

Dear students,

For this moment is necessary to study **general myology (from the textbook)** and to study which of **functional groups of muscles are in the human body situated**.

The following text is what is necessary to know for the lesson of anatomy next week.

I recommend you to know **details about red marked muscles (with origin, insertion, action, innervation) for the lesson** (about 25 selected muscles but you can study more of course!).

Other muscles we will study in details together with other systems (for example with digestive system we will study all muscles of the abdomen, with respiratory system we will study all muscles of the thorax and so on) and during „winter“ dissection course we will study muscles of the back, the upper and the lower limbs, during „summer“ dissection course we will study all muscles of the head, neck, thorax.

It depends on each of you and your will, how much and when do you manage the muscles study. We will come back and repeat muscles many times, and I am sure you will know them in the end.

More information will be in the lecture of the anatomy at Tuesday.

Muscles of the head (*mm. capitis*)

A) Muscles of the mastication (*mm. masticatorii*)

- 1) Temporal (*m. temporalis*)
- 2) Masseter (*m. masseter*)
- 3) Lateral pterygoid (*m. pterygoideus lateralis*)
- 4) Medial pterygoid (*m. pterygoideus medialis*)

B) Mimetic muscles (*mm. faciales*) – change a facial expression in emotions, innervation by VII. cranial nerve (facial)

1) Muscles of the scalp

2) Muscles of the region of the eyelids

m. orbicularis oculi

3) Muscles of the nasal region

4) Muscles of the mouth region

m. orbicularis oris

m. buccinator

Muscles of the neck (*musculi colli*)

I. Superficial layer

1) **Platysma** – moves of the skin of the neck

2) **Sternocleidomastoid** (*m. sternocleidomastoideus*) – movements of the head

3) **Hyoid muscles (*mm. hyoidei*)**

a) **Group of suprahyoid muscles (*mm. suprahyoidei*)** – mainly depression of mandible

b) **Group of infrahyoid muscles (*mm. infrahyoidei*)** – mainly fixation of hyoid bone (*os hyoideum*)

II. Deep layer – mainly flexion of the neck (and head)

1. **Scaleni** (*mm. scaleni*)
2. **Praevertebral muscles** (*mm. praevertebrales*)
3. **Intervertebral muscles**

Muscles of the thorax (*musculi thoracis*)

1. **Thoraco-humeral group** – mainly ventral flexion and abduction of the upper limb
 - m. pectoralis major*
 - m. serratus anterior*
2. **True (original) thoracic muscles** – muscles for respiratory movements
 1. *mm. intercostales externi*
 2. *mm. intercostales interni*
3. **Diaphragm** (*Diaphragma*) – muscle for inspiration

Muscles of the back (*musculi dorsi*)

1. EXTRINSIC MUSCLES

- a) **Spino-humeral muscles** – movements of the upper limb
 1. *m. trapezius*
 2. *m. latissimus dorsi*
- b) **Spino-costal muscles** – help respiratory movements

2. INTRINSIC MUSCLES of the back – mainly extensors of the back and the head (innervation by dorsal branches of spinal nerves !!!!)

- a. Spino-transversal system
- b. Sacro-spinal system (*erector spinae*)
- c. Spino-spinal system
- d. Transverso-spinal system
- e. Short muscles of the back

Abdominal muscles (*mm. abdominis*)

They are antagonists of the dorsal muscles and they regulate the volume of the abdominal cavity.

- a) **Ventral group of the abdominal muscles**
 - 1) *m. rectus abdominis*
- b) **Lateral group**
 - 1) External abdominal oblique (*m. obliquus externus abdominis*)
 - 2) Internal abdominal oblique (*m. obliquus internus abdominis*)
 - 3) Transversus abdominis (*m. transversus abdominis*)
- c) **Dorsal group of the abdominal muscles**
 - d) **Sheath of rectus abdominis** (*Vagina mm. recti abdominis*)!!!
 - e) **Inguinal canal** (*canalis inguinalis*)- borders and content !!!

Muscles of the upper limb (*mm. membri superioris*)

Muscles of shoulder (*mm. humeri*) – mainly abductors and supinators of the shoulder joint
m. deltoideus

Muscles of brachium (*mm. brachii*)

- a) **Ventral group** – mainly flexors of the elbow joint
m. biceps brachii
- b) **Dorsal group** – extensors of the elbow joint

Muscles of forearm (*mm. antebrachii*)

1. **Ventral group** - mainly flexors of the wrist and fingers

Superficial layer

Middle layer

Deep layer

2. **Lateral group** – mainly extensors of the wrist

3. **Dorsal group** – mainly extensors of the fingers

a) Superficial layer

b) Deep layer

Muscles of the hand (*mm. manus*)

1. **Muscles of the thenar** (group short muscles for movement of the thumb)

2. **Muscles of the hypothenar** (group muscles for movement of the little finger)

3. **Mm. lumbricales (I.-IV.)**

4. **Mm. interossei dorsales (4)**

5. **Mm. interossei palmares (3)**

Muscles of the lower limb (*mm. membri inferioris*)

Muscles of the hip joint (*mm. coxae*)

1. **Ventral group** – flexor of hip joint

2. **Dorsal group** - mainly extensors of the lower limb

m. gluteus maximus

3. **Pelvitrochanteric muscles** – mainly supinators of hip joint

m. piriformis

Muscles of the thigh (*mm. femoris*)

1. **Ventral group** – mainly extensors of the knee joint

m. quadriceps femoris

2. **Medial group** – mainly adductors of hip joint

3. **Dorsal group** – mainly flexors of knee joint

Muscles of the leg (*mm. cruris*)

1. **Ventral group** – mainly extension (=dorsal flexion) of the foot

2. **Lateral group** – mainly pronation of the foot

3. **Dorsal group**

a) **Superficial layer** – mainly plantar flexion

m. triceps surae

b) **Deep layer** – mainly flexors of toes

Muscles of the foot (*mm. pedis*)

1) **Dorsal group** – extensors of toes

2) **Plantar group**

a) **Muscles of the big toe (*musculi hallucis*)** – group of short muscles for movement of the big toe

b) **Muscles of the little toe (*musculi digiti minimi pedis*)** – group of short muscles for movement of the little toe

c) **Muscles of the middle part of *planta pedis*** – group of short muscles for flexion, abduction and adduction of toes