

School of Medicine
Format of course plan

Course title: Anatomy of lower extremity

The audiences: International medical students, 2nd semester

Total credit: 0.9 theory, 0.3 practical

The time to answer of questions: Saturday 8-10

The time of the lesson: First semester, Sunday 10-12

Teacher: dr. Ali Ghanbari

Prerequisite: nothing

General goals: Understanding the lower limb structure of the human body and the study of disorders caused by diseases, including skeletal and muscular disorders.

General goals of sessions:

- 1- Description of the lower limb as a whole.
- 2- Description of lower limb bones; Hip, femur, either hip joint.
- 3- Description of lower limb bones; Tibia, Fibula, Tarsal, Metatarsal and phalanges.
- 4- Description of the structure of the Lumbosacral neural network and anterior structures of femoral region.
- 5- Description of posterior structures of femoral region
- 6- Description of medial structures of femoral region
- 7- Description of the structures of the anterior and lateral parts of the leg.
- 8- Description of the structures of the posterior part of the leg.
- 9- Description of lower limb joints including tarsal, sub- tarsal, talo-calcaneal- navicular joints
- 10- Description of lower foot muscular compartments
- 11- Embryology of lower limb

Specific Goals By the general purpose of each session

General goals of first lesson :

Description of the lower limb as a whole.

Special goals of first lesson :

Briefly describe the history of anatomy and nominate anatomist scientist like rezalius, Ave- cina, Davinchi and Snell. Give explanations regarding the importance of dissection and visualization in learning tridimensional anatomy. Describe the regions of lower limb and its surface anatomy landmarks. Brief explanation about motor and sensory innervation of lower limb. Brief explanation of main arteries of lower limb. Brief explanation of superficial veins and the accumulation sites for lymph nodes in the lower limb.

General goals of second lesson :

Description of lower limb bones; Hip, femur, either hip joint

Special goals of second lesson :

Teaching placing manner for the Hip and the femur bones. Determining the property of the hip joint. Teaching the main related bone damages and malformations. Make detail description regarding these two bones including characteristics like spines, process, lines and borders, foramenia an fossae.

General goals of third lesson :

Description of lower limb bones; Tibia, Fibula, Tarsal, Metatarsal and phalanges.

Special goals of third lesson :

Teaching placing manner for these bones. Determining the property of the knee joint. Teaching the main related bone damages and malformations. Make detail description regarding these bones including characteristics like spines, process, lines and borders, foramenia an fossae.

General goals of forth lesson :

Description of the structure of the Lumbosacral neural network and anterior structures of femoral region.

Special goals of forth lesson :

To describe superficial and deep fasciae of the femoral region and their importance. Make detail description regarding lumbosacral neural network with emphasis on clinical anatomy of the arising nerves from this neural network. Nomination of each muscles and

make description about their innervation, arterial supply, movements, and relations in the respect of the muscles with emphasis on the outcomes of paralysis of these muscles.

General goals of fifth lesson :

Description of posterior structures of femoral region.

Special goals of fifth lesson :

Nomination of each muscles of this compartment and make description about their innervation, arterial supply, movements, relations in the respect of the muscles with emphasis on the outcomes of paralysis of these muscles.

General goals of sixth lesson :

Description of medial structures of femoral region.

Special goals of sixth lesson :

Nomination of each muscles of this compartment and make description about their innervation, arterial supply, movements, relations in the respect of the muscles with emphasis on the outcomes of paralysis of these muscles.

General goals of seventh lesson :

Description of the structures of the anterior and lateral parts of the leg.

Special goals of seventh lesson :

Nomination of each muscles of these compartments and make description about their innervation, arterial supply, movements, relations in the respect of the muscles with emphasis on the outcomes of paralysis of these muscles. To determine the course of related retinacula.

General goals of eighth lesson :

Description of the structures of the posterior part of the leg.

Special goals of eighth lesson:

Nomination of each muscles of this compartment and make description about their innervation, arterial supply, movements, relations in the respect of the muscles with emphasis on the outcomes of paralysis of these muscles. To determine the course of related retinacula.

General goals of ninth lesson:

Description of lower limb joints including tarsal, sub- tarsal, talo-calcaneal- navicular joints_

Special goals of ninth lesson:

To explain the articular surfaces regarding these joints, to determine the related ligaments and finally to characterize.

General goals of tenth lesson:

Description of foot muscular compartments.

Special goals of tenth lesson:

Nomination of each muscles of these compartments and make description about their innervation, arterial supply, movements, relations in the respect of the muscles with emphasis on the outcomes of paralysis of these muscles.

General goals of eleventh lesson:

Description of lower limb embryology

Special goals of eleventh lesson:

To explain which embryologic cells are responsible for making the lower limb. Give a brief explanation about molecular process and the role of arterial supply for generation of proximal, middle and distal parts of the lower limb. Subsequently, clear the differences during embryogenesis of upper and lower limbs.

At the end of the class, the student's abilities would be:

- 1- Description of the lower limb as a whole.
- 2- Description of lower limb bones; Hip, femur.
- 3- Description of lower limb bones; Tibia, Fibula, Tarsal, Metatarsal and phalanges.
- 4- Description of the structure of the Lumbosacral neural network and anterior structures of femoral region.
- 5- Description of posterior structures of femoral region
- 6- Description of medial structures of femoral region
- 7- Description of the structures of the anterior and lateral parts of the leg.
- 8- Description of the structures of the posterior part of the leg.
- 9- Description of lower limb joints including tarsal, sub- tarsal, talo-calcaneal- navicular joints
- 10- Description of lower foot muscular compartments.
- 11- Description of lower limb embryology

References:

Gray's Anatomy for Medical Students Volume II Upper and lower extremities
Sobotta's atlas of anatomy Volume I and II
Longman human embryology

Educational tools:

On-line and off-line virtual education

Assessment and evaluation of the test

| Considered time For answering | Date | Share of total score (in percent) | Method | Test |
|--|---------------------------|--|--|-------------------|
| 15 min for each quiz | End of each session | 6 | Short answer, Multi-choice or painting | Homework |
| 40 min | End of the term | 14 | Multi-choice | Final Exam |

Classroom roles and student expectations:

Since this semester is presented virtually, students are required to upload and read all the content uploaded in the Navid system, as well as to prepare and submit homework related to the course on time.

Schedule of anatomy of musculoskeletal system for international students

Anatomy of musculoskeletal system exam99 /11

Theory program of Anatomy of musculoskeletal system (Total credit:0.9)

First semester 1399-1400

Instructor: Dr. Ali Ghanbari

| Topic | Date | |
|--|-------------|----|
| Characterization of the lower limb as a whole | 99/6/22 | ۱ |
| Anatomical features of Hip, femur bones and hip joint | 99/6/29 | ۲ |
| Anatomical features of Tibia, Fibula, Tarsal, Metatarsal and phalanges | 99/7/5 | ۳ |
| Lumbosacral neural network and anterior structures of femoral region | 99/7/12 | ۴ |
| Posterior structures of femoral region | 99/7/19 | ۵ |
| Medial structures of femoral region | 99/8/3 | ۶ |
| Anterior and lateral structures of the leg | 99/8/10 | ۷ |
| Posterior structures of the leg | ۱۷/۸/۹۹ | ۸ |
| The Joints in the foot region | ۲۵/۸/۹۹ | ۹ |
| The muscles in the foot region | ۱/۹/۹۹ | ۱۰ |
| The embryology of the lower limbs | 99/9/8 | 11 |

Schedule of anatomy of musculoskeletal system for international students

Practical program of Anatomy of musculoskeletal system (Total credit: 0.3)

First semester 1399-1400

Instructor: Dr. Ali Ghanbari

| Topic | Date | |
|-------------------------------------|-------------|---|
| Osteology | 99/8/3 | ۱ |
| Dissection of the thigh region | 99/8/10 | ۲ |
| Dissection of the leg | ۱۷/۸/۹۹ | ۳ |
| Dissection of the foot region | ۲۵/۸/۹۹ | ۴ |
| Dissection of the lower limbs joint | ۹۹/۹/۹ | ۵ |