

Manual

The division of this manual is made according to the following books: "Taschenatlas der Anatomie" by W. Platzer and "Rauber/Kopsch" by B Tillmann and G. Töndury.

The muscles origins are painted in red, the muscles insertions are painted in blue colour.

Muscles, which do not have an bone insertion are mentioned in this manual, but of course you will not find them on the skeleton.

For a better survey the short (*printed italic*) muscles of the medial tract of the M. erector trunci are not shown on the skeleton. Also the Mm. intertransversarii anteriores cervicis, the M. splenius cervicis and the M. intertransversarii lumborum are not shown to make the skeleton better to survey. Some Muscles of the eye, of the pharynx and of the tongue are not shown. There is only one sample of the Mm. levatores costarum brevis et longi painted on the skeleton. For this muscles please see literature.

The insertions of muscles take pattern from the books W. Platzer, Rauber/Kopsch and MacMinn/Hutchings. Some muscles are taken from other literature. If there were any differences in the different books, we tried to do the best compromise. This may cause some very small differences with your literature. Because any person has a different anatomy, there may be some differences between the skeleton and some books. This differences are also between books and your patients!

We hope this skeleton enables you to learn muscles in a three - dimensional way and understand the muscular system. If you have any complaints about the muscles markings or suggestions to improve the skeleton, do not hesitate to contact us.

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Krankengymnasten / Physiotherapeuten
OMT-Examen des
des Internationalen Seminars für
Orthopädische Manuelle Therapie e. V.

Skeleton Nr.	Muscle
	Schoulder girdle
1	<ul style="list-style-type: none"> M. deltoideus
2	Posterior Group: Insertion at Tuberculum majus humeri and Crista tuberculi majoris:
3	<ul style="list-style-type: none"> M. supraspinatus
4	<ul style="list-style-type: none"> M. infraspinatus M. teres minor
5	Insertion at Tuberculum minus humeri and Crista tuberculi minoris:
6	<ul style="list-style-type: none"> M. subscapularis
7	<ul style="list-style-type: none"> M. teres major M. latissimus dorsi
8 a	Anterior Group: <ul style="list-style-type: none"> M. pectoralis major pars clavicularis
8 b	<ul style="list-style-type: none"> M. pectoralis major pars sternocostalis
8 c	<ul style="list-style-type: none"> M. pectoralis pars abdominalis (<i>No bone origin</i>)
9	<ul style="list-style-type: none"> M. pectoralis minor
10	<ul style="list-style-type: none"> M. coracobrachialis
11	Posterior Muscles: <ul style="list-style-type: none"> M. levator scapulae
12	<ul style="list-style-type: none"> M. rhomboideus major
13	<ul style="list-style-type: none"> M. rhomboideus minor
14	Anterior Muscles: <ul style="list-style-type: none"> M. serratus anterior
15	<ul style="list-style-type: none"> M. subclavius
16 a	<ul style="list-style-type: none"> M. trapezius pars descendens (<i>Insertion at Lig. nuchae not marked</i>)
16 b	<ul style="list-style-type: none"> M. trapezius pars transversa
16 c	<ul style="list-style-type: none"> M. trapezius pars ascendens
17 a	<ul style="list-style-type: none"> M. sternocleidomastoideus caput sternale
17 b	<ul style="list-style-type: none"> M. sternocleidomastoideus caput claviculare
	Upper arm
18	Anterior Muscular group: <ul style="list-style-type: none"> M. brachialis
19 a	<ul style="list-style-type: none"> M. biceps brachii caput longum
19 b	<ul style="list-style-type: none"> M. biceps brachii caput breve
20 a	Posterior Muscular group: <ul style="list-style-type: none"> M. triceps brachii caput longum
20 b	<ul style="list-style-type: none"> M. triceps brachii caput mediale
20 c	<ul style="list-style-type: none"> M. triceps brachii caput laterale
21	<ul style="list-style-type: none"> M. anconeus

Skeleton Nr.	Muscle
	Lower arm
22 a	Upper layer: <ul style="list-style-type: none"> M. pronator teres caput humerale
22 b	
23 a	<ul style="list-style-type: none"> M. pronator teres caput ulnare M. flexor digitorum superficialis caput humerale
23 b	<ul style="list-style-type: none"> M. flexor digitorum superficialis caput ulnare
24	<ul style="list-style-type: none"> M. flexor carpi radialis
25	<ul style="list-style-type: none"> M. palmaris longus
26 a	<ul style="list-style-type: none"> M. flexor carpi ulnaris caput humerale
26 b	<ul style="list-style-type: none"> M. flexor carpi ulnaris caput ulnare
27	Lower layer: <ul style="list-style-type: none"> M. flexor digitorum profundus
28	<ul style="list-style-type: none"> M. flexor pollicis longus
29	<ul style="list-style-type: none"> M. pronator quadratus
30	<ul style="list-style-type: none"> M. extensor carpi radialis brevis
31	<ul style="list-style-type: none"> M. extensor carpi radialis longus
32	<ul style="list-style-type: none"> M. brachioradialis
33	Upper layer: <ul style="list-style-type: none"> M. extensor digitorum
34	<ul style="list-style-type: none"> M. extensor digiti minimi
35 a	<ul style="list-style-type: none"> M. extensor carpi ulnaris caput humerale
35 b	<ul style="list-style-type: none"> M. extensor carpi ulnaris caput ulnare
36	Lower layer: <ul style="list-style-type: none"> M. supinator
37	<ul style="list-style-type: none"> M. abductor pollicis longus
38	<ul style="list-style-type: none"> M. extensor pollicis brevis
39	<ul style="list-style-type: none"> M. extensor pollicis longus
40	<ul style="list-style-type: none"> M. extensor indicis
	Short muscles of the hand
41	muscles of the middle hand: <ul style="list-style-type: none"> Mm. interossei palmares (3 single headed marked / a 4th one exists after Kapandji, I. A., 1985)
42	<ul style="list-style-type: none"> Mm. interossei dorsales (4 double headed)
43	<ul style="list-style-type: none"> Mm. lumbricales (<i>4 single headed, no bone origin, only origin in Dorsalaponeurosis marked</i>)

Skeleton Nr.	Muscle
44 45 a 45 b 46 a 46 b 47	<p>Thenarmuscles:</p> <ul style="list-style-type: none"> • M. abductor pollicis brevis • M. flexor pollicis brevis caput superficiale (<i>no bone origin, only insertion marked</i>) • M. flexor pollicis brevis caput profundum • M. adductor pollicis caput transversum • M. adductor pollicis caput obliquum • M. opponens pollicis
48 49 50	<p>Hypothenarmuscles:</p> <ul style="list-style-type: none"> • <i>M. palmaris brevis (no bone insertion, not marked)</i> • M. abductor digiti minimi • M. flexor digiti minimi brevis • M. opponens digiti minimi
Muscles of the hip	
51 a 51 b 51 c	<p>Inner Hip muscles: M. iliopsoas</p> <ul style="list-style-type: none"> • M. psoas major (pars superficialis et pars profunda) • M. psoas minor (less than 50% of people [Platzer, W., 1979]) • M. iliacus
52 53 54 55 56 57 58 59 60 61	<p>Outer Hip muscles:</p> <p>Upper Layer:</p> <ul style="list-style-type: none"> • M. gluteus maximus • M. tensor fasciae latae <p>Medium Layer:</p> <ul style="list-style-type: none"> • M. gluteus medius <p>Lower Layer:</p> <ul style="list-style-type: none"> • M. gluteus minimus • M. piriformis • M. obturatorius internus • M. gemellus superior • M. gemellus inferior • M. quadratus femoris • M. obturatorius externus
Upper leg muscles	
62 63 64 65 66 67	<p>Adduktors:</p> <ul style="list-style-type: none"> • M. pectineus • M. adductor longus • M. gracilis • M. adductor brevis • M. adductor magnus • M. adductor minimus

Skeleton Nr.	Muscle
68 68 a 68 b 68 c 68 d 68 e	<p>Extensors:</p> <p>M. quadrizeps:</p> <ul style="list-style-type: none"> • M. rectus femoris • M. vastus medialis • M. vastus lateralis • M. vastus intermedius • M. articularis genus
69 70 a 70 b 71 72	<p>Flexors:</p> <ul style="list-style-type: none"> • M. sartorius • M. biceps femoris caput longum • M. biceps femoris caput brevis • M. semitendinosus • M. semimembranosus
Muscles of the lower leg	
73 74 75 76	<p>Anterior group:</p> <ul style="list-style-type: none"> • M. tibialis anterior • M. extensor hallucis longus • M. extensor digitorum longus • M. peronaeus tertius (variable)
77 78	<p>Lateral Peronaeusgroup:</p> <ul style="list-style-type: none"> • M. peronaeus longus • M. peronaeus brevis
79 79 a 79 b 79 c 80 81 82 83 84	<p>Posterior group:</p> <p>Upper layer:</p> <p>M. triceps surrae:</p> <ul style="list-style-type: none"> • M. gastrocnemius caput mediale • M. gastrocnemius caput laterale • M. soleus • M. plantaris <p>Lower layer:</p> <ul style="list-style-type: none"> • M. tibialis posterior • M. flexor hallucis longus • M. flexor digitorum longus • M. popliteus

Skeleton Nr.	Muscle
	Short muscles foot
85 a	Muscles of Dorsum pedis: • M. extensor digitorum brevis
85 b	• M. extensor hallucis brevis
86	Muscles of Planta pedis: • M. quadratus plantae (= M. flexor accessorius)
87	Muscles of big toe: • M. abductor hallucis
88 a	• M. flexor hallucis brevis caput mediale
88 b	• M. flexor hallucis brevis caput laterale
89 a	• M. adductor hallucis caput obliquum
89 b	• M. adductor hallucis caput transversum
90	Muscles of small toe: • M. opponens digiti minimi
91	• M. flexor digiti minimi brevis
92	• M. abductor digiti minimi
93	Muscles of middle foot sole area: • M. flexor digitorum brevis
94	• M. interossei plantares (3 single headed)
95	• M. interossei dorsales (4 double headed) • <i>M. lumbricales</i> (4 single headed, no bone origin, Insertion at Dorsalaponeurosis not marked)

Skeleton Nr.	Muscle
	Deep muscles of the Back = M. erector trunci
	Medial Tract:
	<ul style="list-style-type: none"> • <i>Mm. interspinales cervicis</i> (6) • <i>Mm. interspinales thoracis</i> (4) • <i>Mm. interspinales lumborum</i> (4) • <i>Mm. intertransversarii posteriores cervicis</i> (6) • <i>Mm. intertransversarii mediales lumborum</i> • <i>M. spinalis cervicis</i> • <i>M. spinalis thoracis</i> • <i>M. multifidus</i> • <i>Mm. rotatores longi</i> • <i>Mm. rotatores breves</i> • <i>M. semispinalis capitis</i> (only insertion marked) • <i>M. semispinalis cervicis et thoracis</i>
	Short muscles of the neck:
97	• M. rectus capitis posterior minor
98	• M. rectus capitis posterior major
99	• M. obliquus capitis superior
100	• M. obliquus capitis inferior
	Lateral Tract:
101 a	• M. iliocostalis cervicis
101 b	• M. iliocostalis thoracis
101 c	• M. iliocostalis lumborum
102 a	• M. longissimus capitis
102 b	• M. longissimus cervicis
102 c	• M. longissimus thoracis
	• <i>M. splenius cervicis</i> (not marked)
103	• M. splenius capitis (Only insertion marked)
104	• <i>Mm. levatores costarum brevis et longi</i> (sample from Th 10 and Th 11 to 12th Rib marked)

Skeleton Nr.	Muscle
	Ventrolateral muscles
105	<ul style="list-style-type: none"> M. rectus capitis lateralis Mm. intertransversarii anteriores cervicis (6 / not marked) M. intertransversarii laterales lumborum (5-6 / not marked)
106	<ul style="list-style-type: none"> M. serratus posterior inferior
107	<ul style="list-style-type: none"> M. serratus posterior superior
	Prevertebral muscles
108	<ul style="list-style-type: none"> M. rectus capitis anterior
109	<ul style="list-style-type: none"> M. longus capitis
110 a	<ul style="list-style-type: none"> M. longus colli pars obliqua superior
110 b	<ul style="list-style-type: none"> M. longus colli pars obliqua inferior
110 c	<ul style="list-style-type: none"> M. longus colli pars recta
111	<ul style="list-style-type: none"> M. scalenus anterior
112	<ul style="list-style-type: none"> M. scalenus medius
113	<ul style="list-style-type: none"> M. scalenus posterior
114	<ul style="list-style-type: none"> M. scalenus minimus
	Muscles of the thoracic cage
115	<ul style="list-style-type: none"> Mm. intercostales externi
116	<ul style="list-style-type: none"> Mm. intercostales interni
117	<ul style="list-style-type: none"> Mm. intercostales intimi
118	<ul style="list-style-type: none"> Mm. intercartilaginei
119	<ul style="list-style-type: none"> Mm. subcostales (shape of this muscle may be different)
120	<ul style="list-style-type: none"> M. transversus thoracis
	Belly muscles
	Lateral group:
121	<ul style="list-style-type: none"> M. obliquus externus abdominis
122	<ul style="list-style-type: none"> M. obliquus internus abdominis
123	<ul style="list-style-type: none"> M. transversus abdominis
	Medial group:
124	<ul style="list-style-type: none"> M. rectus abdominis
125	<ul style="list-style-type: none"> M. pyramidalis (no bone insertion, only origin marked)

Skeleton Nr.	Muscle
	Lower muscles of the belly
	<ul style="list-style-type: none"> M. psoas major (see inner Hip muscles) M. psoas minor (see inner Hip muscles) M. quadratus lumborum
126	
	Diaphragma
127	M. diahragma:
127 a	<ul style="list-style-type: none"> pars sternalis
127 b	<ul style="list-style-type: none"> pars costalis
127 c	<ul style="list-style-type: none"> pars lumbalis
	Pelvic floor
	Diaphragma pelvis:
128	<ul style="list-style-type: none"> M. levator ani
129	<ul style="list-style-type: none"> M. coccygeus
	Diaphragma urogenitalis:
130	<ul style="list-style-type: none"> M. transversus perinei profundus with the M. sphinkter urethrae externus
	Upper constrictor muscles:
131	<ul style="list-style-type: none"> M. transversus perinei superficialis M. bulbospongiosus (no bone insertion, not marked)
132	<ul style="list-style-type: none"> M. ischiocavernosus M. sphincter ani externus (no bone insertion, not marked)

Skeleton Nr.	Muscle
	Masticatory muscles
133	• M. masseter
134	• M. temporalis
135 a	• M. pterygoideus lateralis pars superior
135 b	• M. pterygoideus lateralis pars inferior
136	• M. pterygoideus medialis
	Lower hyoid bone muscles
137	• M. sternohyoideus
138	• M. omohyoideus venter superior
139	• M. omohyoideus venter inferior
140	• M. sternothyroideus
141	• M. thyrohyoideus (<i>Only insertion marked</i>)
	Upper hyoid bone muscles
142	• M. geniohyoideus
143	• M. mylohyoideus
144 a	• M. digastricus venter anterior
144 b	• M. digastricus venter posterior
145	• M. stylohyoideus
	Mimic muscles of the skull cap
146	M. epicraniius:
146 a	• M. occipitofrontalis venter occipitalis
	• <i>M. occipitofrontalis venter frontalis (no bone insertionen, not marked)</i>
	• <i>M. temporoparietalis (no bone insertionen, not marked / its posteriorer Part is also named M. auricularis superior)</i>

Skeleton Nr.	Muscle
	Mimic muscles at the eyelid fissure
147 a	• M. orbicularis oculi pars orbitalis
	• <i>M. orbicularis oculi pars palpebralis (no bone insertion, not marked)</i>
147 b	• M. orbicularis oculi pars lacrimalis
148	• M. corrugator supercilii
	Mimic muscles at the nose area
149	• M. procerus
150 a	• M. nasalis pars transversa
150 b	• M. nasalis pars alaris
151	• M. depressor septi
152	• M. levator labii superioris alaeque nasi
	Mimic muscles at the mouth
153	• M. orbicularis oris pars labialis et pars marinalis
154	• M. buccinator
155	• M. zygomaticus major
156	• M. zygomaticus minor
	• <i>M. risorius (no bone insertionen, not marked)</i>
157	• M. levator labii superioris
158	• M. levator anguli oris (= M. caninus)
159	• M. depressor angulis oris (= M. triangularis)
	• <i>M. transversus menti (not always present, not marked)</i>
160	• M. depressor labii inferioris (= M. quadratus labii inferioris)
161	• M. mentalis
162	• Platysma

	Muscles at the ear
163	<ul style="list-style-type: none"> • <i>M. auricularis anterior (no bone insertion, not marked)</i> • <i>M. arucularis superior (no bone insertion, not marked)</i> • <i>M. aricularis posterior (no bone insertion, only origin marked)</i>

Literature:

1. Beauthier, J.-P., Lefevre, Ph.: *Traité d'anatomie, de la théorie à la pratique palpatoire, avec la collaboration de F. Leurquin, Tome 1 - 3, Editions universitaires. De Boeck-Wesmael, s.a., Bruxelles, 1990*
2. Gray, H.: *Anatomy, descriptive and surgical, 1901 edition, Running Press, Philadelphia, 1974*
3. Kapandji, I. A.: *Funktionelle Anatomie der Gelenke, Band 1 - 3, Enke Verlag, Stuttgart, 1985*
4. Koritké, J.-G., Sick, H.: *Atlas of Sectional Human Anatomy, 2nd Edition in 1 Volume, Urban & Schwarzenberg, Baltimore ..., 1988*
5. MacMinn, R. M. H., Hutchings, R. T.: *Photographischer Atlas der Anatomie des Menschen, Deutsche Ausgabe herausgegeben von J. W. Rohen, 1. Auflage, Schattauer Verlag, Stuttgart, ..., 1977*
6. Netter, F. H.: *Atlas of Human Anatomy, Cyba-Geigy Corporation, Summit, New Jersey, 1989*
7. Platzer, W.: *Taschenatlas der Anatomie, Band 1, Bewegungsapparat, G. Thieme-Verlag, Stuttgart, 1979*
8. Sobotta, J.: *Atlas der Anatomie des Menschen, Band 1 und 2, 18. Auflage, Urban und Schwarzenberg, München, ..., 1982*
9. Rauber; Kopsch: *Anatomie des Menschen, Band 1, Bewegungsapparat, hrsg. u. bearb. von B. Tillmann u. G. Töndury, Georg Thieme Verlag, Stuttgart, 1987*