THE MINISTRY OF HEALTH OF UKRAINE
ZAPORIZHZHIA STATE MEDICAL UNIVERSITY
Department of nervous diseases

WORKBOOK ON GENERAL AND SPECIAL NEUROLOGY

for practical employments for the students of the
4th course of II international faculty
English medium of instruction

Zaporizhzhia
2020

UDC 616.8(075.8)
K80

Ratified on meeting of the Central methodical committee
of Zaporizhzhia State Medical University
(protocol № 4 from 28.05.2020)
and it is recommended for the use in educational process for foreign students.

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Workbook on general and special neurology : for practical employments for the students of the 4th course of II international facultyEnglish medium of instruction / O. A. Kozyolkin, I. V. Vizir, M. V. Sikorskay. – Zaporizhzhia : ZSMU, 2020. – 126 p.

Козьолкін О. А.

Робочий зошит із загальної та спеціальної неврології: для практичних занять студентів 4 курсу II міжнародного факультету (англійська мова викладання) / О. А. Козьолкін, В. І. Візір, М. В. Сікорська. – Запоріжжя : ЗДМУ, 2020 – 128 с.

ВСТУП

Методичний посібник “Workbook on general and special neurology” складений відповідно до робочої програми з неврології та призначений для студентів IV курсу II міжнародного факультету зі спеціальності «Лікувальна справа» з англомовною формою навчання.

Даний методичний посібник призначений для формування у студентів професійних компетенцій за вмінням оптимізувати клінічне синдроми ураження нервової системи, вмінню виявити у пацієнтів основні неврологічні синдроми. Посібник містить 17 розділів з загальної та спеціальної неврології.

Дидактичний матеріал в кожному розділі представлений питаннями для підготовки до заняття, які студенти можуть виконувати , як поза аудиторією, так і на заняттях. Завдання представлені у вигляді таблиць для заповнення, схем, малюнків, ситуаційних задач. Виконування завдань позволяє розвинути здібності студентів до аналітичної обробки викладеного матеріалу і клінічному мисленню. Завдання мають різний рівень і охоплює всі розділи загальної та спеціальної неврології неврології.

«Workbook on general and special neurology» призначений для студентів 4 курсу другого міжнародного факультету.

INTRODUCTION

Workbook compiled in accordance with the requirements of the work program. Task are presented in the form of tables to fill, diagrams, drawing and situational task. Tasks have different levels of complexity and cover all 17 section of general and special neurology. Task are presented in the form of tables to fill, diagrams, drawings and situational tasks.

Tasks have different levels of complexity and cover all sections of general and special neurology.

«Workbook on general and special neurology» designed for 4th year students of the second international faculty.

CONTENT

GENERAL NEUROLOGY

SPECIAL NEUROLOGY

GENERAL NEUROLOGY

Theme “Motor analyzer. Voluntary movements and their violation”

Questions to prepare for the lesson:

1. Reflex unconditioned and conditioned, arc structure of the unconditioned reflex.
2. Reflex arcs of the main deep and surface reflex.
3. Anatomy of spinal cord.
4. Anatomical structure of the pyramidal (cortical muscular tract).
5. The concept of paresis and paralysis.
6. Syndromes of lesion of the central and peripheral motor neurons.
7. Syndromes defeat of cortical muscular tract on the different levels.
8. Pyramidal system research technique.
9. Examples of diseases in which damage to the cortex – muscular tract occurs.

Task 1.

Fill in the table 1. For filling, use the numerical designations of the nerves and the letter designations of the spinal roots and segments of the spinal cord from the list.

Table 1. Structure of reflex arcs of deep reflexes.

Reflex	Nerves	Spinal nerves and segment of the spinal cord
Brachioradial		
Flexor ulnar (biceps)		
Extensor ulnar (triceps)		
Knee		
Achilles (ankle)		
Sypraorbitalis		
Scapulohymoral		

Nerves:

1. N.femoralis
2. Musculocutaneus

3. N.medianus radialis
4. Sciatic (tibial)
5. N.optic
6. N.facialis
7. N.sybscapularis

Segmentes of spinal cord and brain:

A. C7-C8

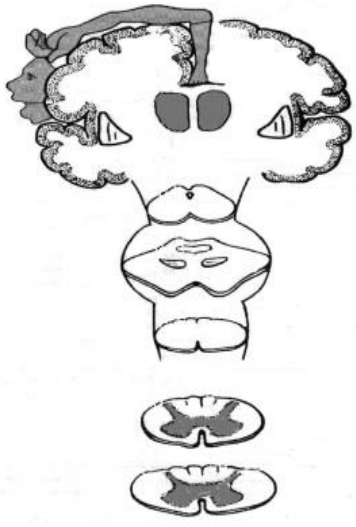
B. L3-L4

C. C5-C6

D. C5-C8

E. S1-S2

Task 2
Draw on the diagram of the cortex-muscle path (pyramidal)



Task 3.
Mark in th resis:

Picture 1 –

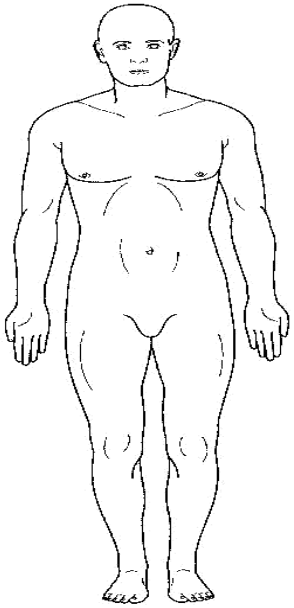
Picture 2 –

Picture 3 – monoparesis of hand

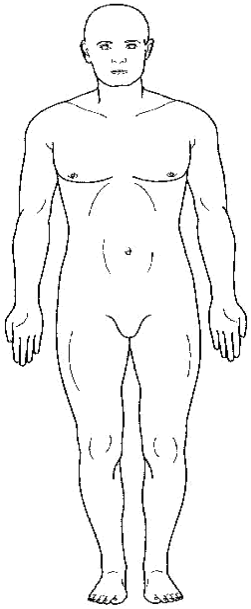
Picture 4 – tetraparesis

Picture 5 – upper hemiparesis

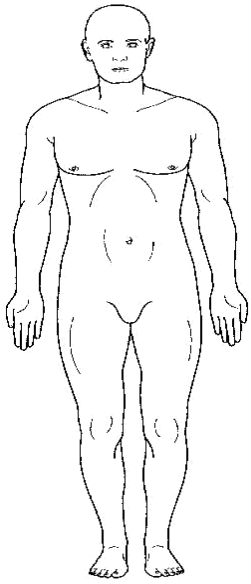
Picture 1



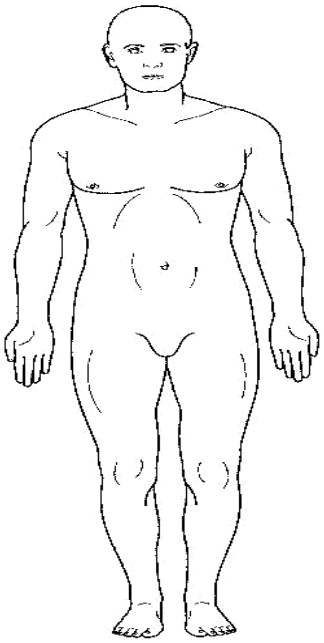
Picture2



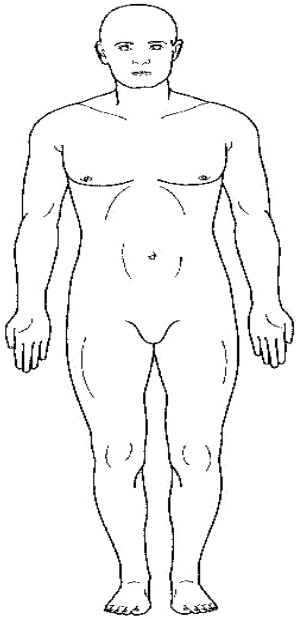
Picture3



Picture 4



Picture5



Task 4.

Fill in the table 2. Use the following notation for filing:

- absent, + present, ↑increased, ↓ decreased

Table 2.

Signs defeat of central and peripheral motoneuron.

Signs	Central paresis	Peripheral paresis
Deep reflex		
Superficial reflex		
Muscular tone		
Athrophia of muscule		
Pathological syndrome		
Fibrillar twitching		

Task 5

Solve situational problems of topic diagnostic by choosing the correct answers from the proposed list.

1. The patient gradually developed lower spastic paraparesis, with increased deep reflex and pathology reflex Babinski on both sides. Diagnosed: Extra medullary tumor. Put a topical diagnosis.

2. The patient has ischemic stroke, neurology status: spastic hemiparesis, central paresis of lower mimic muscles, hemianesthesia, hemianopsia on the left, Wernicke-Mann position. Put a topical diagnosis.

3. The patient has acute polyradiculopathy (Guillain-Barre syndrome). He developed peripheral tetraparesis. Put a topical diagnosis.

4. Athlete was injured as a result of which she developed central tetraparesis. Put a topical diagnosis.

5. 70 year old man used crutches for a long time, noticed weakness of his right hand. During examination revealed: weakness of the shoulder muscles, atrophy of

the deltoid muscle, and reduction of the flexion – elbow reflex. Put a topical diagnosis.

The answers:

A. Frontal lode of left
B. Frontal lobe of right
C. Transversal defeat of spinal cord level C3-C4
D. Transversal defeat of spinal cord level C5-C8
E. Transversal defeat of spinal cord level Th7-Th8
F. Multiple symmetrical lesion peripheral nerves of extremities
G. Transversal disorders of spinal cord, level L1-S2
H. Defeat of the brachial plexus on the right

1_____
2_____
3_____
4_____
5_____

Assessment _____ Teacher signature_____

Theme: "Sensitivity and symptoms of lesion"

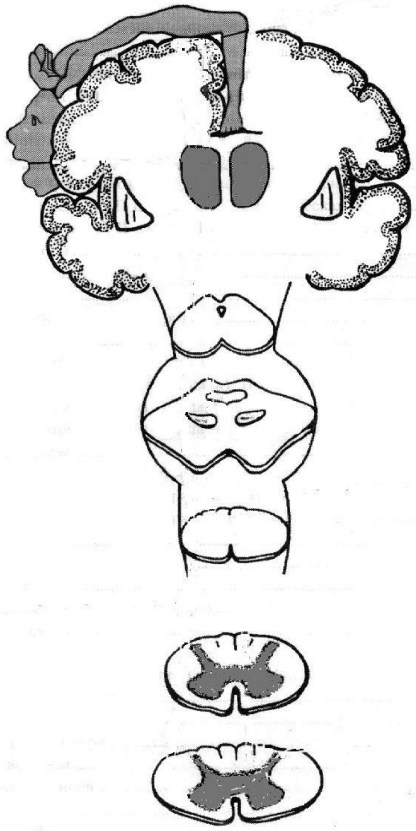
Questions to prepare for the lesson:

1. Definition of sensitivity, sensation.
2. Types of sensitive receptors.
3. Anatomy of the spinothalamic pathway.

4. Anatomy of the path of deep sensitivity.
5. Types of sensitive disorders.
6. Inspection (examination) methods.
7. Examples of diseases characterized by various types of sensitive disorders.

Task 1.

In the diagram depict the pathways of the surface and deep types of sensitivity.



Denote by shading in the figures the following types of sensory disturbances:

Figure 1 – radicular (L5)

Figure 2 – polyneuritis

Figure 3 – segmental type of “jacket (C4-Th7)

Figure 4 – conductive on both (of level Th7)

Figure 5 – cerebral (hemihypesthesia)

Figure 1

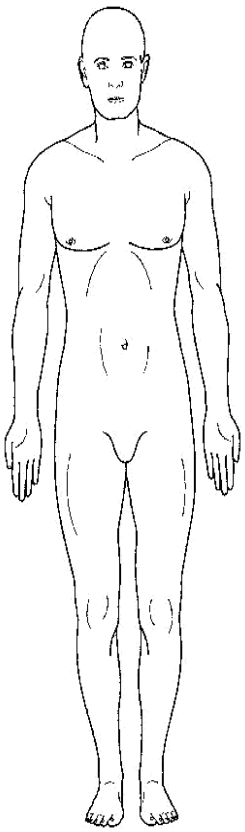


Figure 2

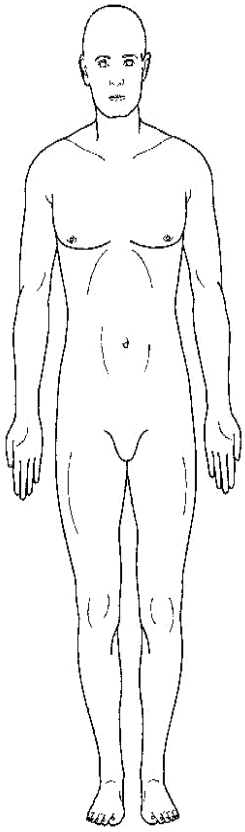


Figure 3

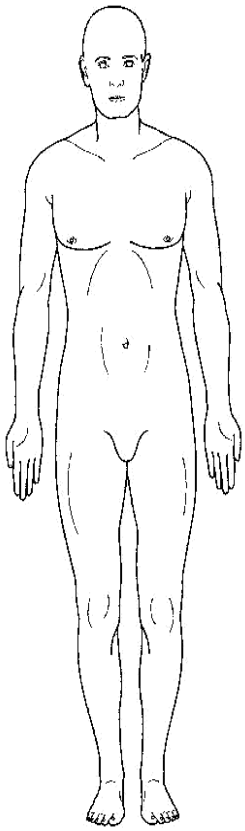


Figure 5

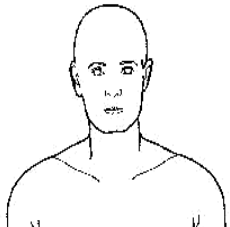
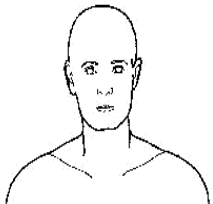


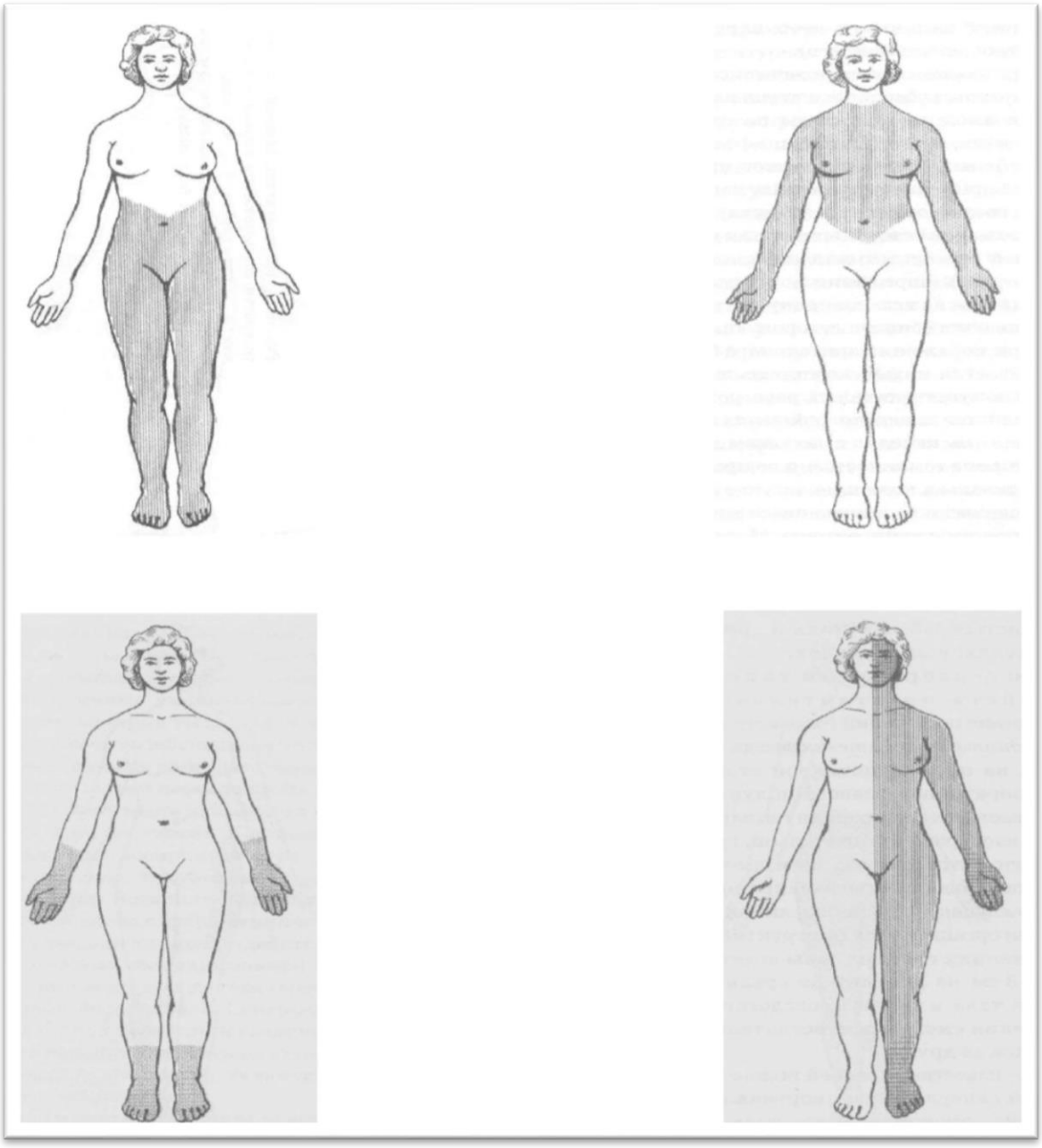
Figure 6



Task 3.

Using the proposed list, select the diseases in which the type of sensory disturbances show in the figures is found and put their letter designations below the list diseases:

A. Brain stroke
B. Polyneuropathy
C. Radiculopathy spondilogenic
D. Tumor of spinal cord, extramedullary type (level – thoracic)
E. Neuropathy of femoral nerve
F. Syringomyelia



Solve situation tasks on topical diagnostics by choosing the correct answers from the proposed list.

1. A 68-year-old patient complains of numbness of the left extremities due to a stroke suffered a year ago. Examination revealed left sided hemihypesthesia of superficial types of sensitivity. Make a topical diagnosis.

2. A 45-year-old patient is worried girdle pains in the chest. Gradually joined the feeling of numbness in the lower extremities and trunk. Examination: conduction hypesthesia woos detected on both sides from level of the costal arches. Make a topical diagnosis.

3. After physical exertion the patient developed pain and paresthesia along the back (posterior) of the thigh on the during examination revealed pain and tactile hypesthesia in the same area, a positive symptom of Laseg's on the right. Make a topical diagnosis.

4. A 68-year-old female patient with type 2 diabetes complains of nocturnal pain in the feet and legs, a burning sensation and numbness in them when examining hypesthesia of all types of sensitivity from two sides from the lower third of the leg to the fingertips. Make a topical diagnosis.

5. A patient 74 years-old 4 month ago suffered an ischemic stroke, and then right sided hemiparesis woos detected, hemihypoesthesia and hemianopsia. Currently he is complaining of a violation of the movements of the right extremities, in addition to hemiparesis. Examination revealed a violation of all types of sensitivity in the right extremities. Make a topical diagnosis.

6. A 38-year-old patient has violation of pain and temperature sensitivity in the occiput neck and upper extremities. The hypesthesia zone resembles a "jacket"

with a hood. The doctor suggested a diagnosis of Syringomyelia. Make a topical diagnosis.

1 - _____

2 - _____

3 - _____

4 - _____

5 - _____

6 - _____

The answer:

A. Parietal lobe right.
B. Capsule internal left.
C. Multiple lesions of peripheral nerves of the lower limbs.
D. Spinal root on the right (level S1)
E. Spinal root on the right (level L5)
F. Spinal root on the right (level L4)
G. Posterior horns of spinal cord on both sides (level C1-Th4)
H. Posterior horns of spinal cord on both sides (level C8-Th6)
I. Transverse spinal cord lesion (level C4)
J. Transverse spinal cord lesion (level Th 6)

Assessment _____ Teacher signature_____

Theme: "Spinal cord, syndrome disorders. Main peripheral nerves of shoulder, lumbar and sacral plexuses and syndrome defeat"

Questions to prepare for the lesson:

1. Anatomy of the spinal cord.
2. Functions of gray matter cells of the spinal cord.
3. Location of the main pathways in the spinal cord.
4. Syndromes defeat of spinal cord:
   a) transversal spinal cord lesion;
   b) half spinal cord lesion
5. Lesion syndromes main peripheral nerves of shoulder, lumbar, sacral plexuses.
6. Examples of diseases in which damage to the spinal cord, spinal roots and peripheral nerves.

Task 1.

Fill in the table 1 using the letter designations of the anatomical structures of the spinal cord and their functions from the list below.

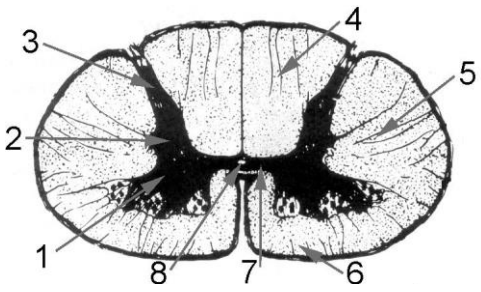
Numerical designations in the table correspond to the localization of anatomic formations and indicated in the figure.

Table 1.

Localization cells and pathways in spinal cord and function there.

Localization in spinal cord	Cells and pathways of spinal cord	Function
1		
2		
3		
4		
5		

Picture 1.



Anatomical structures of spinal cord.

A. Sensitive cells
B. Motor cells
C. Sympathic and parasympathic cells
D. Pyramidal tract
E. Spino-thalamic tract
F. Golls and Burdach's tract
G. Function of voluntary movements
H. Function of pain sensory
I. Sense of positive and vibration
J. Function temperature sensory
K. Innervation of internal organs

Task 2.

Fill in the table 2 using the numbers corresponding to the sequence number of the syndromes of the lesion of the true axis of the spinal cord from the list below.

Table 2.

Syndromes of lesions along the long axis of the spinal cord (transverse lesion).

Level lesion	Syndrome lesion
C2-C4	
C5-C8	
T8-T9	
L1-S2	
S3-S5	
Cauda equna	

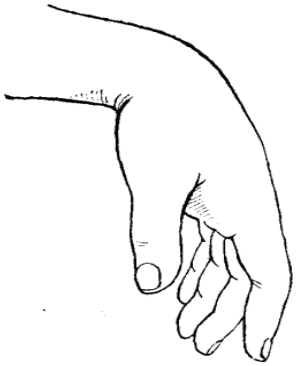
Syndromes of lesion along the long axis of the spinal cord:

1. Spastic paraparesis of lower extremities.
2. Spastic tetraparesis
3. Peripheral paraparesis
4. Mixed tetraparesis (peripheral in the hand, spastic in the foot)
5. Pelvic disorders
6. Violation of all types of sensitivity below the level of costal arches
7. Violation of all types of sensitivity below the level of clavicles
8. Violation of all types of sensitivity below the level of occipital region
9. Violation of all types of sensitivity below the level of anogenital zone
10. Violation of all types of sensitivity below the level in lower extremities and anogenital zone

Task 3.

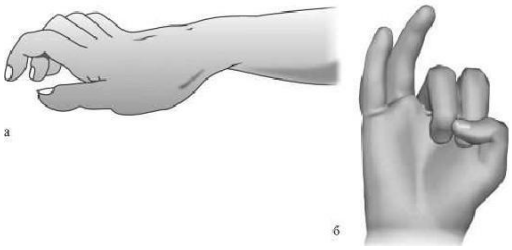
Sign the name of the peripheral nerves, motor symptoms of the lesion of which are shown in picture 1-4 and sensory innervation in picture 5.

Picture 1

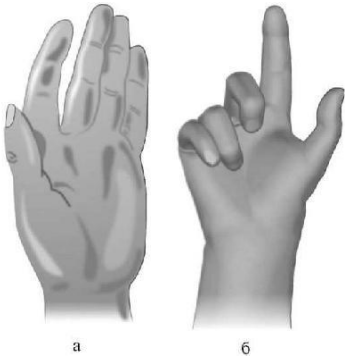


Picture 2

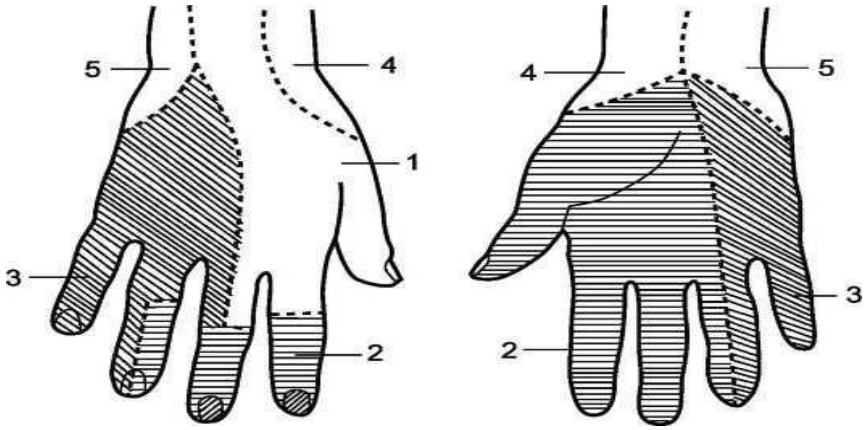
Picture 3



Picture 4



Picture 5



1 – _____

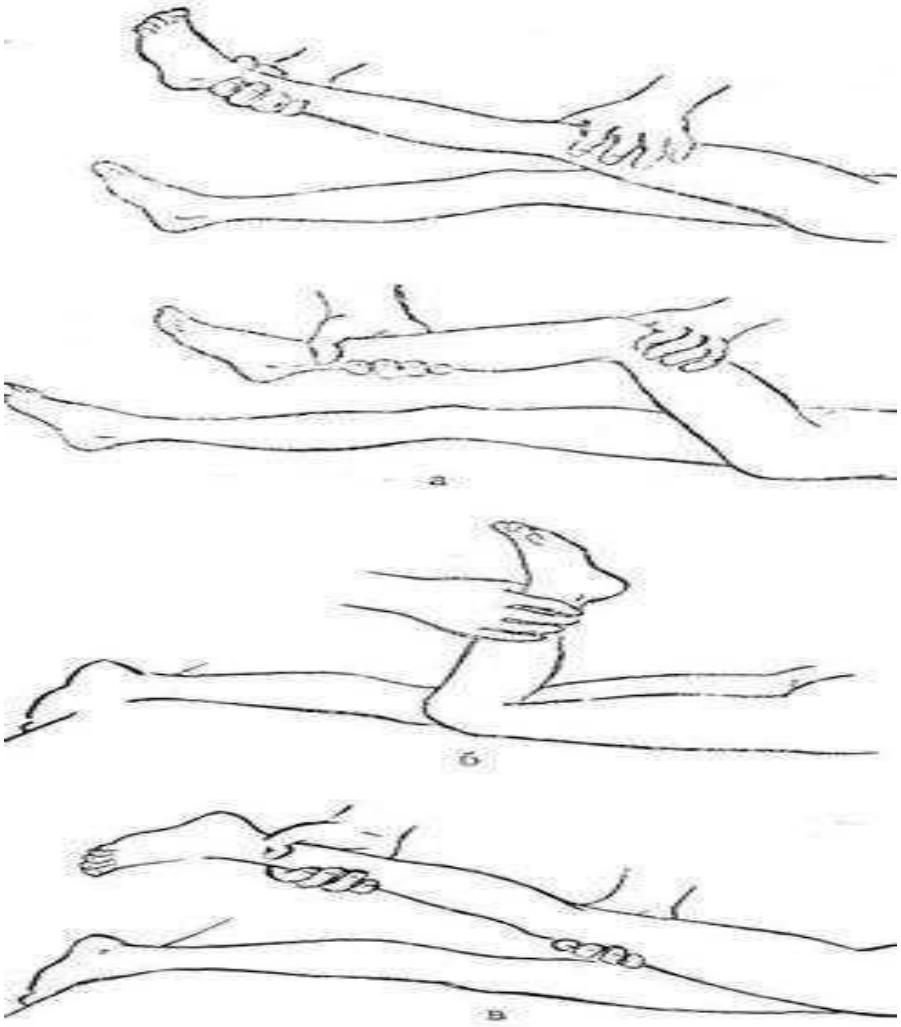
2 – _____

3 – _____

Task 4.

Sign the name of the symptoms shown in picture 6.

Picture 6



a - _____

b - _____

c - _____

Task 5.

Solve situational problems of topic diagnostic by choosing the correct answers from the proposed list.

1. The patient complains of lask of movement in the leg. Neurology examination: in the lower extremities: weakness in Barre test, increased muscle tone, knee and Achill's reflexes increased two-sided symptoms of Babinski there is no pain and vibration sensitivity below the line of the nipples from 2-sides: join sensation in the toes is disturbed. Put a topical diagnosis.

2. 20-year-old student into traffic accident. X-ray examination: fracture with displacement of the body of the 8 thoracic vertebral. Neurology examination: central paresis of the left foot, lesion of joint sense on the navel level on left – strep of pain hyperesthesia; right – total analgesia and lesion of the temperature sense below the line of the nipples. Put a topical diagnosis.

3. The patient has gait disturbance raises his legs high and "imprints" them, omitting difficulties in walking in the dark. Neurology examination: instability in the Romberg position; loss of vibrational and joints-muscular sensitivity in lower limbs, on both sides to the knee joints; other types of sensitivity are preserved. Put a topical diagnosis.

4. 35-year-old woman hospitalized for examination. Within 6 months she was worried about the analgesia of the medial surface of the arm and three weeks ago she burned her left arm, noticing a bum only when she smelled charred skin. Neurology examination: loss of pain and temperature sensitivity in the area from the clavicle to the nipple line, while maintaining tactile sensitivity in the left. On the right side revealed similar violations in the same area, but with a lesser degree of severity. Put a topical diagnosis.

5. A child with fever appeared to have weakness in both legs, deep reflexes on the lower limbs disappeared. Sensitivity is preserved. Put a topical diagnosis.

6. After the operation to remove the inguinal lymph nodes on the right, the patient developed weakness of the extension of lower leg, flexion in the hip joint on the same side, the knee reflexes is absent on the right, hypotrophy of the anterior surface of the thigh gradually joined. Put a topical diagnosis.

The answers:

A. Damage to half of the transverse section of the spinal cord at the level of Th10 on the left.
B. Two-sided lesion of the posterior spinal cord from Th7 level.
C. Two-sided lesion grey sybstansia of spinal cord (dorsal (posterior) horns anterior grey adhesion) C5-Th4 level.
D. Transversal lesion of spinal cord Th4 lesion of spinal roots right C5-C6 level
E. Lesion femoral nerves, right.

1_____
2_____
3_____
4_____
5_____

Assessment _____ Teacher signature_____

Theme: "Cerebellum and syndrome defeat extrapyramidal system, lesion"

Questions to prepare for the lesson:

1. Anatomy of the cerebellum and major the efferent and afferent pathways.

2. Symptoms and syndromes of the cerebellum lesions.
3. Technique for examining a patient with cerebellum damage.
4. Cerebellar disease examples.
5. Anatomy of the extrapyramidal system.
6. The major neurotransmitter involved in the normal activity of the extrapyramidal system.
7. Syndromes extrapyramidal system lesion.
8. The main signs of Parkinson's syndrome.
9. The main types of hyperkinesis.
10. Technique for examining a patient with cerebellar damage.
11. Examples of diseases with extrapyramidal system involvement.

Task 1.

Fill in all the cells in the table № 1 using the symptom number from the list (one digit in one cell the number may be repeated).

Table 1

Symptoms typical cerebellar lesion				Symptoms typical extrapyramidal system lesion			

List of symptoms:

1. Imbalance
2. Paresis
3. Ataxia
4. Hypokinesis
5. Change in muscle tone

6. Hemihypesthesia
7. Increased deep reflexes
8. Chorea
9. Tremor
10. Nystagmus
11. Muscle hypotension
12. Muscle stiffness
13. Pathological reflex
14. Hypomimia
15. Dystonia
16. Parastesthesia
17. Dysmetria
18. Muscle hypotrophy
19. Scanned speech

Task 2.

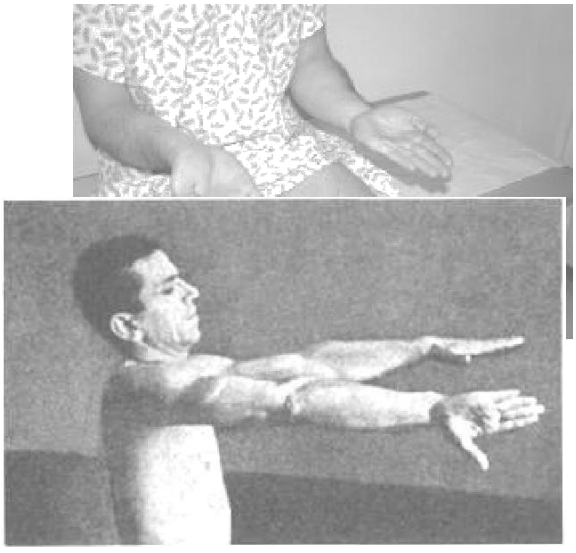
Name the test to study the functions of the cerebellum, making caption under the figures.

Picture 1

Picture 2

Picture 3

Picture 4



Task 3

Fill the table № 2, using the serial number of symptoms from the proposed list (one cell – on digit)

Table 2

Clinical characteristic of Parkinson's syndrome

Symptoms	Symptom characteristic	
Violation of active movements		
Change in muscle tone		
The presence and characterization of hyperkinesis		
Postural disorders		
Disorders of gait		

List of symptoms:

1. Posture of Wernicke-Manna
2. Torso forward
3. "Supplicant" posture
4. Drop due to propulsion
5. Instability due to ataxia
6. Bradykinesis
7. Olygokinesia
8. Paresis
9. "Shuffling" gait
10. Static tremor
11. Wing flap tremor
12. Intention kinetic tremor

13. Small amplitude tremor
14. Large amplitude tremor
15. Muscle hypertension as a “folding knife”
16. Spastically muscle
17. Plastic muscle rigidity
18. Gear type muscle hypertension

Task 4

Solve situational problems of topic diagnostic by choosing the correct answers from the proposed list.

1. The patient 24 years old has diagnosis: Multiple sclerosis. In neurology status: lower spastic paraparesis, 2-sided symptom Babinsky, muscle hypotonia in upper limbs, intention tremor – finger test, adiadochokinesia. Put a topical diagnosis.

2. The patient 50 years old headache slowly builds up, accompanied by vomiting, dizziness appeared. In neurology status: kinetic tremor in left limbs, nystagmus, and ataxia in Romberg pose. Put a topical diagnosis.

3. In a 44-years-old patient gait has changed unexpected dancing movements, changed of behavior, became conflict, quich tempered, stopped coping with work. In neurology status: fast large – amplitude sweeping, involuntary movements in hands, foots facialis muscles, muscle tone is diffusely reduced. Put a topical diagnosis.

4. In a 70-years-old patient developed shakiness, impaired coordination suddenly. In neurology status: hardly gets up due to imbalance, dysmetria, dysdiadochokinesia on the right coordination tests. Put a topical diagnosis.

5. The patient 73-years-old complaints head shake, violation of gait – hard to start moving, a shuffle appeared. In neurology status: muscles tone increased, more in

the left limbs. MRI of brain: mild atrophy of the frontal lobes. Put a topical diagnosis.

6. In a 20-years old patient has trembling of the right hand while performing some movements. In neurology status: fast large – amplitude tremor of hand of the type – flap the wings, muscles rigidity in upper limbs, hypomimia of the face. Ophthalmologist: examining a brown ring around the edge of the iris. Put a topical diagnosis.

The answers:

A. Defeat the right hemisphere of the cerebellum due to acute cerebrovascular accident.
B. Defeat to the substance nigral, disturbance of dofaminergic transmission agaist Parkinson's background.
C. Defeat of the striatum (caudate muscles) on the background of fluntingtons disease.
D. Bilateral damage to the cerebellum and bilateral damage to the pyramidal tract.
E. Defeat of the striatum, substance of nigral, cerebellum on the background of Wilson's disease.
F. Defeat of the left hemisphere of the cerebellum on the background tumor of the posterior cranial fossa.

1_____
2_____
3_____
4_____
5_____
6_____

Assessment _____ Teacher signature_____

Theme: "Cranial nerves I-VI pair cranial nerves and symptoms violation"

Questions to prepare for the lesson:

1. Anatomy I-VI pair cranial nerves.
2. Main function I-VI pair cranial nerves.
3. Main symptoms of lesion of I-VI pair cranial nerves.
4. Examination procedure.
5. Examples of disease characterized by damage to the cranial nerves.

Task 1

Fill in the table № 1 using the serial numbers functions from the proposed list. Numbers can be repeated part of the cells may remain free (one cell-one digit).

Table 1.

Functions of I-VI pair cranial nerves.

Cranial nerve	Functions cranial nerve				
I					
II					

III					
IV					
V					
VI					

List of functions of cranial nerves.

1. Upward movement of the eyeball.
2. Corneal sensitivity.
3. Vision
4. Downward movement of the eyeball
5. Pupil reaction to light.
6. Pupil reaction to the convergence and accommodation
7. Pupil reaction to light
8. Movement of the eyeball to the inside
9. Corneal reflexes
10. The sense of smell
11. Chewing
12. Color perception.
13. Sensitivity of skin face.

Task 2

Fill in the table № 2, using the serial numbers symptoms from the proposed list. Part of the cells may remain free; numbers can be repeated (one cell – one digit).

Table 2.

Symptoms lesion of the I-VI pair cranial nerve.

Cranial nerve	Functions cranial nerve				
I					

II					
III					
IV					
V					

List of symptoms.

1. Amabrosis
2. Ptosis
3. Chewing disorder
4. Visual field changes
5. Pain in face area
6. Scotoma
7. Hyposmia
8. Divergent strabismus
9. Diplopia
10. Impaired movement of the eyeball in dawn word
11. Hyperesthesia in the face area
12. Hemyanopsia
13. Impaired pupil reaction to light
14. Convergent strabism
15. Violation of smell
16. Impaired movement of the eyeball in our ward
17. Smell hallucinations of the smell
18. Corneal reflex absent

Task 3

Below are photographs of object used in the examination of cranial nerve function, put the numbers of pairs of cranial nerves in Roman numeral's (I-VI), which can be checked using the items show.

Task 4.

Choose the right answers to situational tasks.

1. In a 25-years-old patient has with a diagnosis: Multiple sclerosis, of impaired vision on the right to blindness there is no direct reaction of the pupil to light. Put a topical diagnosis.

2. The patient with intracerebral hypertension complains of double vision. Neurology examination: convergent squint on the right violation of the rotation of the right eyeball out. Put a topical diagnosis.

3. In a 62-years-old patient with diabetes suddenly developed ptosis in the left divergent squint and impaired movement of eyeball upward, downward and outward. Put a topical diagnosis.

4. In 70-yers-old patient a diagnosis: Stroke of impaired vision: stopped seeing the left half of the items. Neurology examination: left side's hemianopsia with preserved central field of view. Put a topical diagnosis.

5. In q 36-years-old patient old after cranial-cerebral trauma, developed nazorrhea and complete lask of eyeball movements, right palpebral fissure already left, pupil dilated. Put a topical diagnosis.

6. The patient complains of double vision when looking down. Neurology examination: revealed a slight insufficiency of turning the right eyeball down. Put a topical diagnosis.

7. In 57-years-old patient attacks of severe pain in the face region on the right are periodically repeated it pains never the ear and radiates along the lower jaw, the lower teeth on the right hurt the pain lasts about 2 minutes. Neurology examination: not focal signs (focal signs). Put a topical diagnosis.

8. The patient of the 70-years old is worried about pain in the forehead, eyes, nose, in right side, after a previous herpetic infection, with rashes in this area. Neurology examination: hyperesthesia, hyperpigmentation in the some zone, pain on palpation in the upper orbital region. Put a topical diagnosis.

Answer:

A. Right optic nerve damage
B. Left n.oculomorius damage.
C. Right nerve damage abduction
D. Right trochlearis nerve damage
E. Lesion of the visual analyzer in the right occipital lobe
F. Lesion of the II (maxillaries) brach of the trigeminal nerve in the right
G. Lesion of the III (mandibular) brach of the V pair cranial nerve in the right
H. Lesion of the I (ophthalmic) brach of the trigeminal nerve in the right
I. Lesion of the visual analyzer in the left occipital lobe
J. Lesion of n.oculomotorius and trochlearis nerves right
K. Lesion of oculomotorius and abduction, trochlearis in the right
L. Lesion of movement part of III (mandibular) brach of trigeminal nerve right

1_____
2_____
3_____
4_____
5_____
6_____
7_____
8_____

Assessment _____ Teacher signature_____

Theme: “Cranial nerves VII - XII pair cranial nerves and symptoms violation”

Questions to prepare for the lesson:

1. Anatomy VII-XII pair cranial nerve.
2. Main function VII-XII pair cranial nerve.
3. Main symptoms defeat VII-XII pair cranial nerve.
4. Survey technique.
5. Examples of disease characterized by damage to the cranial nerves

Task 1.

Fill in the table 1 using the serial number of symptoms from the proposed list (on cell – one digit).

Table 1.

Functions of VII-XII pair cranial nerve.

Cranial nerve	Functions of cranial nerve.				
VII					
VIII					
IX					
X					
XI					
XII					

List of cranial nerve function.

1. Tongue movement
2. Hearing
3. Head to the sides
4. Articulation

5. Squinting eyes
6. Innervation of the work of internal organs
7. Swallowing
8. Speech
9. Balance
10. Head titing forward
11. Frown
12. Soud perception
13. Shoulder movement
14. Phonation
15. Saliva secretion
16. Mouth angle concept
17. Taste

Task 2.

Fill in the table 2 using the serial number of symptoms from the proposed list (one cell, one digital)

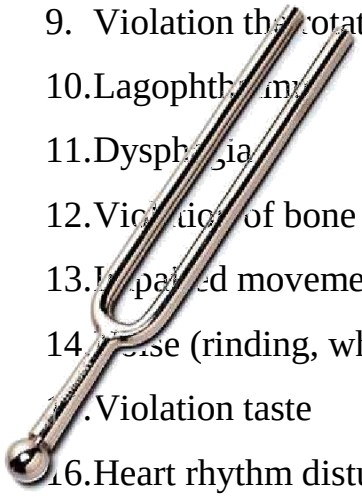
Table 2.

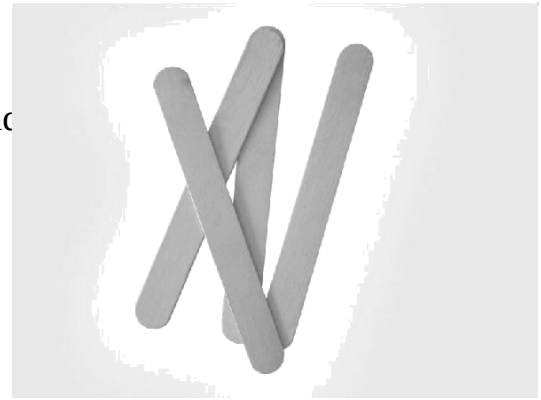
Symptoms defeat VII-XII pair cranial nerve

Cranial nerve	Symptoms of cranial nerve.				
VII					
VIII					
IX					
X					
XI					
XII					

List symptoms:

1. Paralysis of facial muscles
2. Atrophy of half the tongue
3. Hearing loss
4. Dysarthria
5. Swallowing disorder
6. Violation of salivation
7. Articulation violation
8. Violation function of gastroinstinal tract
9. Violation the rotation of the head
10. Lagophthalmus
11. Dysphagia
12. Violation of bone conduction of sound
13. Impaired movement of the tongue
14. Noise (rinding, whistle) in the ear
15. Violation taste
16. Heart rhythm disturbance
17. Asymmetry of the corners of the mouth
18. Dysphonia
19. Weakness when shrugaing and moving are shoulders
20. Hypotrophy of sternocleidomastoid muscle





Task 3

Below are photographs of object used in the examination of cranial nerve function. Place in Roman numerals (VII-XII) the numbers of the pairs of cranial nerves, which can cheeked using the objects depicted.

Task 4.

Fill in the table 3 using the serial number of symptoms from the proposed list. Part of the cells may remain free, number may be repeated. In each cell is marked with one number.

Table 3.

Characterization of bulbar and pseudobulbar syndromes

Bulbar syndrome	Pseudobulbar syndrome

List of symptoms of bulbar and pseudobulbar syndromes

1. Atrophy of the tongue
2. Trophy of the muscles of the tongue is saved.
3. Dysartria
4. Fibrillar twitching
5. The deviation of the tongue when protruding.
6. Folding of the mucous membrane of the tongue
7. Damage to the nucleus of the hypoglossal nerves.
8. Damage to the cortico-nuclear tract of hypoglossal nerves
9. Violation of articulation
10. Dysphagia
11. Violation of swallowing
12. “Choking” on food
13. Positive reflexes of oral automatism
14. Dusphonia
15. Cut of the palate
16. Pharyngeal reflex absent
17. Damage to the trunks of the glossopharyngeal and vagus nerves
18. Damage to the nucleus of glossopharyngeal and vagus nerves
19. Violent emotions. Laughter and crying
20. Paresis of the vocal cords
21. Violation of the sonority of the voice
22. “Proboscis” reflex positive
23. Palmar chin reflex positive

Task 5

Tick the right answers to the following situational tasks from the list below.

Situational tasks.

1. After sypercalling the patient has “skewed” face. Neurology examination: can’t frown forehead, frown eyebrows, squint eyes left; the left corner of the mouth is loweread, the sypercilliary reflex is absent. Make a topical diagnosis.

2. After a stroke, a 60-year-old, retains facial asymmetry, in the from of smoothness of the left nasolobial folds; asymmetry of the mouth teeth on the left. Supercilliary reflex present on two side; signs of central hemiparesis on the left. Make a topical diagnosis.

3. The patient a 63-year-old is disturbed by the noise in the right ear, hearing gradually decreased and dizziness joined. Tests with a tanning fork revealed violations of air and bone conduction on the right. Make a topical diagnosis.

4. In a 48-year-old patient was noted severe pain in the right ear. After which hearing was reduced. Test with a tuning fork violations of air conductive (decreased), bone conduction present. Make a topical diagnosis.

5. One and a half months ago, a patient with diphtheria developed choking on eating and a nasal tone of voice. Neurology examination: dysphagia, dysphonia, pharyngeal reflexes is absent. Make a topical diagnosis.

6. The patient has ischemic stroke in brain steam (medulla oblongata). Neurology examination: dysphonia, dysarthria, hypotrophy of the right half of the tongue; the absence of palatine reflex on the right, left – central hemiparesis. Make a topical diagnosis.

7. The patient has of anamnesis morbi hypertension disease, his complaints of swallowig tearfulness. Neurology examination: light dysphonia, dysarthria, pharyngeal and palatine reflexes present, reflexes of oral automatism positive. Make a topical diagnosis.

8. The patient has diagnosis ischemic stroke. In neurology status: central paresis of upper limb of the right and violation of cranial nerves: the right of the mouth is omitted, dysarthria, the deviation of the tongue to the right without atrophy. Make a topical diagnosis.

Answer:

A. Defeat of the cochlear nerve on the right.
B. Defeat of facialis nerve on the left after exiting the stitched mastoid opening.
C. Bilateral damage to the nerve trunks of the glossopharyngeal and vagus nerves.
D. Damage of the nuclei IX, X and XII pair cranial nerve (bulbar syndrome) and pyramidal tract of the right.
E. Bilateral damage to the cortico-nuclear pathway to the nuclei of nerves IX, X and XII pair cranial nerve.
F. Damage of the cortico-nuclei pathway to the nuclei nerves VII and XII pair cranial nerve (central paralysis) and pyramidal path of the right.
G. Damage to the middle ear on the right.

1_____
2_____
3_____
4_____
5_____
6_____
7_____
8_____

Assessment _____ Teacher signature_____

Theme: "Brain cortex, localization of function in the cerebral cortex"

Assessment _____ Teacher signature_____

Questions to prepare for the lesson:

1. Anatomy of brain cortex.
2. Cognitive function.
3. Localization of functions in the cerebral cortex.
4. Cognitive functions impaired.
5. Signs of lesion of the brain.
6. Examination of higher cortical function.

Task 1

Fill in the table 1. Use the literal meanings of the name of violations of higher cortical function.

Table 1. Name of higher brain functions.

Neurology syndrome	Name
1. Violation of recognition of objects when felling.	

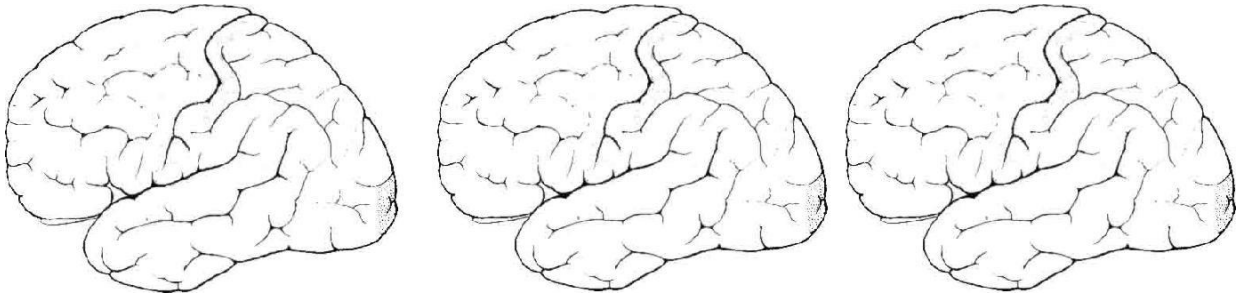
2. Violation of targeted action.	
3. Violation of the ability to recognize sounds.	
4. Violation of recognition of objects or their images	
5. Violation of the ability to speak.	
6. Violation of the understanding of speech.	
7. Isolated violation of writing.	
8. Isolated violation of reading	

Types of disorders of higher brain function.

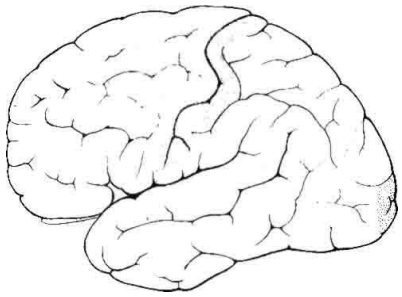
A. Motor aphasia
B. Agraphia
C. Apraxia
D. Asteriognosia
E. Visual agnosia
F. Alexia
G. Sensory aphasia
H. Auditory agnosia

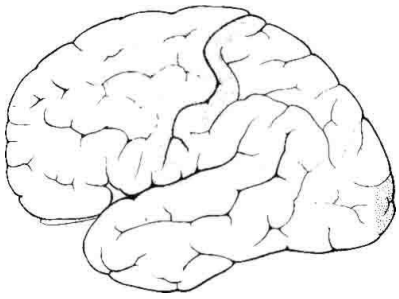
Task 2.

Indicate in the (by drawing a contur and shade it) localization violation of the cortex, indicated below the figures.

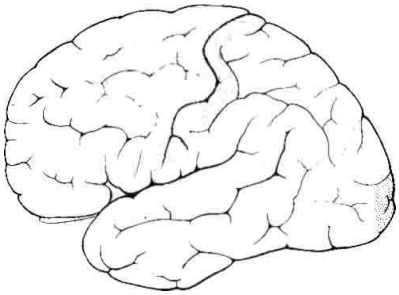


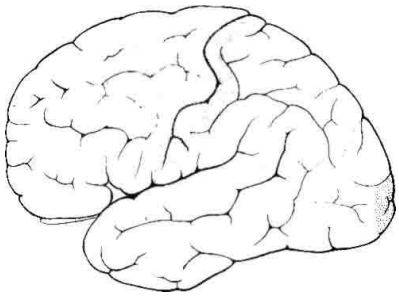
Motor aphasia Sensory aphasia Asteriognosis





Visual agnosia Agraphia





Alexia Apraxia

Task 3

Tick the right answers to the following situational tasks from the list syndrome of below, indicating the localization of the focus.

Situational tasks.

1. The patient, right-handed, because of a stroke, suddenly stopped talking. He understands the addressed speech. What syndrome does the patient have, topical diagnosis?

2. The 32-year-old patient with craniocerebral trauma, loss of consciousness within 2 hours. Neurological examination: impaired understanding of conversations, spontaneous speech preserved, but is meaningless, cannot write and read. What syndrome does the patient have, topical diagnosis?

3. A patient 50-year-old HIV-infected patient became ill with herpetic encephalitis. Neurological status: revealed impaired recognition of famillar sounds and inverted speech. What syndrome does the patient have, topical diagnosis?

4. A 65-year-old patient gradually lost visual perception forgot how to recognize time on the watch dial. At a neurological examination, the glasses shown to him were called a bicycle. What syndrome does the patient have, topical diagnosis?

5. During the examination, a neurologist deduced that the 59-year-old man could not recognize the touch of a fountain pen key and glasses. Superficial and deep sensitivity in hands. What syndrome does the patient have, topical diagnosis?

Answer:

Syndromes of lesion

A. Sensory aphasia venics.
B. Motor aphasia.
C. Visual agnosia.
D. Auditory agnosia
E. Asteriognosia

Topical diagnosis (pathological focus)

F. Left lower frontal gyrus

G. Bilateral damage to the temporal lobes

H. Left upper temporal gyrus

I. Left upper parietal lobule

J. Bilateral damage to the occipital lobes

1_____

2_____

3_____

4_____

5_____

Assessment _____ Teacher signature_____

Theme: "Autonomic (vegetative) nervous system and syndromes' defeat"

Questions to prepare for the lesson:

1. Anatomy of autonomic system. Syprasegmental and segmental departments.
2. Main functions of autonomic nervous system.
3. Neurological symptoms characteristic of lesion segmental department.
4. Examination of autonomic system.
5. Examples of diseases characterized by damage to autonomic (vegetative) system.

Task 1.

Fill in table 1. Using the serial number of symptoms from the proposed list (one-cell – one digit). The numbers may or may not be used part of the cells may remain free.

Table 1.

Symptoms characteristic of lesion of function parasympathetic fibers of the cranial nerves.

Cranial nerves	Symptoms of lesion				
III					
VII					
IX					
X					

List of symptoms:

1. Mydriasis
2. Dry mouth

3. Tachycardia
4. Strabismus
5. Disturbance of accommodation
6. Hypersolation
7. Bradycardia
8. Lagohthalmus
9. Arterial hypotonia
10. Pupil constriction
11. Increased peristalsis
12. Impaired urination
13. Violation of the reaction of the pupil to light

Task 2.

Fill in table 2.

Table 2.

Description of the functional state of the autonomic nervous system according to the main clinical manifestations.

Indicator	Sympathetic reaction	Parasympathetic reaction
Skin color		
Sweating		
Dermographism		
Skin temperature		
Heart rote		
Arterial pressure		
Breathing rote		
Intestinal motility		

Task 3.

From the list of clinical symptoms listed below, select those related to damage to the autonomic nervous system and enter their letter designations in table.

Table 3.

Symptoms defeat of the autonomic nervous system.						

List of clinical symptoms

A. Violation of thermoregulation

B. Impaired sleep and wakefulness

C. Obesity

D. Paresis of limbs

E. Taste disorder in posterior the third of the tongue

F. Paroxysmal emotional disturbance

G. Urination disorders

H. Conduction hyperesthesia

I. Trophic skin disorders

J. Imbalance

K. Gnosis disorder

L. Panic attacks

Task 4.

Select the correct answers to situational task by indicating the syndrome of the lesion and to topical focus.

Situational tasks.

1. The patient has a traumatic brain, a month after the injury, seizures developed, characterized by weakness, shortness of breath, increased sweating, nausea slow heart rate, decreased blood pressure, desires for reflex, abdominal cramps. This syndrome is called the alleged, localization of the focus.

2. Under the influence of cooling, a young woman experiences numbness of the fingers of the hands of the symmetric blanching of the tips, changes in sensitivity. After 10-15 minutes after the onset of the attack, parasterility appears, and then the color and temperature of the skin are restored. As the syndrome called.

3. Young man, increased appetite, moon shaped face, hyperimproved, increased blood pressure, excessive hair growth on the body and face. What is syndrome? Which structures are affected?

4. Attacks are manifested by palpitation, increased blood pressure, chills a feeling of fear, short tonic cramps of the extremities, dilated pupils of the pale face. What is the name of this syndrome?

5. The patient has tumor of lungs (Pancost tumor), neurology examination: miosis, exophthalmos, narrowing of the palpebral fissure. Is the name of this syndrome. Which structures are affected?

Answer.

A. Raynaud’s syndrome or disease.
B. Vagoinsular crisis
C. Clude Bernard Horner’s syndrome
D. Itsenko-Cushing syndrome
E. Sympathoadrenal crisis

Topic diagnosis

F. Hypothalamus or segments of parasympathetic formations
G. Structures of the hypothalamus pituitary gland, adrenal cortex
H. Violation of vasomotor innervation
I. Structures of the hypothalamus or segments of sympathetic formation
J. Damage to the sympathetic fibers from the ciliospinal centes

1_____

2_____

3_____

4_____

5_____

Assessment _____ Teacher signature_____

Theme: "Additional research methods in neurology (laboratory and instrumental research method) "

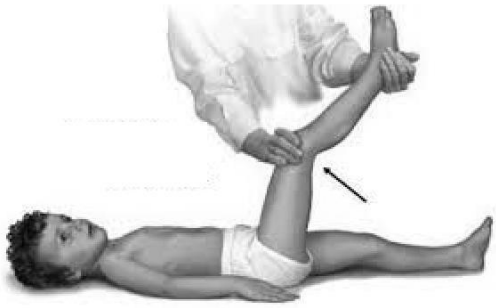
Questions to prepare for the lesson:

1. Production and circulation cerebrospinal fluid.
2. Indications and contraindications for lumbar puncture.
3. Meningeal symptoms.
4. The composition of the cerebrospinal fluid is normal.

5. The main cerebrospinal fluid syndromes (inflammation, hemorrhage, protein-cells dissociation, hypertension), composition of the CSF.
6. The main principle of the methods, indication for use is the informativeness of X-ray of the skull of the vertebral column, electromyography, electroencephalography of ultrasound methods for the study of computed tomography and MRI of the brain, of the spinal cord and spine, angiography.

Task 1.

Sign the name of the muscular-tonic meningeal symptoms shown in the figures.



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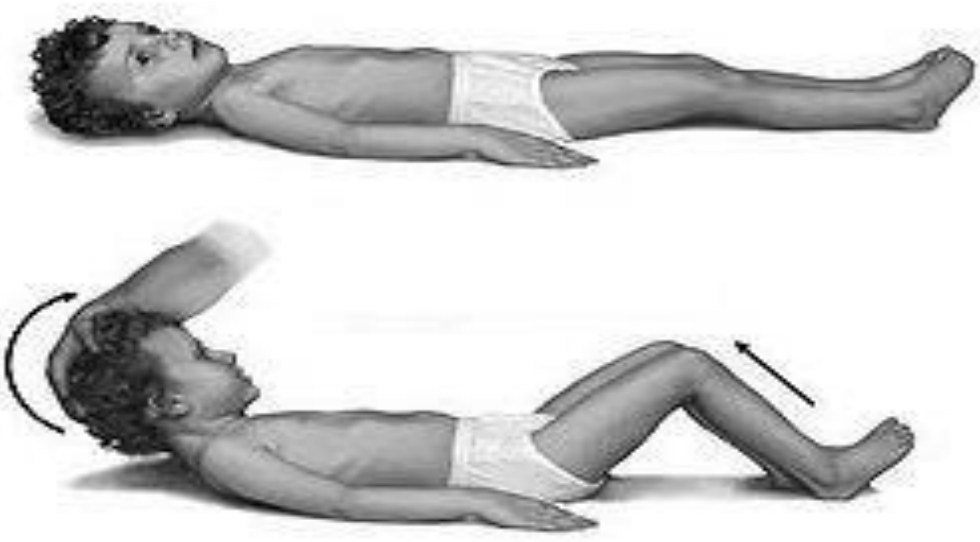


Task 2.

Fill in table № 1

Table № 1 - The composition of the cerebrospinal fluid is normal

Indicator	Characteristic (value)
The pressure in the supine position	
The appearance (color, transparency)	
Number of cells	
Cellular composition	
Amount of protein	
Glucose level	

Task 2.

Fill in table № 2 using the serial numbers of liquor indicators from the list of the numbers that can be repeated in one cell – one figure

Table № 2. Characterization of cerebrospinal fluid in various neurological syndromes.

Liquor syndromes	Pressure	Appearance	Cell composition	Protein level	Glucose level
Intracranial hypertension					
Serous inflammation (viral)					
Serous inflammation (bacterial- tbs)					
Purulent inflammation					
Hemorrhage protein-cell dissociation					

Cerebrospinal fluid indicators:

1. Colorness, transparent
2. Turbid, whitish, grey
3. Xanthochronic
4. Pressure of more than 200-250 mm water colum
5. Pressure of 120-180 mm water colum
6. 200-2400 cells in one mcl prevail in lymphocytes
7. 80 cells in one mcl erythrocytes, lymphocytes, neutrophils
8. 1200-2000 cells in 1 mc prevail in neutrophils
9. 3-5 cells in 1 mcl, lymphocytes
10. The amount of protein is more 0,5 g/l
11. The amount of protein 0,3 g/l
12. The amount of glucose 2,5-3,5 ml/l
13. The amount of glucose is less than 2 ml/l

Task 4.

Fill in table № 3, using the letter designations of the research method from the proposed list (of letters can be repeated part of the cells can remain free).

Disease				
Ischemic stroke				
Hemorrhage stroke				
Vertebrogenic compression syndrome				
Polyneuropathy				
Meningitis				
Epilepsy				

A. Cerebrospinal
B. Computed tomography of the brain
C. X-ray of the spine
D. Electroencephalography
E. Electroneuromyography
F. MRI angiography
G. Duplex scanning of the vessels of the brain
H. MRI of the spinal cord

Task 5.

Chose the correct answer to situational task using the proposed list (answers may be several).

Situational task

1. A 50-year-old patient developed a stroke, an hour later the vascular center was delivered for thrombolysis, select informative examination methods.

2. A 60-year-old woman developed a meningeal symptoms complex against a background of high temperature. Chose informative examination methods.

3. A 30- year-old patient is being examined to confirm the diagnosis of encephalitis, select informative examination methods.

4. A 35-year-old patient was hospitalizes in the neurological department with a diagnosis of acute inflammatory polyradiculoneuropathy Guillain-Barre syndrome, select informative examination methods.

5. A 20 year-old patient boy for the first time in his life developed a convulsive attack, select informative examination methods.

Answer

A. Computed tomography of brain.
B. Computed tomography of spinal cord
C. Angiography
D. Analysis cerebrospinal fluid
E. MRI of brain
F. Electroencephalography
G. Electroencephalography
H. X-ray of the skull

1_____
2_____
3_____
4_____
5_____

Assessment _____ Teacher signature_____

SPECIAL NEUROLOGY

Theme: “Cerebro-vascular disease”

Task for independent work.

Option 1.

1. Definition stroke:

---

2. Definition ischemic stroke:

---

3. Write a classification of hemorrhagic stroke (by location):

A. _____

B. _____

C. _____

D. _____

Class time 5 minutes.

4. Fill the table.

Differential diagnosis of ischemic and hemorrhagic stroke

Clinic-amnestic signs	Hemorrhagic stroke	Ischemic stroke	Tumor brain	Supervised pstient

Harbingers				
Condition of occurrence (time of day, circum-stances)				
Beginning				
Level of consciousness				
General cerebral symptoms				
Focal symptoms				
Blood pressure				
Meningeal symptoms				
Cerebrospinal fluid analysis: Color Cytosis Protein				
Echo-eh				
CT, MRI				

Class time is 20 minutes.

Solve 5 situational task.

Task 1.

50-year-old patient, after a mental, psychoemotional load or after a change in weather conditions complains of headache, dizziness, sleep disturbance, memory loss. Such complains worry the last 2-year, history of hypertension. Objective: emotionally labile focal symptomatology absent, additionally: elevated levels of triglycerides and cholesterd ophthalmoscopy – renal angiopathy.

Clinical diagnosis, treatment.

Answer:

Task 2.

A 65-year-old patient had impaired speech in the morning, after 1 hour a weakness appeared in his right hand. Over the past month several times noticed a rapidly coming clumsiness of movement in the right hand. Objectively: pulse 70 min rhythmic, arterial pressure 140/70 mm.Hg. In neurological status: light motor aphasia, asymmetry of the face on the right, paresis of the right hand to 3 points, muscle tone increased ophthalmoscopy: angiosclerosis, clinical diagnosis, necessary examination.

Clinical diagnosis, treatment.

Answer:

Task 3.

The 68-year-old man suffering from hypertension after a quarrel with his wife, left a severe headache, lost consiciousness, fell. The patient is hospitalized in the intensive stinding unit serious condition. Coma. A/P 220/120 mm.Hg., left sided prozomonoparesis, left leg rotate outward, Babinsky symptom on the left, neck stiffness positive, put a presumptive diagnosis prescribe examination and treatment.

Clinical diagnosis, treatment.

Answer:

Task 4.

A patient is disturbed by dizziness, vomiting, nausea, numbness on the opposite side. Objectively: horizontal nystagmus, coordination test – ataxia on the left. CT – pathology focus absent. In 2 hours focal sings regressed.

Clinical diagnosis, treatment.

Answer:

Task 5.

A patient suffering by diabetes mellitus grumbles about a weakness in right limbs. Neurology examination: elements of motor aphasia, central paresis of VII and XII pair cranial nerves, dissociation hemiparesis, paresis deeper in the lower extremities.

Make topic, clinical diagnosis. Additional examination methods.

Clinical diagnosis, treatment.

Answer:

Option 2

1. Definition of hemorrhagic stroke.

_____

_____

_____

2. Definition of transient ischemic attack (TIA)

_____

_____

_____

3. Classification of ischemic stroke (pathogenetic type)

A. _____

B. _____

C. _____

D. _____

E.

4. Fill the table.

Differential diagnosis of ischemic and hemorrhagic stroke

Clinic-amnestic signs	Hemorrhagic stroke	Ischemic stroke	Tumor brain	Supervised pstient
Harbingers				
Condition of occurrence (time of day, circum-stances)				
Beginning				
Level of consciousness				
General cerebral symptoms				
Focal symptoms				
Blood pressure				
Meningeal symptoms				
Cerebrospinal fluid analysis: Color				

Cytosis Protein				
Echo-eh				
CT, MRI				

Solve 5 situational task.

Task 1.

A 56-year-old woman suffers from hypertension. However, she took the drugs irregularly during the working day, feel dizziness, headache. She went to the hospital. Objectively: arterial pressure 190/120 mm.Hg, pulse of 86 beats per.minute, a rhythmic. Sign of focal lesions of the nervous system was not detected.

Put a clinical diagnosis and schedule an examination and treatment.

Answer:

_____

_____

_____

_____

Task 2.

A 50-year-old woman has a mitral heart disease due to a rheumatic process suddenly at work. She develops a generalized convulsive seizure, when a woman regains consciousness. Neurology status: left deed hemianopsia, hemiplegia, hemianesthesia, meningeal symptoms absent.

Make a topical presumptive clinical diagnosis, prescribe examination and treatment.

Answer:

_____

_____

Task 3.

A 19-year-old young man left a severe headache during physical exertion on the type of “blow in a head”. During examination of epileptic seizures. Neurology examination: cranial nerve function preserved. Motor and sensory disorders were not defected. Meningeal syndromes positive MPI of brain: pathology focus not present.

Make a clinical diagnosis, prescribe examination and treatment.

Answer:

Task 4.

A patient grumbles about headache, vomiting nausea, weakness extremities in opposite side ill acutely during stress. A history of hypertension. Examination: during examination of epileptic seizures, left side central paresis of VII and XII pair cranial nerve, palpation of eyeballs pain, hemiplegia of left side. Pathological and meningeal syndrome are positive.

Make clinical diagnosis, examination and treatment.

Answer:

Task 5.

A patient is delivered in a clinical from a street with violation of consciousness. In 30 minutes, it is exposed at examination: spoor, right-side hemiplegia, breathing on the type Chen-Stokes, hyperthermia to 41^0C. Syndrome hormoneotonia, CSF-blood.

Make clinical diagnosis, treatment examination.

Answer:

_____

_____

_____

Assessment _____ Teacher signature_____

Thema: “Inflammation disease of nervous system”

Task for independent work.

Option 1.

1. Definition of meningitis:

_____

_____

2. Definition of brain abscess

_____

_____

3. Brudzinski symptom

_____

_____

4. Classification of cerebral symptoms related to the symptom complex meningeal

- _____
- _____
- _____
- _____
- _____
- _____

5. Complete the treatment regimen for viral meningitis

Etiotropic

_____

_____

_____

6. Fill the table:

Indicators CSF	In normal	Change in cerebrospinal fluid	
		Meningism Purulent meningitis	Serious bacterial (mainly tuberculous) meningitis
Transparency color			
Pressure (mm/w)			
Cytosis (amount			

in 1 mkl)			
Cytogram: lymphocytic neutrophilis			
Protein (g/l)			
Fibrin film			
Glucose			

7. Fill the table:

The nosological form	Herpetic encephalitis	Tick-borne encefalitis
Pathogen		
Seasonality		
Incubation period transmission and distribution in the body		
Infections symptoms		
Meningeal symptoms		
General cerebra symptoms		
Focal symptoms		
Changes in liquor (CSF)		

8. To establish compliance:

Disease:

Tick-borne

Encephalitis

Acute myelitis

Symptoms:

A. Tetraparesis or lower paraparesis
B. Peripheral paresis of apper limbs
C. Conductive hypoesthesia
D. Violation of pelvic organs
E. Trophic disorders
F. Syndrome “handing head”

9. Supplement:

The increase in the number of cells in the liquor is called _____

Situation task to solve.

Task 1.

In patient with purulent otitis media, suddenly increased the temperature to 39^0C, there was a headache, nausea, of repeated vomiting, photophobia. Examination: stiffness of the muscles neck, positive symptom of Kernig.

Supposed diagnosis, of the examination tactics? Treatment.

Answer:

_____

_____

_____

_____

Task 2.

The patient’s temperature has in sharply increased to 38.5^0C, there was a severe headache, nausea, of repeated vomiting. On inspection: facial hyperemia, conjunctivitis, pharyngitis. Neurological status: meningeal symptoms positive. CSF: lymphocytic pleocytosis, the amount of protein and glucose is normal.

Against the background of therapy with analgesics and diuretics, the patient's health improved, the headache decreased, vomiting stopped.

Diagnosis. Treatment. Prognosis.

Answer:

_____

_____

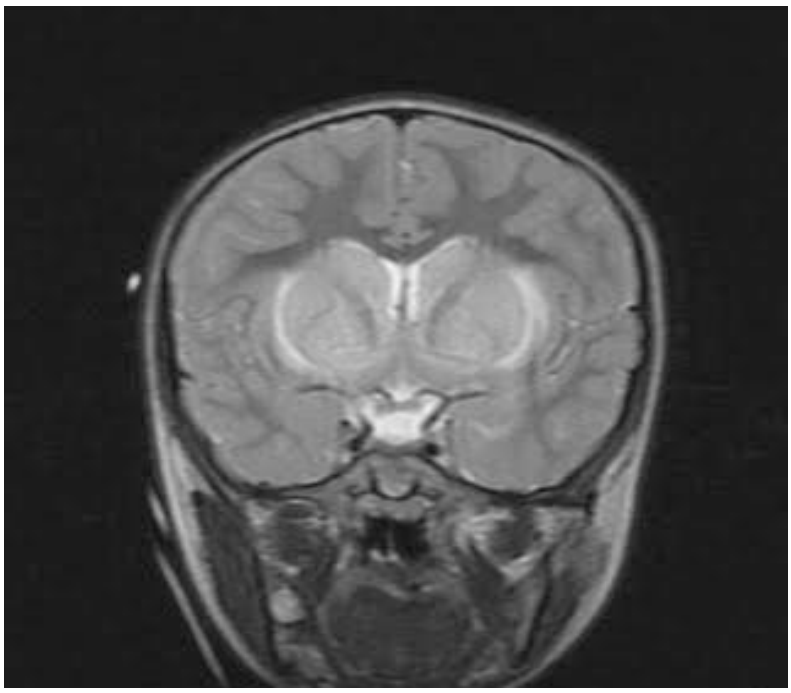
_____

_____

Task 3.

The patient work as a forester, he became ill acute, temperature rose to 39^0C, worries headache, vomiting; epileptic seizure. Face hyperemic on the body hemorrhagic rash. Neurological status: consciousness – stunning, delusional statements, central hemiparesis of left side, increased tone according to the pyramidal-extrapyramidal type, constant clonic twitching of the muscles of the face, rigidity of the muscles of the neck, positive symptom of the Brudzinsky. MRI – of the brain: symmetrical hemorrhage in the projection of the basal ganglia on thalamic region (figure).

Clinical and topical diagnosis and treatment.



Answer:

_____

_____

_____

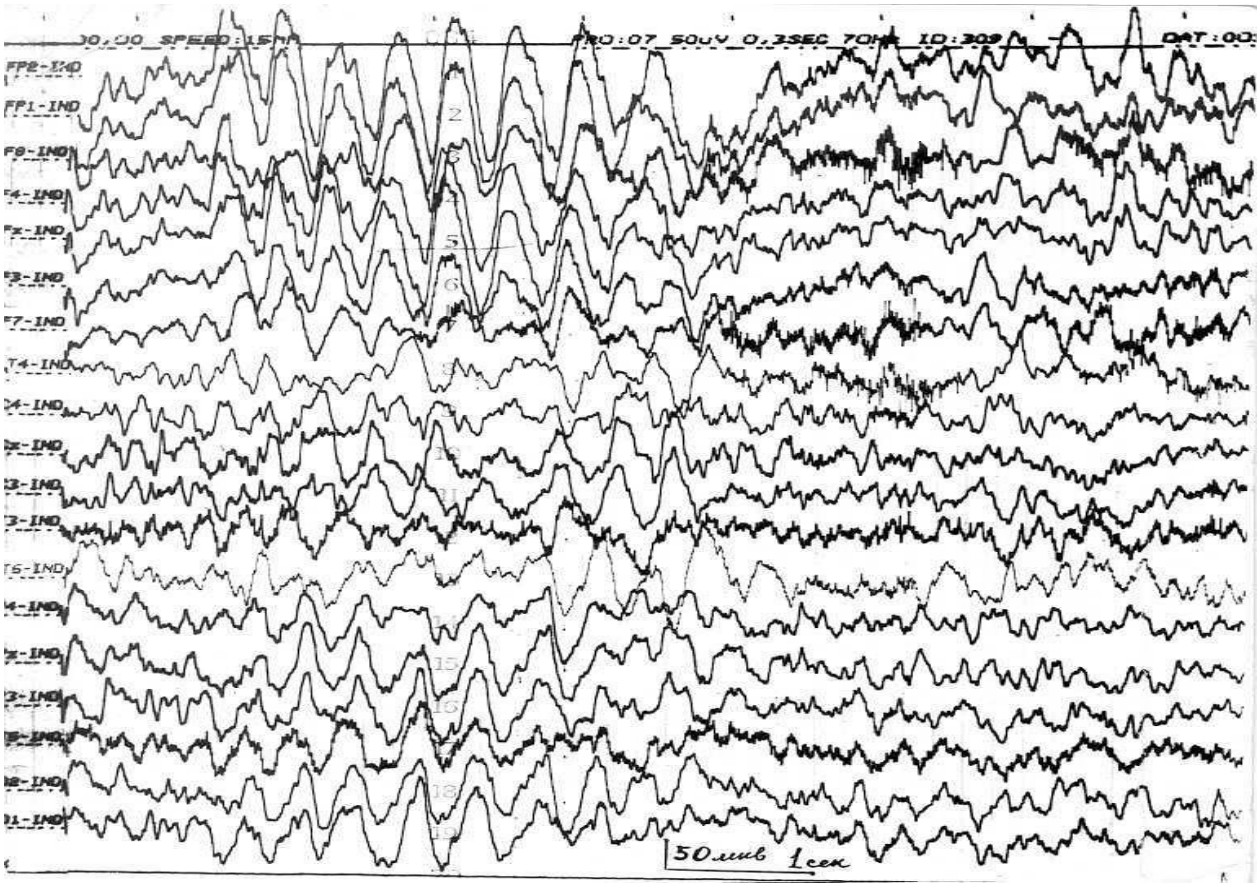
_____

Task 4.

A 43-year-old patient was admitted to the hospital complaining of constant cramps in his right head, which periodically intensifies and the patient loses consciousness. From the anamnesis after being in the taiga and suffered an acute infection with an increase in temperature due to the development of muscle weakness in the hands. Examination: the condition is satisfactory , general cerebral signs and meningeal absent, from the cranial nerves, peripheral paresis of IX, X, XI,XII pair of cranial nerves; strength reduction in the upper extremities to 3 points, of pronounced atrophy in them. Tendon and periostal reflex from the hand low, uniform, lower

extremities anisoreflexion of the knee reflex D>S, pathology foot reflex, on both sides, during the examination, there is a constant myoclonic hyperkinesia in the right hand. An electroencephalogram records epileptic activity with a lesion in the left frontal leads (figure).

What disease was noted after staying in the taiga? What is the chronic stage of this disease called? What is the prevention of this disease?



Answer:

_____

_____

_____

_____

Option 2

1. Definition of encephalitis:

_____

_____

2. What is the meningeal pose?

_____

_____

3. Symptom of Brudzinski:

_____

_____

4. Treatment of bacterial meningitis:

_____

_____

5. Fill the table.

Differential diagnosis of cerebrospinal fluid syndromes with meningitis

Indicators CSF	In normal	Change in cerebrospinal fluid	
		Serious viral meningitis	Purulent bacterial meningitis (meningococcal meningit)
Transparency color			
Pressure (mm/w)			
Cytosis (amount			

in 1 mkl)			
Cytogram: lymphocytic neutrophilis			
Protein (g/l)			
Fibrin film			
Glucose			

6. Fill the table:

Comparative characteristics of viral encephalitis

The nosological form	Economos epidemic encephalitis	Herpetic encephalitis
Pathogen		
Seasonality		
Incubation period transmission and distribution in the body		
Infections symptoms		
Meningeal symptoms		
General cerebra symptoms		
Focal symptoms		
Changes in liquor (CSF)		

7. Establish compliance

Disease:

1. Tuberculosis meningitis

2. Meningococal meningitis

Symptoms:

A. Acute beginning

B. Sybacute beginning

C. Meningeal signs

D. Lesion of cranial nerves

E. Neutrophilis pleocytosis in CSF

F. Lymphocytic pleocytosis in CSF

8. Supplement:

Ways of infection in the human body with tick-borne encephalitis_____

Situational task

Task 1.

A 35-year-old patient complained of progressive headaches that intensified at night well as nausea and vomiting. In a history (anamnesis) – received treatment for syphilis 4 years ago. Neurological status: direct symptom complex of Argyle-Robertson< asymmetry of the face on the left. Light left – side hemiparesis according to the central type, hemihypesthesia. MRI of the brain – revealed a volumetric formation along the convexital surface of the right hemisphere. In blood – positive Wasserman reaction.

Make a preliminary diagnosis and examination and treatment.

Answer:

_____

_____

_____

_____

Task 2.

A 50-year-old patient in June removed a tick. Her shoulder from 3-4 days after that, together with a suction of the tick a red ring appeared, which disappeared after 3 weeks. At the end August headache began to bother, nausea, light fever, pain along the side roots of spinal cord T2-T6, T11-L2. In early September, the peripheral paresis of the left, after 3 days the right fascialis nerves. Neurology status: symptoms of general hyperesthesia moderate, symptoms of Kernings positive, pain of palpation of the exit points of first branch of V pair cranial nerves, of 2 side. Peripheral paresis of nerve fascialis of 2 side. Hypepathy zone T2-T6, T11-T12. Skin rashes absent. CSF moderate lymphocytic pleocytosis, protein 1 g/l, glucose content reduced.

Make apreliminary diagnosis. Treatment. Examination.

Answer:

_____

_____

_____

_____

Task 3.

A patient with labial herpes complained of elevated body temperature to $38,0^0$C and periodical Jackson's seizures in the left arm. On day later, she developed ataxia in extremities, tetraparesis, stupor and then coma. Brain MRI revealed inflammatory lesion of the white matter, round-shaped, partially fussed up to 2 cm in diameter in the frontal and temporal lobes of the cerebrum and cerebellum.

What is preliminary diagnosis? What additional diagnostic procedures should be performed to confim the preliminary diagnosis?

Answer:

_____

_____

_____

_____

Task 4.

A child developed elevated body temperature of 37.8^0C sore throat, abdominal pain, vomiting and diarrhea. Three days later, he began feeling weakness in both legs. Examination revealed a reduction in active movement volume and muscle strength in the legs, hypotonia of the leg muscles and areflexia of deep reflexes. All types of sensitivity are preserved.

Make a preliminary diagnosis. Examination. Treatment.

Answer:

_____

_____

_____

_____

Assessment _____ Teacher signature_____

Theme: "Demyelinating and degenerative disease of nervous system"

Task for independent work.

Option 1.

1. Definition of multiple sclerosis:

_____

_____

2. Complement:

For amyotrophic lateral sclerosis is characteristic _____

course of the disease.

3. Establish compliance:

1. Lateral amyotrophic sclerosis.

2. Multiple sclerosis.

A. Young age
B. Gradual flow
C. Pelvic disorders
D. Pelvic disorders are not characteristic
E. Elderly age
F. Reccurent
G. Amyotrophy
H. Fasciculation
I. Cerebellum disorders

3. Classification of multiple sclerosis:

1_____

2_____

3_____

Situational task.

Task 1

For the last 2 month a 55-year-old patient had difficulty moving his lips whily playing the pipe and choking when swallowing. In neurological status: weakness atrophy and fasciculation of the muscle of the face, tongue of the sternocleidomastoid and trapezius muscles on both sides, bulbar dysarthria. A uniform increase in reflexes on the arm and legs is a symptom of a Babinski positive. X-ray, computed tomography, CSF and other laboratory tests are within normal limits.

Topical and clinical diagnosis. Additional research methods. Treatment

Answer:

_____

_____

_____

_____

Task 2.

The 35-year-old man suddenly fell ill. He is known to have had an acute respiratory infection a month ago. He complains of headache, nausea, vomiting and double vision (diplopia). Examination reveals fever of 38,7^{0}C, meningeal syndrome (neck, stiffness, bilateral Kernig's sign) positive, left-eye-divergent strabismus, right-sided-central hemiparesis, ataxia. MPI-shows multifocal losi of increased intensity in T2-weighted image in the white matter of the cerebral hemispheres, pons, thalamus, CSF-lymphocytic pleocytosis.

Clinical diagnosis. Treatment

Answer:

_____

_____

_____

_____

Task 3.

A 30-year-old woman complains of suddenly appearing staggering when walking and a decrease in vision in her right eye. Examination conducted after 2 days brought out retrobulbar neuritis on the right, a uniform increase in deep reflexes, and symptom of Babinski on both sides, vibration sensitivity and jone sense absent, abdominal reflex absent, ataxia in the Romberg's pose. CSF – elevated levels of main protein of myelin and gamma globulin.

Clinical diagnosis. Additional research methods. Treatment.

Answer:

_____

_____

_____

_____

Option 2.

1. Definition of acute multiple encephalomyelitis:

_____

_____

2. Complement:

For multiple sclerosis characteristic _____course of the disease.

3. Establish compliance

1. Multiple sclerosis

2. Acute multiple encephalomyelitis

A. Young age
B. Begin slowly
C. Begin acute
D. Pelvic disorders
E. Gradual flow

F. Recurrent

G. Lower spastic paraparesis

H. Cerebellum disorders

I. Fever

J. Oppression of the level of consciousness

K. Convulsions.

4. Classification multiple sclerosis (by course):

_____

_____

_____

_____

Situational tasks.

Task 1

A 25-year-old patient complains visual impairment, weakness of food. A year ago within two weeks there was a decrease in vision on the right eye, staggering when walking. Symptoms of regressing on their own did not go to the doctor. Ophthalmoscopy: blanching of the temporal halves of the optic nerve discs. Neurology status: lower spastic paraparesis, pathology reflex present, intentional tremor, during coordination tests of the upper and lower extremities, urinary retention.

Clinical diagnosis. Additional research methods. Treatment.

Answer:

_____

_____

_____

_____

Task 2

A 56-yeat-old patient complains that during the last three months he has difficulty without button closure, drops objects from his hands. Neurological status: weakness during flexion and extension, the product of the abduction of the fingers

of both hands is more pronounced on the right. Atrophy and fasciculation in the muscles of the hypotenar and interosseous muscles of both hand, increase in the deep reflexes of both sides, is a Babinsky symptom positive, sensitivity is preserved. No of the pelvic disorders. The cerebrospinal fluid and other laboratory test did not reveal pathological changes during electromyography, signs of damage to the cells of the anterior horn of the cervical segments.

Topical and clinical diagnosis. Additional research methods. Treatment

Answer:

_____

_____

_____

_____

Task 3

A 27-year-old patient has numbness in the right leg and instability at standing and walking. Symptoms slowly progress for 5 months. A year ago there was an episode of vision reduce in left eye, that quickly passed. Neurology status: nystagmus, hyperreflexia of knee and Achilles reflexes, absent of abdominal reflex. Unsteadiness at Romberg test. Vibration sensitivity is reduced.

What clinical diagnosis? What method of examination? Is most likely to confirm the diagnosis. Treatment.

Answer:

_____

_____

_____

_____

Assessment _____ Teacher signature_____

Theme: “Peripheral nervous system disease. Polyneuropathy”

Task for independent work.

Option 1.

1. Definition of polyneuropathy:

_____

_____

_____

2. What is a polyneuritis type of sensitivity disorder?

_____

_____

_____

_____

3. Classification of polyneuropathy (according to etiology)

1_____

2_____

3_____

4_____

5_____

6_____

7_____

8_____

4. Classification of polyneuropathy (flow)

1_____

2_____

3_____

Fill the table (answer + / -).

Signs	Alcoholic	Diphtheritic
Damage to the distal extremities		
Damage to the proximal calving		
Respiratory failure		
Swallowing disorder		
Symptoms of tension		
Protein-cell dissociation		
Plasmapheresis is used for treatment		
Vitamin B, is used for treatment		
Antitoxic serum is used for treatment		

Situational tasks.

Task 1

A 63-year-old woman suffers from type II diabetes mellitus, for the past 17 years in the past two years, frequent states of glycaemia (not regular intake of drugs), complains of itching and pain in the right foot. On examination: the joint of the feet are deformed, ore information on the feet is thinned, on the right, the ulcer is 2 cm in diameter. Achilles reflexes are absent knee low, carporadial low.

Hyperesthesia in the leg – to the middle third of the leg, in the hands – to the wrist joints.

Put topic and clinical diagnosis. What type of sensitivity identified in the patient? Treatment plan.

Answer.

_____

_____

_____

_____

_____

Task 2.

A 53-year-old patient suffering from chronic pancreatitis complains of numbness, burning, feet, pain in the muscles of the legs, paresthesia in the fingers of the hands. These phenomena appeared 5 week ago. In addition, notes staggering when walking memory impairment. Observed by a narcologist. In neurological status: hypotension calf, Achilles reflexes are not caused, carporadial low, reflexes oral automatism positive, superfacial sensitivity loss on distal parts of leg and hands, decreased muscular articular sensation in the toes.

Put topical and clinical diagnosis. What additional research methods are necessary to clarity the diagnosis? Treatment plan.

Answer.

_____

_____

_____

_____

_____

Task 3.

A student at a medical college complained of weakness of the hearbeat, visual impairment, vague information from the subject, hoarseness from the anamnesis, it is known that 2 months ago a sore throat was treated on its own. Neurology examination: decrease in the pharyngeal reflex, dysphonia, supercilliary reflex reduced on right, paresis absent, Achilles reflexes decreased; disturbance in the joint sense (loss in the left).

Set topical diagnosis. What kind of disease can you think? What kind of research to do?

Answer.

_____

_____

_____

_____

_____

Additional questions that increase the difficulty level of the task:

1. What are the types of diabetic polyneuropathy and principles of treatment of polyneuropathy?

2. Identify the leading symptoms characteristic of “early” and “late” diphtheria polyneuropathy.

3.What are the feature of acute inflammatory demyelinating polyradiculoneuropathy? The principles of its treatment.

Assessment _____ Teacher signature_____

Theme: "Vertebrogenic disease of nervous system"

Task for independent work.

Option 1.

1. Determination of the vertebral-motor segment

_____

_____

2. What is cervicalgia?

_____

_____

3. Classification of compression spondylogenic syndromes

_____

_____

_____

4. Lassieg symptoms manifests itself

_____

_____

_____

Fill the table (answer + / -).

	Radix L3-4	Radix S1-2
Pain in the anterior surface of the thigh and lower leg		
Pain in the posterior surface of the thigh and lower leg to V finger		
Hyporeflexia of knee reflex		
Hyporeflexia of tension: - Lasegua - Neri - Dejerina		

Violation of the sensitivity on the surface posterior of the thigh		
Violation of the sensitivity on the anterior surface of the thigh and lower leg.		

Situational tasks

1. A 55-year-old patient during exercise suddenly felt weakness in his legs and burning pains in legs, more on the inner surface, noted a violation of urination. Examination: peripheral asymmetric paraparesis lower hypoesthesia in area: crotch and internal surface of thing.

Topical diagnosis, examination, treatment.

Answer

_____

_____

_____

2. The patient complains of pain and limitation of mobility in the left shoulder joint for 3 months during examination: straightening of the cervical lordosis, pain during palpation of periarticular tissues. Pendulum – like movements of the shoulder are possible, but cannot raise the arm above the level of the shoulder joint and taken it back, deep reflex and sensitivity is not impaired.

Diagnosis, additional examination, treatment.

Answer

_____

_____

_____

Option 2

1. Definition of the term dorsopathy:

_____

_____

_____

2. Definition radiculopathy:

_____

_____

_____

3. Classification of reflector spondylogenic syndrome:

_____

_____

_____

_____

_____

_____

4. Symptoms of Wassermann's (femoral nerve stretch test):

_____

_____

_____

Fill the table (answer + / -).

	Radix L3-4	Radix S1-2
Pain in the anterior surface of the thigh and lower leg		
Pain in the posterior surface of the thigh and lower leg to V finger		
Hyporeflexia of knee reflex		
Hyporeflexia of tension: - Lasegua - Neri - Dejerina		
Violation of the sensitivity on the surface posterior of the thigh		

Violation of the sensitivity on the anterior surface of the thigh and lower leg.		

Task 1.

After physical exertion, the patient experienced sharp pains in the lumbar spine with irradiation along the posteriors edge of the thigh, the outer edge of the lower leg and last fingers on the right. The pain intensifies with movement and physical activity. Examination: smoothness of lumbar lordosis the right, positive Lasseg's 40^0 , right decreased of Achilles reflex.

Topical and clinical diagnosis. Treatment

Answer

_____

_____

_____

Task 2.

Worker, when lifting he left a pain in his lower back, the next day, inconnection with the persisting pain, he went to the doctor. Examination: straightened lumbar lordosis, muscle tension in the lumbar region, limited mobility in the lumbar, changes in sensitivity and reflexes no, of stretch test absent. X-Ray of the lumbar spine not pathological changes.

Topical and clinical diagnosis. Are there any other examination methods? Treatment

Answer:

_____

_____

_____

Assessment _____ Teacher signature_____

Theme: “Epilepsy and epileptic seizures”

Task for independent work.

Option 1.

1. Definition of the epileptic seizure:

_____

_____

2. Supplement:

Unilateral convulsions not accompanied by loss of consciousness is observed with _____the type of seizure.

3. Classification of epileptic seizures (partial)

1. _____
   A. _____
   B. _____
   C. _____
   D. _____
2. _____

Differential diagnosis of epileptic and hysterical seizure

Symptom	Generalized convulsive seizure	Hysterical seizure
Connection with external circumstances		
Duration of seizure		
Fall injuries		
Head and eye rotation on the side		
Bite of tongue		
Consciousness		
Face color		
Pupil reaction of light		
Corneal reflex		
Reaction of the pain		
Reaction am inhaling ammonia vapors		
Symptoms Babinski		
Urine lowering		
Sleep after seizure		
Organic symptoms after a seizure		

Situational tasks

Task 1

The 18-year-old patient complains of episodes of turning off consciousness; she is silent about these episodes of famillar relatives during a conversation and for several second. She does not respond to the addressed speech. Falling, cramps, urination impairment denied. During the day of sush episodes, there are more than 10. Sibimur attacks are observed in the patient father. CT-MPI-without pathology. EEG-paroxysmal discharges peak wave with a frequency of 3Hr 1 s. Ophalmosconi: not pathology.

What is diagnosis? Treatment

Answer:

_____

_____

_____

_____

Task 2

A 16-year-old patient complains of episode of loss of consciousness, which are preceded by a feeling of nausea, flickering flies of ringing in the ears. It at this moment he manages to take a horizontal position, then consciousness is not last in spending. Such attacks have been noted during the past month with a frequency of one to two times a month more often when they are in stuffy room, metro. In neurological status: focal neurological symptoms absent, asthenic, lability of pulse, distal hypergidrosis. EEG – there is nodeviation from the norm.

Diagnosis. Treatment

Answer:

_____

_____

_____

_____

Option 2

1. Definition of the epileptic seizure:

_____

_____

2. Supplement:

Absence is short-term _____

3. Classification of epileptic seizures (generalized)

A. _____
B. _____
C. _____
D. _____
E. _____
F. _____

Fill the table

Differential diagnosis of syncope and epilepsy

Symptom	Paroxysm	
	Syncope	Epilepsy
Hereditary burden somatic status neurological status constitution		
Specific factors		
Provoking an attack		
Subjective experiences of paroxysm		
Objective change during an attack: Skin integument Pulse Blood pressure Drop of in the patient The possibility of preventing paroxysm State after a seizure		

Situational tasks

Task 1

A 45-year-old patient complains of seizures accompanied by violent movement of the right extremities (clonic convulsion apper in the right hand), consciousness does not lose seizure), consciousness does not lose seizures once or twice a day, appeared the first three months ago. From the anamnesis: 4 year ago-closed head injury, brain bruise. Mri – external and internal hydrocephalus. X-ray – not traumatic changes. Ophthalmology: pathology absent (normal). EEG – complexes "acute slow wave" in frontoparital region on the left hemisphere.

Diagnosis. Treatment

Answer:

_____

_____

_____

_____

Task 2

A 20-year-old bay developed for the first time in a generalized seizure. The history (anamnesis) is not burdened by the use of narcotic drugs. In childhood have been several episodes of absences his sister has epilepsy. In neurological status: of the change is not.

Diagnosis. Necessary examination.

Answer:

_____

_____

_____

_____

Assessment _____ Teacher signature_____

Theme: “Disease of extrapyramidal system”

Task for independent work.

Option 1.

1. Definition of Parkinsonism:

_____

_____

2. A classification of Parkinsonism:

A. _____

B. _____

C. _____

3. Solve situational tasks.

Task 1.

A 63-year-old patient complains of stiffness of movements, decreased memory, poor mood, tearfulness also notes sleep disturbance and performance. Such complaints have been troubling for the past two years. In neurology status: emotionally labile, gait-moves in small steps, in the hands the muscle tone is eventy increased, the elements of the “grear wheel”. Handwriting minor, amimia of face. From history it is known that the patient’s grandfather had silimar symptoms.

Clinical diagnosis. Treatment.

Answer:

_____

_____

_____

_____

Task 2.

A 18-year-old patient complains of smallscale trembling of the hands, head of the lower jaw as pronounced at rest, slowness of movements, difficulties when lifting from the chair, the changes in handwriting are minor (small). Complaints appeared about a year ago, over the past month, the neurological status worsened half bent torso, acherokinesis asia, masked face, increased muscle tone by the type of "gear" of the upper limbs, hand trembling by type of "coin counts" the face is hypomimia, pro- and retropulsions. From the anamnesis it is known, that the patient is registered in a narcologic clinic.

What the topic diagnosis? What mediator systems does the patient affect? Possible causes of neurological symptoms presumptive clinical diagnosis. Treatment.

Answer:

_____

_____

_____

_____

Option 2

1. What is genuim Parkinsonism?

_____

_____

2. What is secondary Parkinsonism?

_____

_____

3. What causes can contribute to the development of secondary Parkinsonism

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

4. Solve situational tasks.

Task 1.

A 63-year-old patient complains of small-scale trembling of the right hand at rest and intensifying with excitement, slow motion, impulsive continued movement, if necessary stop. Sick for one year, but health worsened over the past 1-1,5 month. Neurological status: slowness and poverty of movement, bent body position, lask of friendly hand movement when walking, trembling of the lower jaw, right hand

(type “coin count”), hypomimia rare bunking monotonous speech, micrography. Determine the localization of the pathology focus.

Which failure mediator systems are available in this patient? Presumptive clinical diagnosis is the mediator system is in the patient.

Answer:

_____

_____

_____

_____

Task 2.

A 59-year-old patient in the morning complains of tremor in his hands and feet, fatigue, change in speech, frequent urination, and difficulty lifting from a chair. Such complaints have been troubling the past 3 years. From the anamnesis it is know that patient is registered with an epileptologist and has been taking antiepileptic therapy for a long time. Neurological status: finely-spreading tremor on the type “coin count” in the hands and feet, decreasing with movements, speech: quiet, monotones.

Topical and clinical diagnosis. The cause of the disease. Treaiment.

Answer:

_____

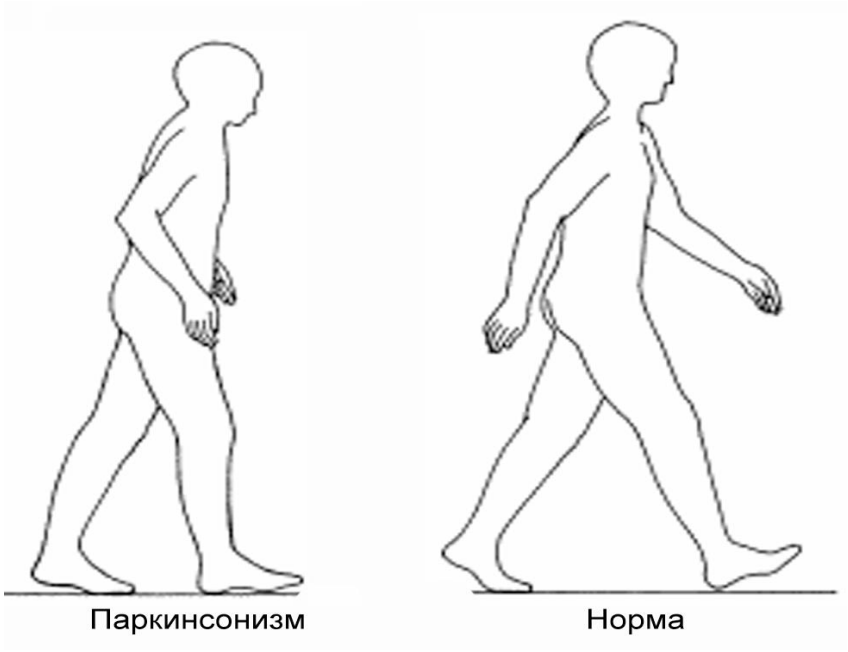
_____

_____

_____

Additional questions.

1. What are the characteristic changes of the black substance in patient with Parkinson’s disease?



Parkinson's Norma

2. What are main pathogenic links in Parkinsonism?

3. What are the main causes of the development of secondary Parkinsonism?

4. What are the environmental factors are dangerous for development of symptoms of the disease?

5. List the main symptoms of the disease.

6. What are the clinical forms of the disease?

7. Directions in the treatment of Parkinsonism.

8. Are the main groups of drugs used for treatment

Assessment _____ Teacher signature_____

Theme: "Choreic and dystonic hyperkinesis"

Task for independent work.

Option 1.

1. Enter the missimg.

Debut age small chorea _____.

Etiopathogenesis of small rheumatic chorea autoimmune reachion versus _____ _____called _____group A.

2. Which drugs can contribute to the development of chroreic hyperkinesis:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

3. Fill the table 1.

Table 1. Laboratory instrumental diagnosis of secondary choreic hyperkinesis

Etiology	Most informative examination methods
Small chorea	
Post stroke chorea	
Inflammatory (bacterial chorea)	
Metabolic (liver failure)	

4. Solve situational task.

Task 1.

During a neurological examination, an 11-year-old girl revealed an increase in muscle-tone by plastic type in the limbs, more static and gait disturbance in the left leg. Generalized dystonic hyperkinesis: rotational corkscrew – trunk, neck, with turning the head to the left and back; of the lower extremities with plantar flexion of the fingers and rotation of the foot inward; of the upper estremities flexion of the hands into a first. There is an increase in hyperkinesis in an upright position, emotional stress. Symptoms disappeared in a dream and with certain gestures. Damage to the cranial nerves of pyramidal cerebellar, sensory system did not reveal, higher cortical functions – normal, not changes. Sick since 8 year, when walking, the girl left awkward in her left leg, followed by muscle contraction and improper installation of the foot. After a year, in volment of the muscles of the arms and neck was observed, after 2 years of trunk muscles. In the family of such cases of the disease.

Topical diagnosis. Presumptive diagnosis. Appoint the necessary additional examination. Suggest a treatment regimen.

Answer:

_____

_____

_____

_____

_____

Task 2.

A 26-year-old patient complains of a violet turh of the head to the left, painful neck muscle tension. He is ill 2 years, the patient cannot connect the poor with the oneset of the disease. The patient can briefly fix the head in the correct position when touching the cheek.

Topical diagnosis. Presumptive diagnosis. Appoint the necessary additional examination. Suggest a treatment regimen.

Answer:

_____

_____

_____

_____

Fill the table 2

Criteria	Dofa-dependent torsion dystonia	Arhythmohyperkinetic form of Wilson-Konovalova disease
The age, onset of the disease		
Family history		
In the clinic of combination of dystonic, hyperkinesis and rigidity.		
Symptoms of damage to the pyramidal cerebellar system		
Mental disorders		
Liver damage		
Focal changes in brain MRI (CT)		
Impaired cooper metabolism		
Kaizer-Flasher rings		
Pathogenetic treatment		

Option 2

1. Definition of primary torsion dystonia

_____

_____

2. List the focal forms of dystonia

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

3. Name the dystonic phenomena presented in the figures.

Which of them relate to generalized and focal forms?

_____ _____

_____

4. Solve situational task.

Task 1.

A 14-year-old patient complains of increased f
concentration of attention, anxiety, tear, violent mov
shoulder girdle and in the upper extremities that bo
month from the anamnesis, the patient suffers from a
with frequent exacerbations. On examination the p
emotional labile. In neurology status: generalized chr
diffuse muscular hypotension and autonomic dystonia.
Topical diagnosis. Presumptive diagnosis. Appoint the necessary additional examination. Suggest a treatment regimen.

Answer:

_____

_____

_____

_____

Task 2.

A 23-year-old complains of trembling hands at rest, aggravated by movement on emotional excitement, shakiness when walking, and speech disturbance. The patient for about a year noticed periodically trembling in the right hand; joined trembling in the left hand, nasal voices, speech changes, impaired gait. In neurological status: dysphonia, dysarthria, scanning speech; lesions of other cranial nerves no cuts, paresis, pathology reflexes, and lesion of sensitivity – not: increase in muscle tone in the right limbs on the type extrapyramidal. Coordinating test from upper limb – intesion tremor, dyscoordination, dysmetria, adiadohokinesis. The heel-knee test is a satisfactory, gait with cerebellar ataxia, tremor in the hands of the average amplitude with stremgthening of static poses “the hands in front of the chest” and “hand above the head”. In somatic status: revealed an increase in the spleen liver. She has a younger brother who suffers from chronic hepatitis of unknown etiology.

Topical diagnosis. Presumptive diagnosis. Appoint the necessary additional examination. Suggest a treatment regimen.

Answer:

_____

_____

_____

_____

5. Fill in table

Criteria	Small chorea	Chorea of Huntington

Etiology		
The age of onset of disease		
Clinical: - Choreic hyperkinesis - mental disorders (impulsivity, hyperactivity, emotional lability, obsessive state)		
Muscle hypotonia		
Oligo- and bradikinesia		
Muscle hypertension by type of “gear”		
Autonomic disorder (labil AP, pulse, hyperhidrosis sebaceous glandi		
Dementia		
Systemic manifestations (rheumatism, arthritis, endocarditis)		
Heredity		
Molecular-genetic diagnostic methods		
During the disease		

Assessment _____ Teacher signature_____

Theme: “Somatoneurology”

Task for independent work.

Option 1.

1. Definition somatoneurology:

_____

_____

_____

_____

2. Establish compliance.

Neurasthenic syndrome:

1. Hypersthenic variant

2. Hyposthenic variant

Symptoms:

A. Headache

B. Sleep disturbance

C. Autonomic emotional lability

D. Irritability
E. Short
F. Affective outburst
G. Mood instability
H. General weakness
I. Increased fatigue
J. Decreased performance
K. Passivity
L. Distraction

3. Polyneuropathy syndrome is characteristic (what somatic disease) of

_____

_____

_____

4. Solve situational task.

Task 1.

A 46-year-old patient suffering from ischemic heart disease for several months, general weakness, fatigue, apathy and phobia, sleep disorder. The patient experiencing fear of anxiety worries your life. Objectively: moderate vegetative disturbances appear: instability of the pulse and blood pressure of vascular reactions. There are no focal neurological symptoms.

Neurology status. Clinical diagnosis. Treatment.

Answer:

_____

_____

_____

_____

_____

Task 2.

The patient on the 2nd day of acute myocardial infarction developed headache, dizziness, nausea, vomiting, anxiety, fear of death, soporious consciousness. Objective focal neurological pathology no, disseminated neurological symptoms were detected.

Answer:

_____

_____

_____

_____

_____

Task 3

A 20-year-old patient with congenital pulmonary stenosis sharply developed weakness and restriction in the left limbs. Objectively: central paresis of VII, XII cranial nerves left side, hemiparesis of limbs of left. Focal neurological symptoms symptoms regressed within a day.
Diagnosis, pathogenesis of damage to the nervous system.

Tests

1. The most common neurological complications of lung abscess:
A. Abscess of brain
B. Myelitis
C. Radiculopathy
D. Parkinsonism

2. With pneumococcal pneumonia, the most common neurological complication is:
A. Polyneuropathy
B. Myelopathy
C. Encephalopathy
D. Meningitis
E. All of the above

3. Diabetic polyneuropathy develops more often:
A. With inadequate therapy for diabetes mellitus

B. With a long duration of the disease
C. With a high degree of hyperglycemia
D. In the presence of ketoacidosis
E. With all of the above

4. Neurological syndromes can develop with:
A. Myocardial infarction
B. Heart rhythm disturbance (cardiac arrhythmias)
C. Heart defect
D. Angina
E. All of the these

5. Ischemic stroke can develop with:
A. Congenital and acquired heart disease (heart defects)
B. Heart rhythm disturbance
C. Septic endocarditis
D. Myocardial infarction
E. All of the these

Option 2

1. Definition somatoneurology:

_____
_____
_____
_____

2. It refers to cerebral complication of systemic lupus erythematosus
_____
_____
_____
_____

3. Establish compliance disease
1. Vitamin B12 deficiency anemia
2. Acute leukemia

Symptoms lesion of nervous system

A. Paresthesia in lower limbs
B. Headache
C. Epileptic seizures
D. Impairment of consciousness
E. Nausea, vomiting
F. Mononeuropathy (with damage to the nerves of the lower extremities)
G. Encephalopathy
H. Psychomotos agitation
I. Auditory hallucination
J. Speech impairment
K. Lesion of the optic and oculomotor nerve
L. Lesion of facial and auditory nerve
M. Dysfunction of the pelvic organs

4. Solve situational task.

Task 1

A 25-year-old patient with a mitral defect periodically experiences bouts of palpations shortness of breath, fear, feeling of chills. Objectively observed tachycardia, increased blood pressure, difficulty breathing. Focal neurological symptoms absent.

Clinical diagnosis. Pathogenesis of neurological manifestation.

Answer:

_____

_____

_____

_____

Task 2.

On the 4^{th} day after development of myocardial infarction, the patient suddenly showed weakness and restriction of movements in the right extremities, difficulty speaking on the electrocardiogram of atrial fibrillation.

Clinical diagnosis. Pathogenesis of damage to the nervous system.

Answer:

_____

_____

_____

_____

Task 3.

A 55-year-old patient, 4 weeks after acute myocardial infraction, developed severe pain in the left shoulder joint, arm, especially in the test, swelling of soft tissues and vasomotor disorders in the left arm a month later, atrophy of the muscles and skin of the left hand.

Neurological syndromes. Clinical diagnosis/

Answer:

_____

_____

_____

_____

Tests.

1. Cardiocerebral syndrome is characterized by:
A. Violation of consciousness
B. Headache dizziness
C. Motor and sensitive disorders
D. Polyneuropathy

2. The earliest forms of neurological complications in liver diseases are:
A. Extrapyramidal disorders
B. Mental disorder
C. Neurosis like syndrome
D. Polyneuropathy

3. In viral hepatitis are most often observed:
A. Encephalopathy
B. Myelopathy
C. Polyradiculoneuropathy
D. Multiple mononeuropathy

4. The main causative factors for the development of polyneuropathy in disease of the gastrointestinal tract is:
A. Deficiency of proteins
B. Used fats
C. Carbohydrates
D. Vitamins B1 and B12
E. All of the these

5. Everything is characteristic of chronic renal failure, except:
A. Encephalopathy
B. Polyneuropathy
C. Epileptic syndrome
D. Myastenic syndrome

Assessment _____ Teacher signature_____

CASE HISTORY

Surname, first name patient_____
_____

Age_____

Sex_____

Marital status _____

Present complaint:

_____
_____
_____
_____
_____
_____
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Anamnesis morbi:

_____
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Anamnesis vitae:

Objective research _____

HR_____/min

BP_____mmHg

Neurological status _____

Investigations

Diagnosis

Management

_____
_____

Discharge recommendation_____

_____
_____
_____
_____
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_____
_____
_____

Date_____20 __.

Signature_____

GLOSSARY

Accomodation – the increase in thickness of the lens needed to focus a near external object on the retina

Ageusia – loss of the sense of taste (gustation)

Agnosia – lack of the sensory – perceptional ability to recognize objects: visual, auditory and tactile agnosia

Agrafia – defeat of write

Akinesia – absence of loss of the power of voluntary motion seen in Parkinson's disease

Alexia – visual aphasia, word or text blindness, loss of the ability to grasp the meaning of written or printed words

Alternating hemiparesis – an ipsilateral cranial nerve palsy and a conralateral hemiparesis of extremities

Amnesia – disturbance or loss of memory

Amyatrophy – muscle wasting or atrophy (eg. ALS)

Anesthesia – loss of sensation

Analgesia – insensibility to painful stimuli

Anisocoria – pupils that are unequal in size

Anosmia – loss of the sense of smell (olfactory anesthesia)

Aphonis – loss of the voice

Apraxia – a disorder of voluntary movement

Areflexia – absence of reflex

Astereognosis – tactile amnesia

Ataxia – incoordination

Athetosis – slow, writing, involuntary movements seen in Huntington's disease

Autotopagnosia – the inability to recognize any part of the body, seen with lesion ob the parietal lobe

Babinski's sign – extension of the great toe in response to plantar stimulation pathology reflex (lesion of pyramidal tract)

Ballism – dyskinesia resulting from damage to the subthalamic nucleus

Bell's palsi – facial nerve paralysis

Chorea – irregular, spasmodic, purposeless, involuntary movements of the limbs and facial muscles, seen in Huntington's disease

Choreoathetosis – abnormal movements of the body of combined choreic and athetoid patterns

Diplopia – double vision

Diplegia – paralisis of both sides of the body

Dysartria – disturbance of articulation caused by paralysis (eg.Vagus nerve paralisis)

Dysesthesia – impairment of sensation

Dyskinesia – movement disorders (lesion of extrapyramidal system)

Dysphagia – difficulty in swallowing

Dysphonia – difficulty in speaking, hoarseness

Enophthamus – recession of the eyeball within the otbit

Epilepsy – a chronic disorders characterized by paroxysmal brain dysfunction caused by excessive neuronal discharge (seizure)

Extrapyramidal (motor) system – system including the striatum caudate nucleus and putamen, globus palling, subthalamic nucleus and substantia nigra

Fasciculations – visible twitching of muscle fibers seen in lower (peripheral) neuron disease

Flaccid paralysis – a complete loss of muscle power or tone resulting from a lower motor neuron

Global aphasia – difficulty with comprehension, repetition and speech

Hemiballism – dyskinesia resulting from damage to the subthalamic nucleus; consists of violent flinging movements of the contralateral extremities

Hemiparesis – slight paralysis affecting one side of the body; seen in stroke involving the internal capsule

Hemiplegia – paralysis of one side of the body

Hydrosis – sweating, perspiration, diaphoresis

Horner's syndrome – oculosympathetic paralysis consisting of miosis, hemianhydrosis, mild ptosis and apparent enophthalmos

Hypacusis – hearing impairment

Hypalgesia – decreased sensibility to pain

Hyperacusis – abnormal acuteness of hearing the result of a facial nerve paralysis (e.g. Bell's palsy)

Hypokinesia – diminished or slow movement; seen in Parkinsosn's disease

Intention tremor – a tremor that accurs when a voluntary movement is made; a cerebral tremor

Kerning sign – subject lies on back with thigh flexed to a right angle, then tries to extend leg. The movement is imposible with meningitis

Kinesthesia – the sensory perception of movement the muscular sense; it is mediated by the dorsal column – medial lemniscuses system

Lhermitte sign – flexing the head result in electric like snocks extending down the spine

Macrographis – megalographia; large hand writing seen in cerebellar disease

Micrographia – small hand writing seen in Parkinsonism

Millard-Gubler syndrome – an alternating faciad hemiparesis, an ipsilateral seventh nerve palsy and a contralateral hemiparesis

Myopathy – disease of the muscle

Neuralgia – nerve pain

Nystagmus – to-and-fro oscillations of the eyeballs; it is named after the fast component; ocular dystaxia as seen in cerebellar disease

Papilledema – choked disk; edema of the optic disk; caused by increased intracranial pressure (e.g. tumor, epi-or subdural hematoma)

Paraplegia – paralysis of both lower extremities

Pill-rolling tremor – a tremor at rest seen in Parkinson's disease

Pseudobulbar palsy – pseudobulbar supranuclear palsy; an upper motor neuron syndrome resulting from bilateral lesion that interrupts the corticobullar tracts; symptoms include difficulties with articulation, mastication and deglutition; results from repeated bilateral vascular lesions

Psychosis – a severe mental thought disorder

Ptosis – drooping of the upper eyelid; seen in Horner's syndrome and oculomotor nerve paralysis

Quadrantonopsia – loss vision in one quadrant of the visual field of one or both eyes

Quadriplegia – tetraplegia; paralysis of all four limbs

Retrobulbar neuritis – optic neuritis frequently caused by demyelinative disease multiple sclerosis

Rigidity – increased muscle tone in both extensors and flexors

Romberg sign – subject stands with feet together, when subject closes his eyes he loses his balance; this a sign of dorsal column ataxia

Scanning speech – scanning dysarthia; word are broken up into syllables; typical of a cerebellar disorders

Scotoma – a blind spot in the visual field

Strabismus – lack of parallelism of the visual axes of the eyes; squint, heterotropia

Syringomyelia – cavitations of the cervical spinal cord result in bilateral loss of pain and temperature sensation and wasting of the intrinsic muscles of the hand

Tabes dorsalis – locomotor ataxia, progressive demyelination and sclerosis of the dorsal columns and dorsal roots seen neurosyphils

Tactile agnosia – inability to recognize objects by touch

Tremor – an involuntary, rhythmic, oscillatory movement

Vertigo – a sensation of whirling motion due to disease of the vestibular system

Visual agnosia – inability to recognize objects by sight

Wernicke's aphasia – difficulty in comprehending spoken language, also called receptive, posterior, sensory, or fluent aphasia

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