[Medicinski fakultet u Rijeci]

Curriculum
2023/2024

[Za kolegij]

Anatomical Base of Lesions of Spinal and Cranial Nerves

Study program:	**Medical Studies in English (R)** (elective) [Sveučilišni integrirani prijediplomski i diplomski studij]
Department:	**[Zavod za anatomiju]**
Course coordinator:	**prof. dr. sc. Zoričić Cvek Sanja, dr. med.**
Year of study:	**1**
ECTS:	**1.5**
Incentive ECTS:	**0 (0.00%)**
Foreign language:	**Possibility of teaching in a foreign language**

Course information:

The main topic of the elective course is the morphological and functional characteristics of cranial and spinal nerves with a special focus on topographic relationships and the pathways these nerves pass through. On the basis of topographic relationships, the anatomical structures that can lead to their lesions will be shown, as well as the corresponding outbursts from the side of the organs that are innervated by the mentioned nerves. In addition to the morphological descriptions of the anatomical structures, the mechanisms that lead to lesions will be described and clarified (for the nn. olfactorius, anosmia and liquor will be described as symptoms indicating nerve damage in the area of the laminae cribrosae ossis ethmoidalis, for n. II, hemianopsia and other lesions on the visual pathway in terms of involvement of the optic nerve, chiasma opticus, tractus opticus and other variants, etc. to various lesions of the peripheral branches of the plexus for the innervation of the upper and lower extremities).

List of assigned reading:

Sobotta Anatomy textbook, Editor Jens Waschke, Tobias M. Bockers, Friedrich Paulsen, ELSEVIER 2015

List of optional reading:

Curriculum:

[Predavanja] list (with titles and explanation):

P1:The morphological and functional characteristic of the cranial nerves (nn. olfactorius, n. opticus, n. oculomotorius, n. trochlearis, n. abducens)

The students will be prepared for the theoretical description of the functional division of the cranial nerves so as theirs close topographical relationships . At the morphological, functional and topographical characteristics of the cranial nerves, the student will be able to conlude the origin and the topograohy of the lesions in relation to the simptoms at the periphery.

P2:The anatomical base for the lesion of the trigeminal nerve

The students will be trained to connect functionally different types of trigeminal nerve nuclei, their location in brain, their point of exit from the brainstem, their intracranial and extracranial pathway and close topographical relations and the simptoms of the lesions at the periphery.

P3:N. vestibulocochlearis and inner ear

The students will be trained to apstract the nuclei, the points of exit from the brainstem and the pathway to the bony and membranous labirinth of the inner ear. On the basis of simptoms and hearing disturbance, students will be able to recognize and to conclude where is the site of nerve lesion.

P4: Spinal nerves and cervicobrachial syndroms

The student will be able to point out the main morphological and functional characteristics of the different spinal nerves regarding the segmentation and peripheral pattern of innervation. On the basis of the simptoms regarding disturbance in motor and sensory function of the brachial plexus, the student will be able to conclude the site of lesion of the spinal nerve

P5: Spinal nerves and cervicobrachial syndroms

The student will be able to point out the main morphological and functional characteristics of the different spinal nerves regarding the segmentation and peripheral pattern of innervation. On the basis of the simptoms regarding disturbance in motor and sensory function of the brachial plexus, the student will be able to conclude the site of lesion of the spinal nerve

[Seminari] list (with titles and explanation):

S3:N. facialis. Central and peripheral lesion of the nerve.

On the basis of theoretical descriptive and topographical characteristic, the students will be able to conclude which simptoms will be present in a case of central and peripheral lesion of the n. facialis.

S4:N. glossopharyngeus and the lesion

On the basis of theoretical knowledge regarding the morphology and topography of the n. IX, the students will be able to construct the clinical simptoms and difficulties in patients with central and peripheral lesion of the n. IX.

S6:N vagus and parasympathetic innervation of the visceral organs

On the basis of theoretical knowledge regarding the morphology and topography of the n. X, the students will be able to construct the clinical simptoms and difficulties in patients with central and peripheral lesion of the n. X, aspecially regarding the cardiovascular and respiratory system.

S9:N. XI and n. XII and motor disturbances of the neck and tongue muscles

On the basis of theoretical knowledge regarding the morphology and topography of the n. XI and n. XII, the students will be able to construct the clinical simptoms and difficulties with the movements in a case of central and peripheral lesion of the n. XI and XII.

S12:Cervical spinal nerves

The student will be able to conclude the site of lesion of the cervical spinal nerves (central and peripheral lesions)

regarding the peripheral simptoms.

S15:Plexus brachialis

The students will learn and accepted the skills how to recognize individual nerve lesions of the plexus brachialis.

S18:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.

Reagrding the anatomical and functional characteristic of the thoracal spinal nerves, the students will be able to register the site of the lesion in a case of herpes zoster.

S1: N. facialis. Central and peripheral lesion of the nerve

On the basis of theoretical descriptive and topographical characteristic, the students will be able to conclude which simptoms will be present in a case of central and peripheral lesion of the n. facialis.

S2: N. facialis. Central and peripheral lesion of the nerve

On the basis of theoretical descriptive and topographical characteristic, the students will be able to conclude which simptoms will be present in a case of central and peripheral lesion of the n. facialis.

S5:N. glossopharyngeus and the lesion

On the basis of theoretical knowledge regarding the morphology and topography of the n. IX, the students will be able to construct the clinical simptoms and difficulties in patients with central and peripheral lesion of the n. IX.

S7:N vagus and parasympathetic innervation of the visceral organs

On the basis of theoretical knowledge regarding the morphology and topography of the n. X, the students will be able to construct the clinical simptoms and difficulties in patients with central and peripheral lesion of the n. X, aspecially regarding the cardiovascular and respiratory system.

S8:N vagus and parasympathetic innervation of the visceral organs

On the basis of theoretical knowledge regarding the morphology and topography of the n. X, the students will be able to construct the clinical simptoms and difficulties in patients with central and peripheral lesion of the n. X, aspecially regarding the cardiovascular and respiratory system.

S10:N. XI and n. XII and motor disturbances of the neck and tongue muscles

On the basis of theoretical knowledge regarding the morphology and topography of the n. XI and n. XII, the students will be able to construct the clinical simptoms and difficulties with the movements in a case of central and peripheral lesion of the n. XI and XII.

S11:N. XI and n. XII and motor disturbances of the neck and tongue muscles

On the basis of theoretical knowledge regarding the morphology and topography of the n. XI and n. XII, the students will be able to construct the clinical simptoms and difficulties with the movements in a case of central and peripheral lesion of the n. XI and XII

S13:Cervical spinal nerves

The student will be able to conclude the site of lesion of the cervical spinal nerves (central and peripheral lesions) regarding the peripheral simptoms.

S14:Cervical spinal nerves

The student will be able to conclude the site of lesion of the cervical spinal nerves (central and peripheral lesions) regarding the peripheral simptoms.

S16:Plexus brachialis

The students will learn and accepted the skills how to recognize individual nerve lesions of the plexus brachialis.

S17:Plexus brachialis

The students will learn and accepted the skills how to recognize individual nerve lesions of the plexus brachialis.

S19:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.

Reagrding the anatomical and functional characteristic of the thoracal spinal nerves, the students will be able to register the site of the lesion in a case of herpes zoster.

S20:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.

Reagrding the anatomical and functional characteristic of the thoracal spinal nerves, the students will be able to register the site of the lesion in a case of herpes zoster.

Student obligations:

Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):

Other notes (related to the course) important for students:

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COURSE HOURS 2023/2024

Anatomical Base of Lesions of Spinal and Cranial Nerves

[Predavanja] (Place and time or group)	**[Seminari]** (Place and time or group)
02.05.2024	
P1:The morphological and functional characteristic of the cranial nerves (nn. olfactorius, n. opticus, n. oculomotorius, n. trochlearis, n. abducens): • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ○ ABoLoSaCN P2:The anatomical base for the lesion of the trigeminal nerve: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ○ ABoLoSaCN P3:N. vestibulocochlearis and inner ear: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ○ ABoLoSaCN	
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
07.05.2024	
	S3:N. facialis. Central and peripheral lesion of the nerve.: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ○ ABoLoSaCN S1: N. facialis. Central and peripheral lesion of the nerve: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ○ ABoLoSaCN S2: N. facialis. Central and peripheral lesion of the nerve: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ○ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
09.05.2024	
P4: Spinal nerves and cervicobrachial syndroms: • [Zavod za anatomiju - Sala 4] (16:15 - 17:45) [1600] ○ ABoLoSaCN P5: Spinal nerves and cervicobrachial syndroms: • [Zavod za anatomiju - Sala 4] (16:15 - 17:45) [1600] ○ ABoLoSaCN	
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
14.05.2024	

	S4:N. glossopharyngeus and the lesion: • [Zavod za anatomiju - Seminarska] (16:15 - 17:45) [1600] ◦ ABoLoSaCN S5:N. glossopharyngeus and the lesion: • [Zavod za anatomiju - Seminarska] (16:15 - 17:45) [1600] ◦ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
16.05.2024	
	S6:N vagus and parasympathetic innervation of the visceral organs: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S7:N vagus and parasympathetic innervation of the visceral organs: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S8:N vagus and parasympathetic innervation of the visceral organs: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
21.05.2024	
	S9:N. XI and n. XII and motor disturbances of the neck and tongue muscles: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S10:N. XI and n. XII and motor disturbances of the neck and tongue muscles: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S11:N. XI and n. XII and motor disturbances of the neck and tongue muscles: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
23.05.2024	

	S12:Cervical spinal nerves: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S13:Cervical spinal nerves: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S14:Cervical spinal nerves: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
28.05.2024	
	S15:Plexus brachialis: • [Zavod za anatomiju - Sala 4] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S16:Plexus brachialis: • [Zavod za anatomiju - Sala 4] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S17:Plexus brachialis: • [Zavod za anatomiju - Sala 4] (16:15 - 18:30) [1600] ◦ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	
31.05.2024	
	S18:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S19:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN S20:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.: • [Zavod za anatomiju - Seminarska] (16:15 - 18:30) [1600] ◦ ABoLoSaCN
prof. dr. sc. Zoričić Cvek Sanja, dr. med. [1600]	

List of lectures, seminars and practicals:

[PREDAVANJA] (TOPIC)	Number of hours	Location
P1:The morphological and functional characteristic of the cranial nerves (nn. olfactorius, n. opticus, n. oculomotorius, n. trochlearis, n. abducens)	1	[Zavod za anatomiju - Seminarska]

P2:The anatomical base for the lesion of the trigeminal nerve	1	[Zavod za anatomiju - Seminarska]
P3:N. vestibulocochlearis and inner ear	1	[Zavod za anatomiju - Seminarska]
P4: Spinal nerves and cervicobrachial syndroms	1	[Zavod za anatomiju - Sala 4]
P5: Spinal nerves and cervicobrachial syndroms	1	[Zavod za anatomiju - Sala 4]

[SEMINARI] (TOPIC)	Number of hours	Location
S3:N. facialis. Central and peripheral lesion of the nerve.	1	[Zavod za anatomiju - Seminarska]
S4:N. glossopharyngeus and the lesion	1	[Zavod za anatomiju - Seminarska]
S6:N vagus and parasympathetic innervation of the visceral organs	1	[Zavod za anatomiju - Seminarska]
S9:N. XI and n. XII and motor disturbances of the neck and tongue muscles	1	[Zavod za anatomiju - Seminarska]
S12:Cervical spinal nerves	1	[Zavod za anatomiju - Seminarska]
S15:Plexus brachialis	1	[Zavod za anatomiju - Sala 4]
S18:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.	1	[Zavod za anatomiju - Seminarska]
S1: N. facialis. Central and peripheral lesion of the nerve	1	[Zavod za anatomiju - Seminarska]
S2: N. facialis. Central and peripheral lesion of the nerve	1	[Zavod za anatomiju - Seminarska]
S5:N. glossopharyngeus and the lesion	1	[Zavod za anatomiju - Seminarska]
S7:N vagus and parasympathetic innervation of the visceral organs	1	[Zavod za anatomiju - Seminarska]
S8:N vagus and parasympathetic innervation of the visceral organs	1	[Zavod za anatomiju - Seminarska]
S10:N. XI and n. XII and motor disturbances of the neck and tongue muscles	1	[Zavod za anatomiju - Seminarska]
S11:N. XI and n. XII and motor disturbances of the neck and tongue muscles	1	[Zavod za anatomiju - Seminarska]
S13:Cervical spinal nerves	1	[Zavod za anatomiju - Seminarska]
S14:Cervical spinal nerves	1	[Zavod za anatomiju - Seminarska]
S16:Plexus brachialis	1	[Zavod za anatomiju - Sala 4]
S17:Plexus brachialis	1	[Zavod za anatomiju - Sala 4]
S19:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.	1	[Zavod za anatomiju - Seminarska]
S20:NN. spinales thoracicci. Herpes zoster of the thoracal spinal nerves dermatomes.	1	[Zavod za anatomiju - Seminarska]

EXAM DATES (final exam):