction at the hip joint

femoral **adduction**

n. obturatorius

supination at the hip joint

Mm. Cruris - Anterior

M. tibialis anterior

M. extensor hallucis

M. extensor digitorum longus

Mm. Cruris - Lateral

M. fibularis (peroneus) longus

M. fibularis (peroneus) brevis

Mm. Cruris - Dorsal

M. triceps surae

M. gastrocnemius

M. soleus

M. plantaris

M. popliteus

M. tibialis posterior

M. flexor digitorum longus

M. flexor hallucis longus

Mm. Pedis - Dorsal

M. extensor hallucis brevis

M. extensor digitorum brevis

Mm. Pedis - Hallux

M. abductor hallucis

M. adductor hallucis

M. flexor hallucis brevis

Mm. Pedis - Digit Minimi

M. abductor digiti minimi

M. flexor digiti minimi brevis

M. opponens digiti minimi

Mm. Pedis - Middle region

M. flexor digitorum brevis

M. quadratus plantae

**Mm. interossei plantares et
dorsales**

Origin	Insertion
membrana interossea and the adjacent proximal parts of tibia and fibula	os cuneiforme mediale dorsal aponeurosis of the digits

Origin	Insertion
proximal and middle part of the fibula	across planta pedis to os cuneiforme mediale et l. metatarsus

proximal and middle part of the muscle

V. metatarsus

Origin	Insertion
condylus medialis et lateralis femoris (caput med. et lat. m. gastrocnemii)	
caput fibulae and linea m. solei	tuber calcanei
condylus lateralis femoris	proximal part of the posterior tibial surface

membrana interossea and the adjacent posterior parts of tibia and fibula

plantar surfaces of the tarsal, metatarsal bones and proximal phalanges of digits

Origin

Insertion

calcaneus (sinus tarsi)

aponeurosis dorsalis

Origin

Insertion

tuber calcanei	
os cuboideum ossa metatarsalia	sesamoid bones of the thumb proximal phalanx
os cuneiforme mediale	

Origin	Insertion
tuber calcanei (lateral part)	
V. metatarsal bone	proximal phalanx of the little toe
os cuboideum	

Origin	Insertion
tuber calcanei	middle phalanx of the II. to IV. digits
	tendon m. flexor digitorum longi
metatarsal bones	proximal phalanx of the digits

Action	Innervation
dorsiflexion of the foot	
dorsiflexion of the foot extension of the digits	n. peroneus profundus

Action	Innervation
pronation of the foot	n. peroneus superficialis

plantar flexion of the foot

n. peroneus superficialis

Action

Innervation

flexion at the knee joint
plantar flexion of the foot

n. tibialis

plantar flexion of the foot and digits

Action

Innervation

dorsiflexion of digits

n. peroneus profundus

Action

Innervation

abduction of the thumb	
adduction of the thumb	n. plantaris medialis et lateralis
flexion of the thumb	

Action	Innervation
abduction of the little toe	
flexion of the little toe	n. plantaris lateralis
opposition of the little toe	

Action	Innervation
flexion of the middle phalanges	n. plantaris medialis et lateralis
<i>plantar</i> : adduction of the digits <i>dorsal</i> : abduction of the digits	

