

Plan of the course

Integrated Clinical Module: Part 2

Academic year **2016/2017**

prof. dr. sc. Arijana Lovrenčić-Huzjan

I. COURSE AIMS

Acquiring the knowledge of stroke prevention and management. The insight in new awareness of stroke risk factors.
Acquiring the skills of critical approach to the management of stroke patients.

Acquiring the knowledge of the clinical conditions that can lead to brain death. Acquiring the skills of clinical examination of the brain death patients. Acquiring the knowledge of the management of the patients suspected to be brain death, setting the diagnosis. Becoming aware of the importance of organ donation.

II. COURSE STRUCTURE

Course hours:

Lectures: 16

Seminar: 11

Clinical practicals: 33

Total hours: 60

Lectures, seminars and practicals.

III. PLAN OF THE COURSE AND COURSE SCHEDULE

BLOCKS OF THE COURSE

Number of blocks: 1

Block number	Start	End
1.	10.4.2017	21.4.2017

BLOCKS OF THE COURSE SCHEME

Block 1

Date	Time	Group	Course hours type	Theme	Teaching staff
Monday 10.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica	All	Lectures	Healthy lifestyle and prevention of stroke	prof. dr. sc. Vida Demarin
	09:15-10:00; KBSM, Neurologija, Velika predavaonica		Lectures	Stroke types and subtypes	prof. dr. sc. Arijana Lovrenčić-Huzjan
	10:15-11:00; KBSM, Neurologija, Velika predavaonica		Lectures	Clinical picture of stroke	doc. dr. sc. Iris Zavoreo
	11:15-12:00; KBSM, Neurologija, Velika predavaonica		Seminar	Stroke mimics	Višnja Šupanc
	12:30-13:15; KBSM, Neurologija, Velika predavaonica		Clinical practicals	History taking in patients with stroke	dr. sc. Marina Roje Bedeković, Marijana Bosnar Purić
	13:15-14:00; KBSM, Neurologija, Velika predavaonica		Clinical practicals	Diagnostic work up in stroke	Marijana Bosnar Purić, dr. sc. Marina Roje Bedeković
	14:00-17:00; KB 'Sestre Milosrdnice'	According to agreement	Clinical practicals	Practicals in stroke unit	prof. dr. sc. Arijana Lovrenčić-Huzjan, dr. sc. Marina Roje Bedeković, dr. sc. Tomislav Breitenfeld, Višnja Šupanc, Marijana Bosnar Purić
Tuesday 11.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Seminar	Stroke classification	izv. prof. dr. sc. Vanja Bašić Kes
	09:15-10:45; KBSM, Neurologija, Velika predavaonica		Lectures	Epidemiology of cerebrovascular disease and stroke genetic	Tatjana Rundek
	11:15-12:00; KBSM, Neurologija, Velika predavaonica		Lectures	Cardiac causes of stroke	Tatjana Rundek
	12:30-14:00; KBSM, Neurologija, Velika predavaonica		Clinical practicals	Brain structures and hemodynamics	Tatjana Rundek
Wednesday 12.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Seminar	Management of patients with transient ischemic attack	doc. dr. sc. Branko Malojčić
	09:15-10:00; KBSM, Neurologija, Velika predavaonica		Lectures	Acute stroke management	dr. sc. Tomislav Breitenfeld

Date	Time	Group	Course hours type	Theme	Teaching staff
	10:15-11:00; KBSM, Neurologija, Velika predavaonica		Seminar	Secondary stroke prevention	prof. dr. sc. Zlatko Trkanjec
	11:15-12:00; KBSM, Neurologija, Velika predavaonica		Seminar	Migraine and stroke	izv. prof. dr. sc. Vanja Bašić Kes
	12:30-13:15; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Neurologic status: Correlation with brain imaging	dr. sc. Marina Roje Bedeković, Marijana Bosnar Puretić
	13:15-14:45; KBSM, Neurologija, Jedinica za liječenje moždanog udara		Clinical practicals	Assessment of stroke patient	prof. dr. sc. Arijana Lovrenčić-Huzjan, dr. sc. Marina Roje Bedeković, Marijana Bosnar Puretić
Thursday 13.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Seminar	Burden of stroke and risk factors for stroke	prof. dr. sc. Zlatko Trkanjec
	09:15-10:00; KBSM, Neurologija, Velika predavaonica		Seminar	Cranio-cervical artery dissection	prof. dr. sc. Arijana Lovrenčić-Huzjan
	10:15-11:45; KBSM, Neurologija, Jedinica za liječenje moždanog udara		Clinical practicals	Scales in stroke	prof. dr. sc. Zlatko Trkanjec
	11:45-12:30; KBSM, Neurologija, Jedinica za liječenje moždanog udara		Clinical practicals	Thrombolysis: indications and contraindications	Višnja Šupanc
	12:30-13:15; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Examination of patient with severe ischemic stroke	dr. sc. Tomislav Breitenfeld, Marijana Bosnar Puretić, dr. sc. Marina Roje Bedeković
	13:15-14:00; KBSM, Neurologija, Intenzivna skrb		Lectures	Protocols for thrombectomy	izv. prof. dr. sc. Zdravka Poljaković
Friday 14.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Lectures	Neurosonology in primary prevention and treatment	prof. dr. sc. Arijana Lovrenčić-Huzjan
	09:15-10:00; KBSM, Neurologija, Velika predavaonica		Lectures	Vascular cognitive impairment	prof. dr. sc. Zlatko Trkanjec
	10:15-11:45; KBSM, Neurologija, Cerebrovaskularni laboratorij	A1	Clinical practicals	Neurosonology	prof. dr. sc. Arijana Lovrenčić-Huzjan
	10:15-11:45; KBSM, Neurologija, Mala predavaonica	A2	Clinical practicals	Testing of cognitive functions	dr. sc. Irena Martinić Popović
	12:00-13:30; KBSM, Neurologija, Mala predavaonica	A1	Clinical practicals	Testing of cognitive functions	dr. sc. Irena Martinić Popović
	12:00-13:30; KBSM, Neurologija, Cerebrovaskularni laboratorij	A2	Clinical practicals	Neurosonology	prof. dr. sc. Arijana Lovrenčić-Huzjan

Date	Time	Group	Course hours type	Theme	Teaching staff
Tuesday 18.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Lectures	The role of neurologist in determining brain death	prof. dr. sc. Vida Demarin
	09:15-10:00; KBSM, Neurologija, Velika predavaonica		Lectures	Brain hemorrhage	dr. sc. Marina Roje Bedeković
	10:15-11:00; KBSM, Neurologija, Velika predavaonica		Seminar	The clinical conditions leading to brain death and brain imaging	Marijana Bosnar Puretić
	11:00-11:45; KBSM, Neurologija, Velika predavaonica		Clinical practicals	The clinical conditions leading to brain death and brain imaging	Marijana Bosnar Puretić
	12:00-13:30; KBSM, Neurologija, Velika predavaonica		Clinical practicals	"Pain in the brain"	prof. dr. sc. Arijana Lovrenčić-Huzjan
Wednesday 19.4.2017.	08:30-10:00; KBSM, Neurologija, Velika predavaonica		Lectures	Altered mental status and coma, differential diagnosis	prof. dr. sc. Arijana Lovrenčić-Huzjan
	10:00-10:45; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Examination of patient with hemorrhagic stroke	Marijana Bosnar Puretić, prof. dr. sc. Arijana Lovrenčić-Huzjan, dr. sc. Marina Roje Bedeković
	12:15-13:45; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Examination of patient with brain trauma	Marinko Vučić, Željka Gavranović
	14:00-15:30; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Protocols for assessment of brain death	Željka Gavranović, Marinko Vučić
Thursday 20.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Lectures	Examination of brain death person	dr. sc. Tomislav Breitenfeld
	09:15-10:00; KBSM, Neurologija, Velika predavaonica		Seminar	Brain death and religion	prof. dr. sc. Arijana Lovrenčić-Huzjan
	10:15-11:00; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Glasgow coma scale	Marijana Bosnar Puretić, dr. sc. Marina Roje Bedeković, prof. dr. sc. Arijana Lovrenčić-Huzjan
	11:00-11:45; KBSM, Neurologija, Velika predavaonica		Clinical practicals	"Giant sleep"	Marijana Bosnar Puretić
	11:45-12:30; KBSM, Neurologija, Velika predavaonica		Seminar	"Off balance"	dr. sc. Marina Roje Bedeković
	12:30-14:00; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Assessment of patient in coma	Marinko Vučić, Željka Gavranović
	Friday 21.4.2017.	08:30-09:15; KBSM, Neurologija, Velika predavaonica		Lectures	Confirmatory tests in brain death patients

Date	Time	Group	Course hours type	Theme	Teaching staff
	09:30-11:00; KBSM, Neurologija, Intenzivna skrb		Clinical practicals	Examination of brain death person	Marinko Vučić, Željka Gavranović
	11:00-14:00; KBSM, Neurologija, Biblioteka	All	Clinical practicals	Psychological approach to the family of brain death person	Željka Gavranović, Marinko Vučić
	14:00-14:45; KBSM, Neurologija, Velika predavaonica	All	Clinical practicals	Round table /Doubts	Višnja Šupanc, dr. sc. Marina Roje Bedeković, prof. dr. sc. Arijana Lovrenčić-Huzjan, prof. dr. sc. Vida Demarin, dr. sc. Tomislav Breitenfeld, Marinko Vučić, Željka Gavranović

Lectures will take place in hall: in the lecture-room of the Department of Neurology or in one of the lecture-rooms of the Educational Centre of the University Hospital Centre Sestre milosrdnice, Vinogradska 29, 10 000 Zagreb.

Seminars will take place in hall: in the lecture-room of the Department of Neurology or in one of the lecture-rooms of the Educational Centre of the University Hospital Centre Sestre milosrdnice, Vinogradska 29, 10 000 Zagreb.

Practicals will take place in the divisions or laboratories of the Department of Neurology of the University Hospital Centre Sestre milosrdnice, Vinogradska 29, 10 000 Zagreb

IV. EXAMINATIONS

Students need to prepare actively for participating in seminars and practices.

Testing of knowledge is done by preliminary exam (examination of neurological patient, neurological syndromes), written and oral final exam.

Written exam consists of multiple-choice questions. Passing this exam is a requirement for approaching the oral exam. The results of written exam are being recognized by the end of the ongoing academic year. After that student are approaching to the written exam. The whole exam must be finished within 5 days after the beginning of the written exam.

Course grades

Written exam:

1. <>>>>>

0 – 30 points 1 = fail (F)

Oral exam:

5 = excellent (A)

4 = very good (B)

3 = good (C)

2 = satisfactory (D)

1 = fail (F)

Final course grade is calculated as a mean from final written and oral exam grades.

Regular terms	Date
Winter	
Summer	21.4.2017.
	10.5.2017

V./I. LIST OF LECTURERS AND TEACHING STAFF

1. doc. dr. sc. Branko Malojčić
2. izv. prof. dr. sc. Zdravka Poljaković

V./II EXTERNAL ASSOCIATES:

1. prof. dr. sc. Vida Demarin
2. doc. dr. sc. Iris Zavoreo
3. izv. prof. dr. sc. Vanja Bašić Kes
4. Tatjana Rundek
5. prof. dr. sc. Zlatko Trkanjec
6. Željka Gavranović
7. prof. dr. sc. Arijana Lovrenčić-Huzjan
8. Marinko Vučić
9. dr. sc. Marina Roje Bedeković

10. Marijana Bosnar Puretić
11. Višnja Supanc
12. dr. sc. Irena Martinić Popović
13. dr. sc. Tomislav Breitenfeld

V./III UNTENURED LECTURERS:

VI. LITERATURE

A. Obligatory

01. Neurological Emergencies. in: Degoricija V. (ed): Emergency Medicine. Zagreb: MMM Marketing d.o.o. 2011. 190-219.
Neurological Emergencies. u: Degoricija V. (ed.): Emergency Medicine. 2. ed.. Zagreb: Libar, 2013
02. Wijidicks EFM et al Evidence-based guideline update: Determining brain death in adults: Report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology* 2010; 74:1911-1918.
03. Lovrencic-Huzjan A, Rundek T, Katsnelson M. Recommendations for Management of Patients with Carotid Stenosis. *Stroke Research and Treatment, Volume 2012; Vol. 2012; Article ID 175869, 12 pages, doi:10.1155/2012/175869*
04. Demarin V, Lovrenčić-Huzjan A, Bašić C, Bašić-Kes V, Bielen I, Breitenfeld T, Brkljačić B, Cambi-Sapunar L, Jurjević A, Kadojić D, Krolo I, Lovričević I, Lušić I, Radoš M, Rundek T, Schmidt S, Trkanjec Z, Vargek-Solter V, Vidjak V, Vuković V, Croatian Society for Neurovascular Disorders, Croatian Society of Neurology, Croatian Society of Ultrasound in Medicine and Biology, Croatian Society of Radiology, Croatian Society of Vascular Surgery and Croatian Society of Neurosurgery. Recommendations for the management of patients with carotid stenosis. *Acta Clin Croat* 2010; 49: 101-118.
05. Demarin V, Lovrenčić-Huzjan A, Trkanjec Z, Vuković V, Vargek-Solter V, Šerić V, Lušić I, Kadojić D, Bielen I, Tuškan-Mohar L, Aleksić-Shihabi A, Dikanović M, Hat J, DeSyo D, Lupret V, Beroš V. Recommendations for stroke management - 2006 update. *Acta Clin Croat* 2006; 45: 219-285.

B. Additional

01. Demarin V, Lovrenčić-Huzjan A, Vargek-Solter V, Vuković V, Miškov S, Mikula I, Perić M, Gopčević A, Kusić Z, Balenović A, Klanfar Z, Bušić M. Consensus opinion on diagnosing brain death – guidelines for use of confirmatory tests. Report of Croatian Neurovascular Society and University Department of Neurology, Sestre milosrdnice University Hospital, Reference Center for Neurovascular Disorders and the Ministry of Health of Republic of Croatia. *Acta clin Croat* 2005; 44: 65-79.
02. Vargek Solter V, Roje-Bedeković M, Breitenfeld T, Supanc V, Lovrenčić-Huzjan A, Šerić V, Antončić I, Bašić S, Beroš V, Bielen I, Butković Soldo S, Kadojić D, Lušić I, Maldini B, Marović A, Pladino J, Poljaković Z, Radanović B, Radoš M, Rotim K, Vukić M, Zadravec D, Bašić Kes V. Recommendation for the management of medical complications in patients following aneurismal subarachnoid hemorrhage. *Acta Clin Croat* 2014; 53; 113-138.
03. Vargek Solter V, Breitenfeld T, Roje-Bedeković M, Supanc V, Lovrenčić-Huzjan A, Šerić V, Antončić I, Bašić S, Beroš V, Bielen I, Butković Soldo S, Kadojić D, Lušić I, Maldini B, Marović A, Pladino J, Poljaković Z, Radanović B, Radoš M, Rotim K, Vukić M, Zadravec D, Bašić Kes V. General recommendations for the management of aneurismal subarachnoid hemorrhage. *Acta Clin Croat* 2014; 53; 139-152.
04. Arijana Lovrencic-Huzjan (2012). Transcranial Doppler as an Confirmatory Test in Brain Death, Organ Donation and Transplantation - Public Policy and Clinical Perspectives, Gurch Randhawa (Ed.), ISBN: 978-953-51-0039-3, InTech, Available from: <http://www.intechopen.com/articles/show/title/transcranial-doppler-as-an-confirmatory-test-in-brain-death>
05. Mirela Basic and Arijana Lovrencic-Huzjan (2012). Action Taken to Boost Donor Rate in Croatia, Organ Donation and

Transplantation - Public Policy and Clinical Perspectives, Gurch Randhawa (Ed.), ISBN: 978-953-51-0039-3, InTech, Available from: <http://www.intechopen.com/articles/show/title/action-taken-to-boost-donor-rate-in-croatia>