

# **VERITAS SUMMMER SCHOOL**

**Topic: “Methods of examination in gynecology”**

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# Content

- **Embryology and human brain development**
- **Fetal neurosurgery**
- **Neuroanatomy**

-main parts

- **Anamnesis**

-main aspects

-common cases



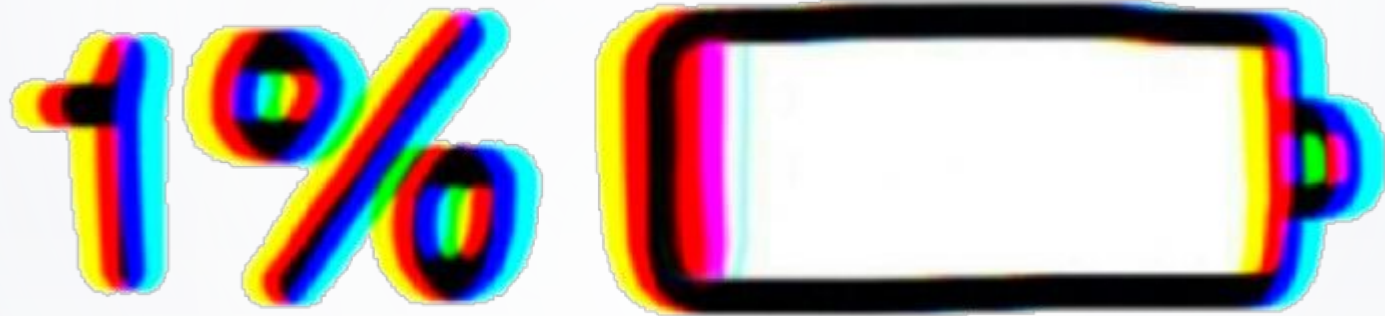
**“The WORLD is what our DOMINANTS are”**

-Ukhtomsky Alexey Alekseevich  
Physiologist, academician.

He created a doctrine according to which  
the behavior of man and animals is aimed  
at satisfying the prevailing need.



\*When 1% left





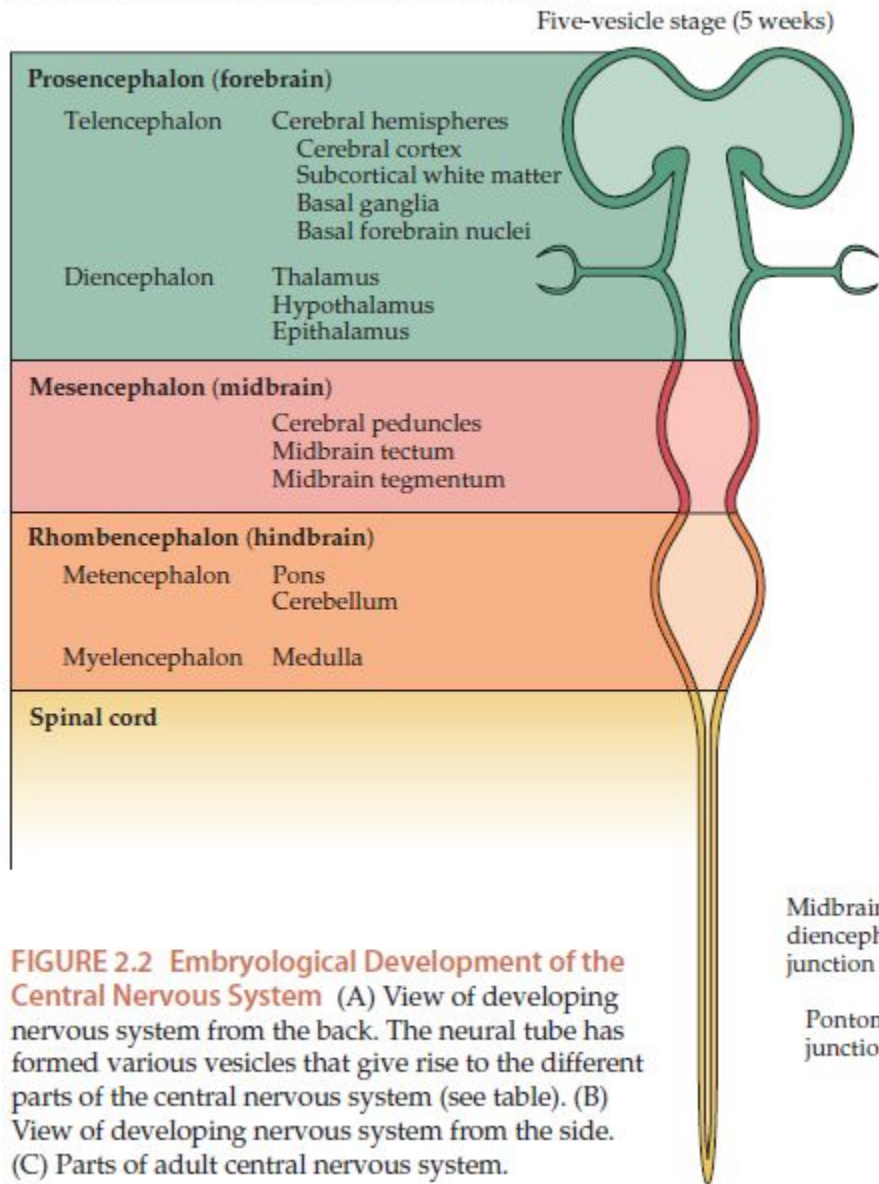
\*When you really want it



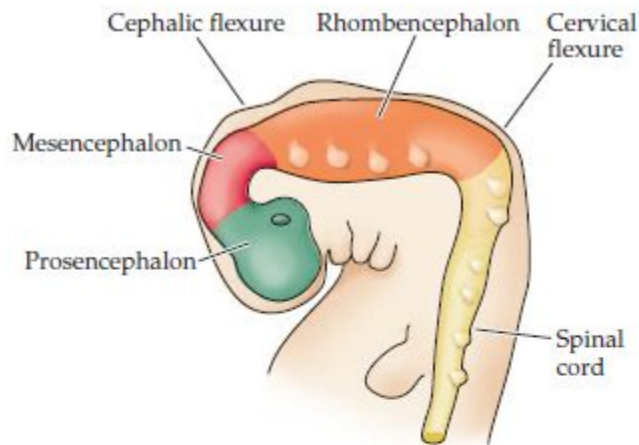
Когда очень хочется

# Embryology

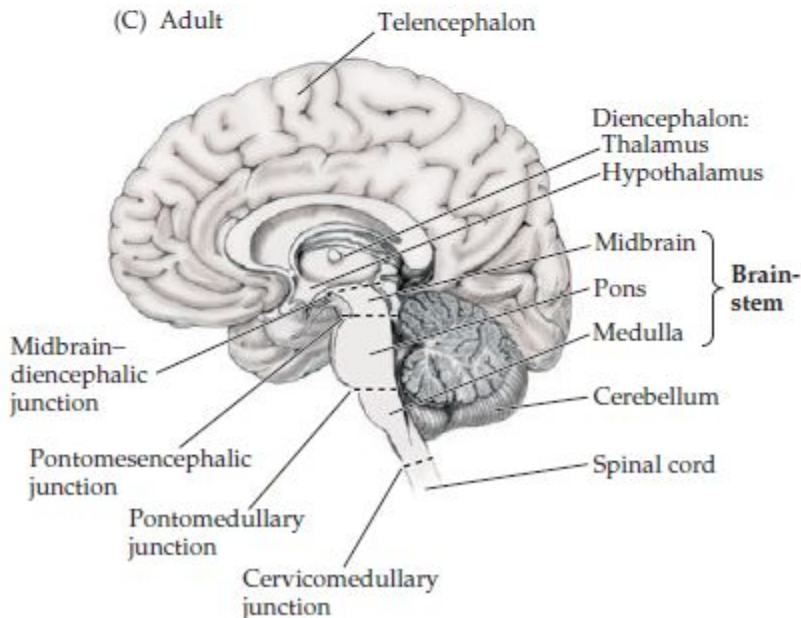
(A) Main parts of the human central nervous system



(B) Embryo, lateral view



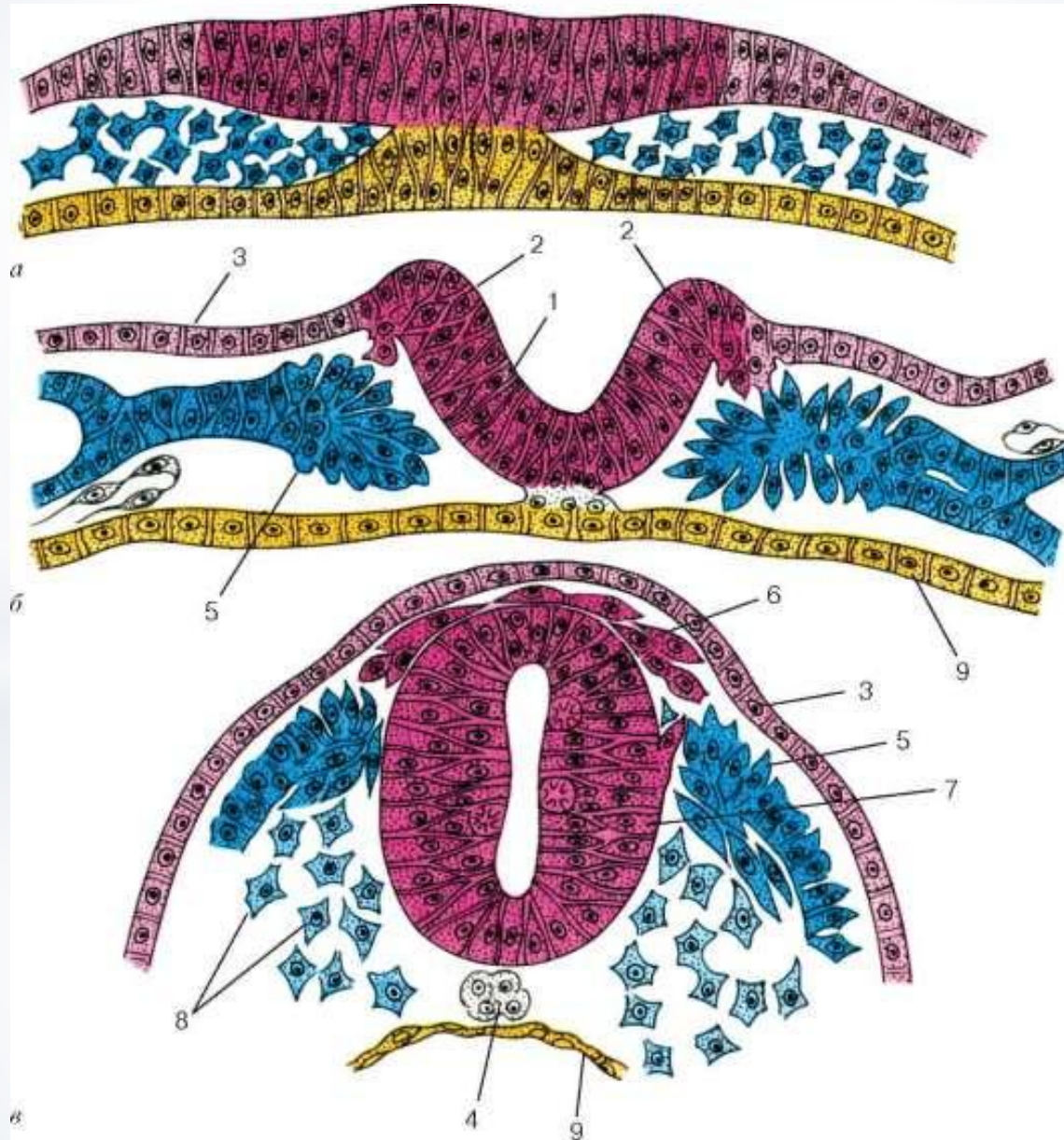
(C) Adult



**FIGURE 2.2 Embryological Development of the Central Nervous System** (A) View of developing nervous system from the back. The neural tube has formed various vesicles that give rise to the different parts of the central nervous system (see table). (B) View of developing nervous system from the side. (C) Parts of adult central nervous system.



- Development of nerve tissue. Neural tube.



# I group. Malformations of the terminal brain

## 1. Defects of the development of the terminal brain as a result of neural tube failure:

- anencephaly
- exencephaly
- inencecephaly
- craniocerebral hernia
- agenesis / aplasia / hypoplasia of the corpus callosum
- porencephaly.

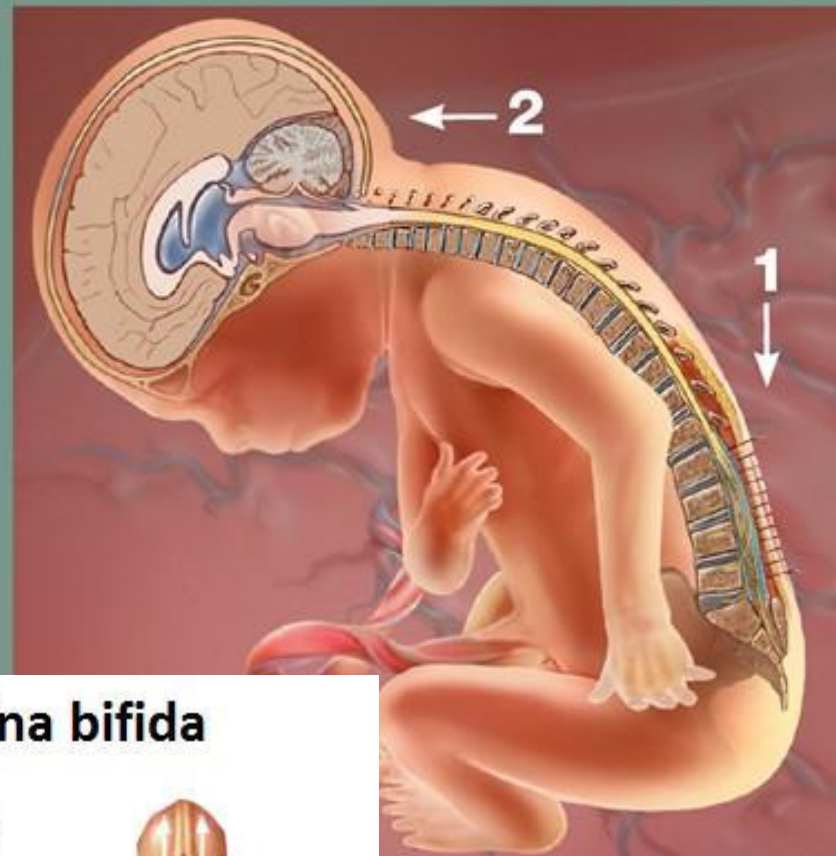
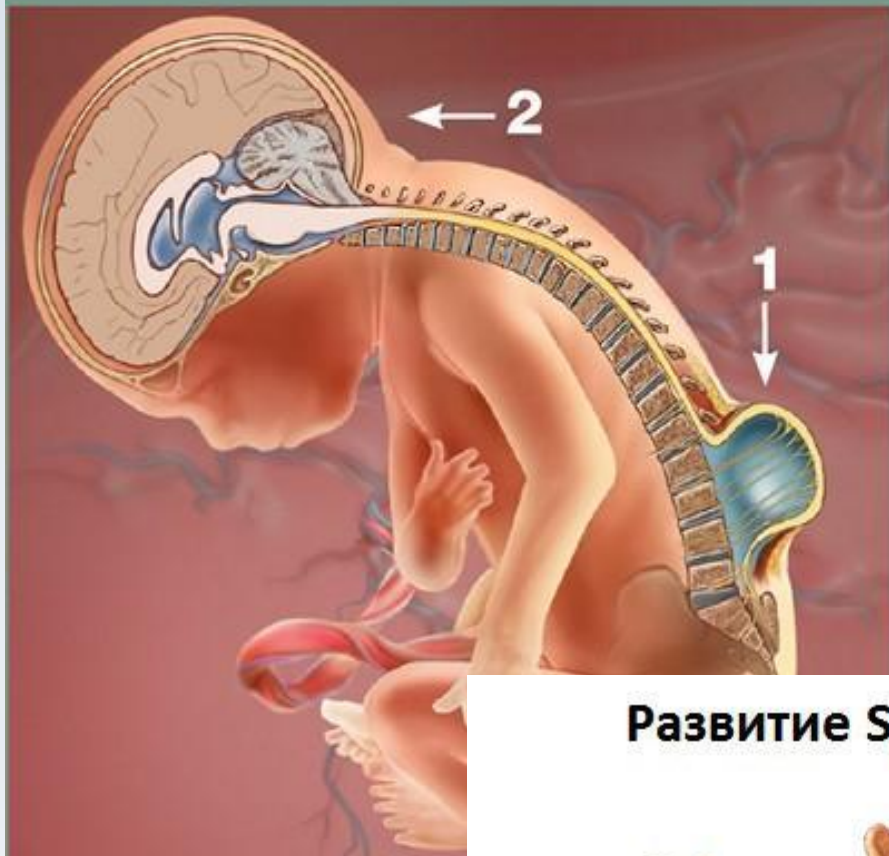
## 2. Malformations of the development of the terminal brain as a result of its nonseparation:

- holoprosencephaly.

## 3. Defects of the development of the terminal brain, which are a consequence of the disturbance of migration and differentiation of nerve cells:

- heterotopia
- micro- and polygyria
- macrogyria
- agyria (lissencephalia)
- microcephaly





## Развитие Spina bifida

Голова

Спина



21 день



22 дня



28 дней

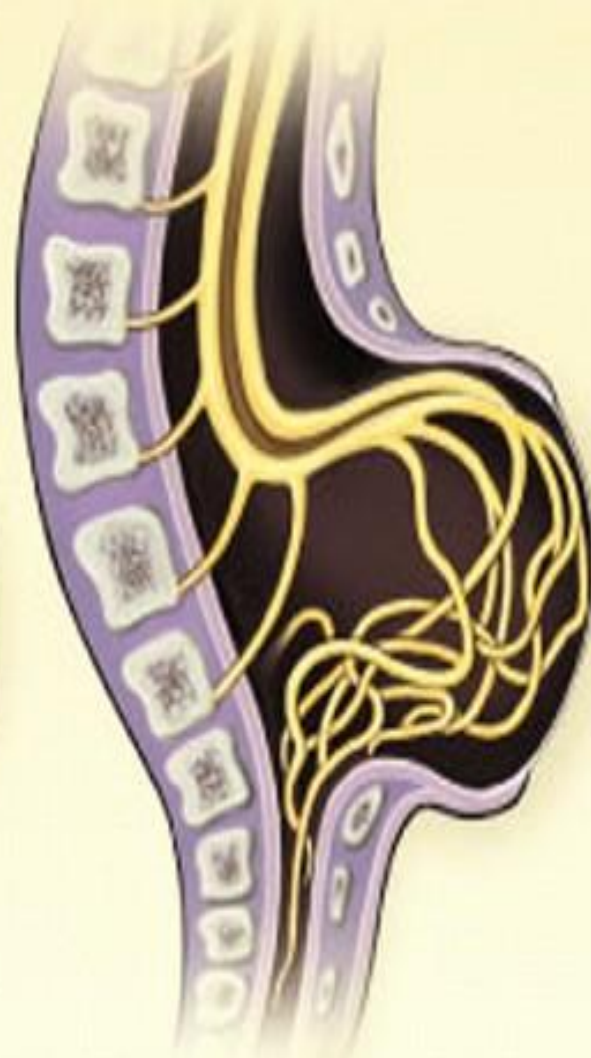
Spina  
bifida



Spina bifida occulta

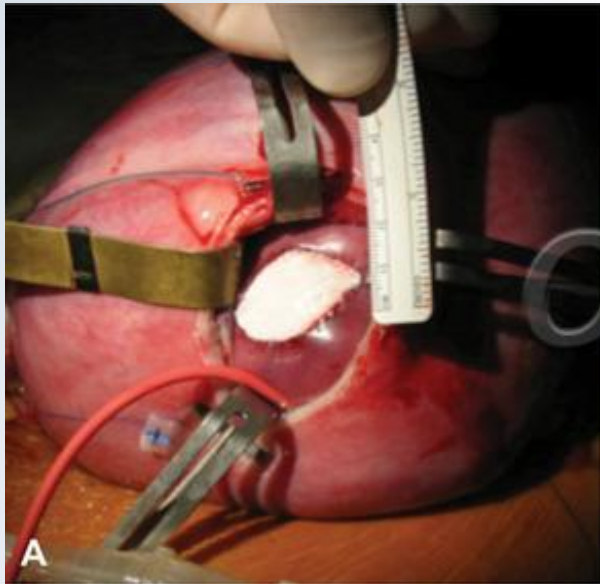


Meningocele

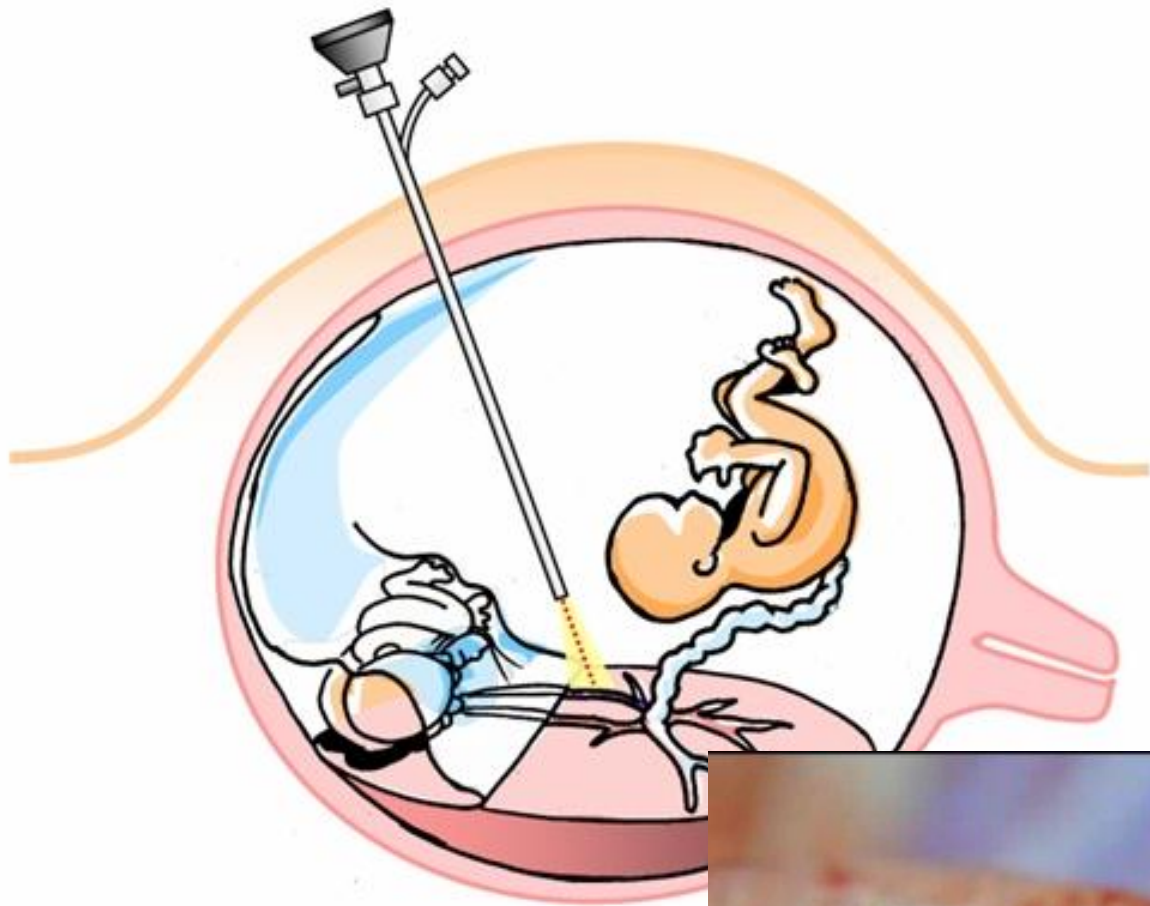


Myelomeningocele









# Neuroanatomy

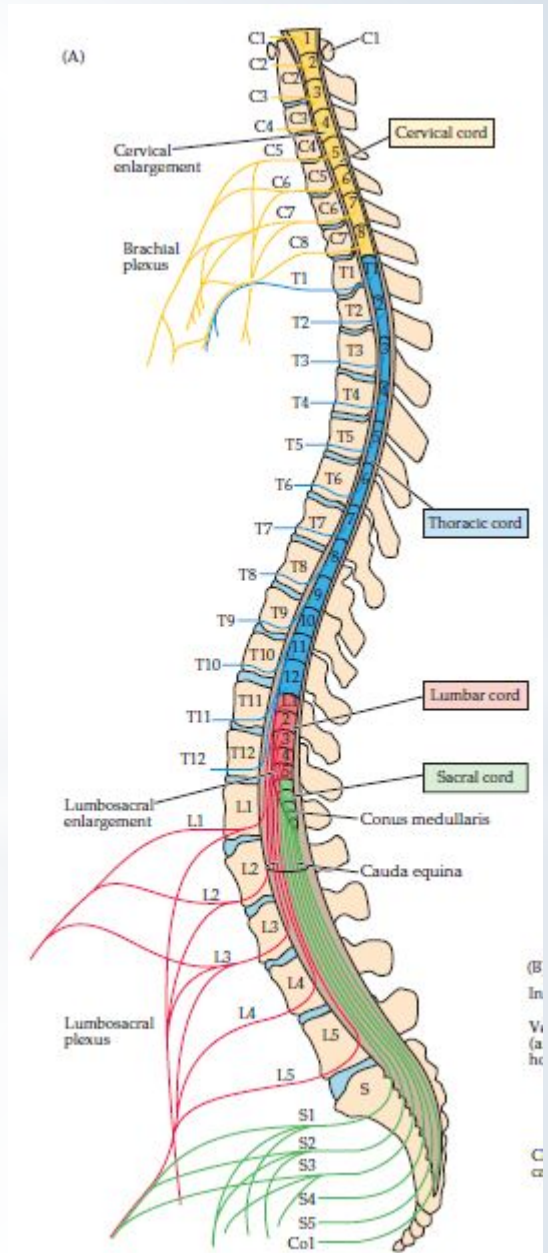
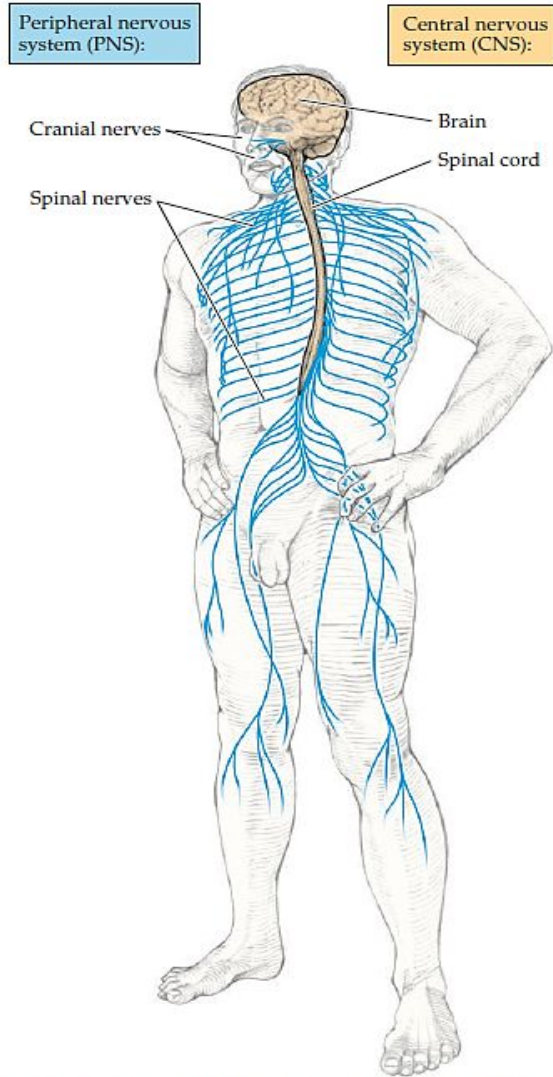
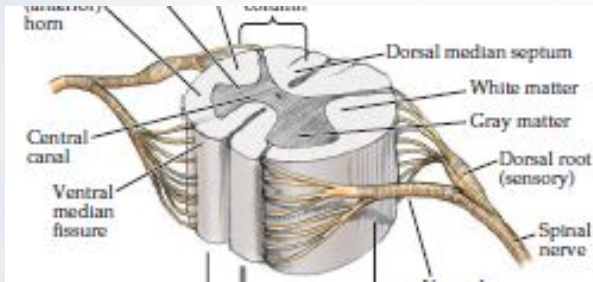
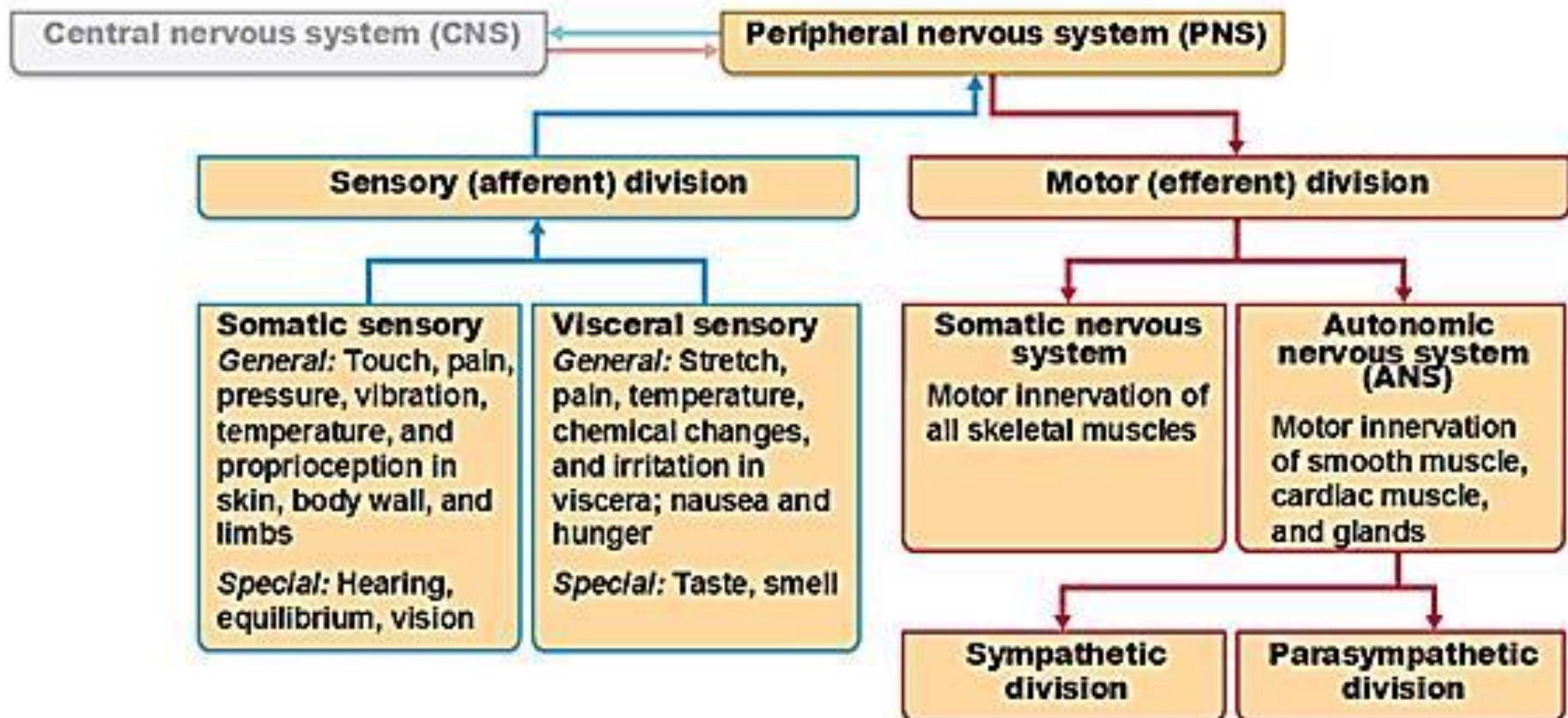


FIGURE 2.1 Parts of the Human Nervous System

Source: Blumenfeld h neuroanatomy through clinical case

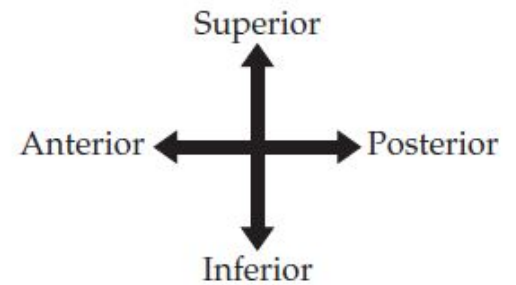
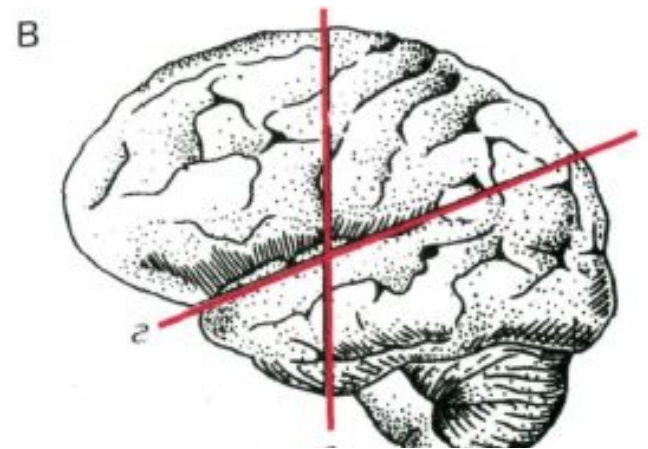
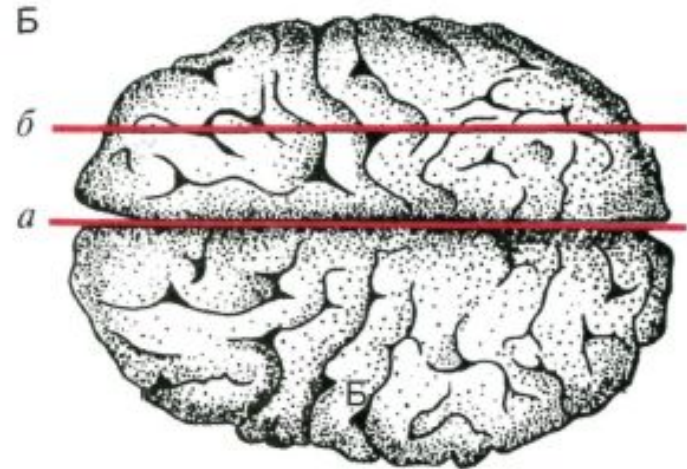
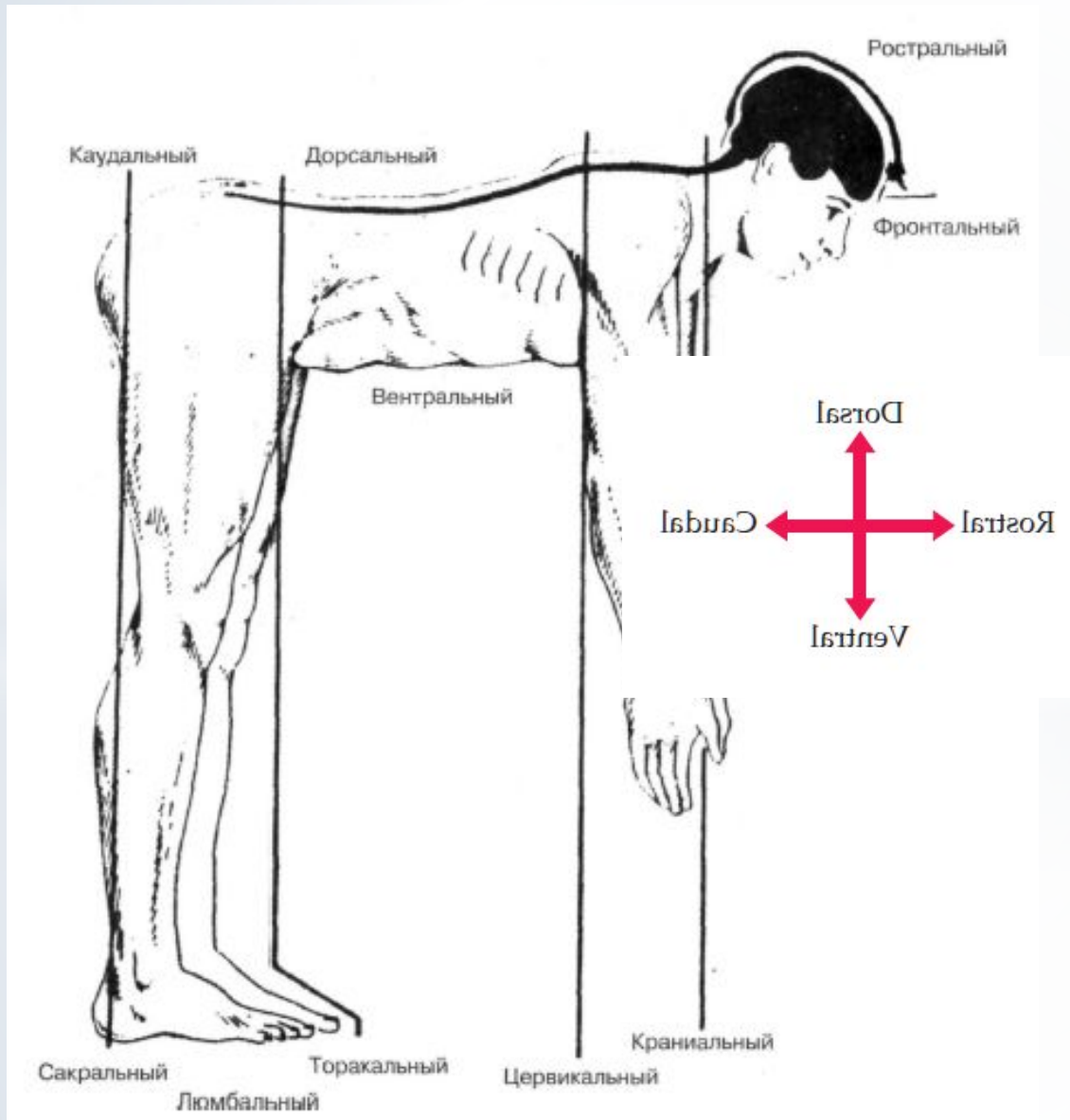


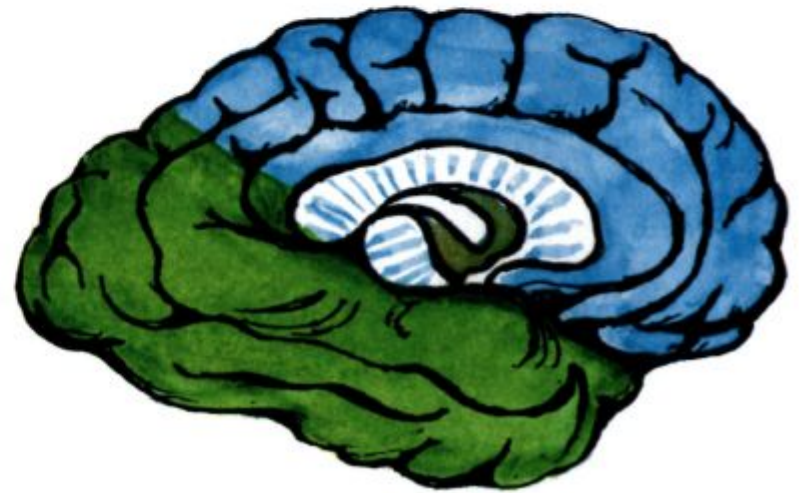
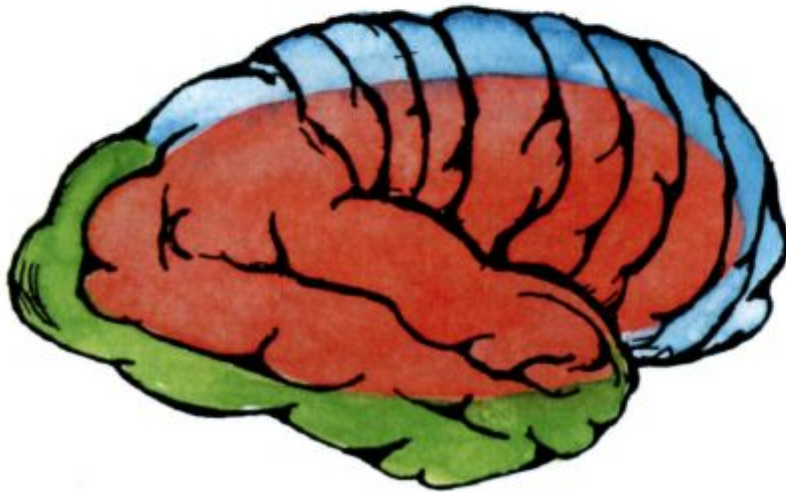
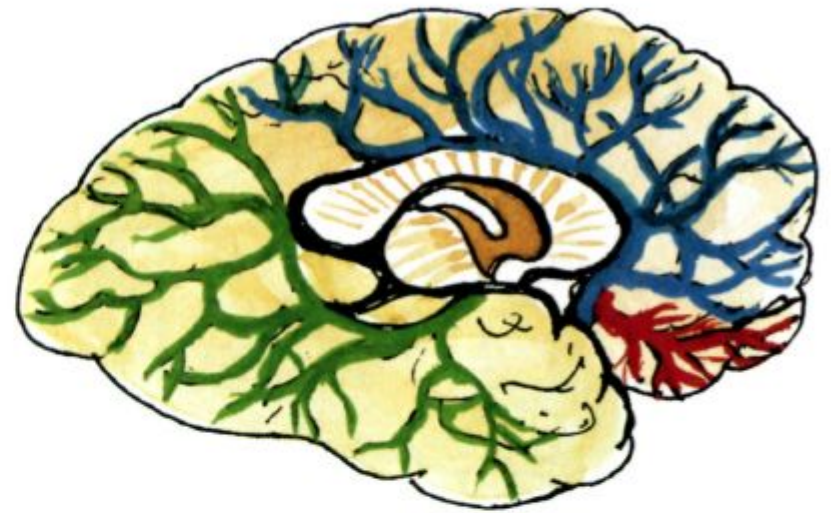
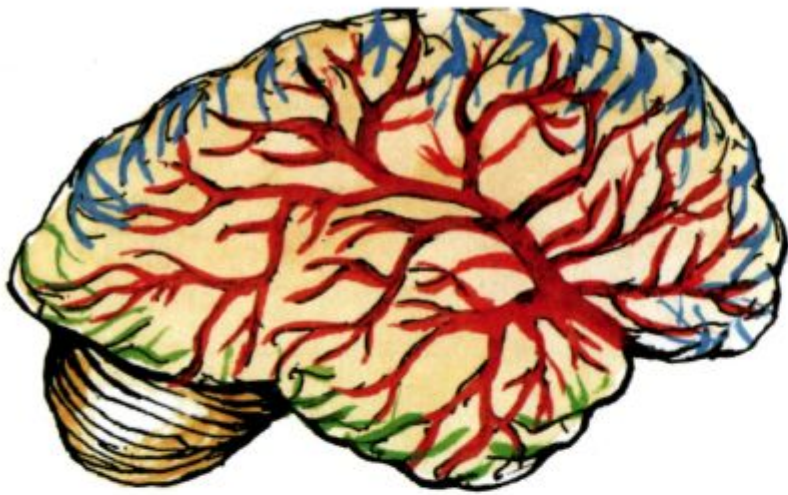
# Functional Organization of the PNS





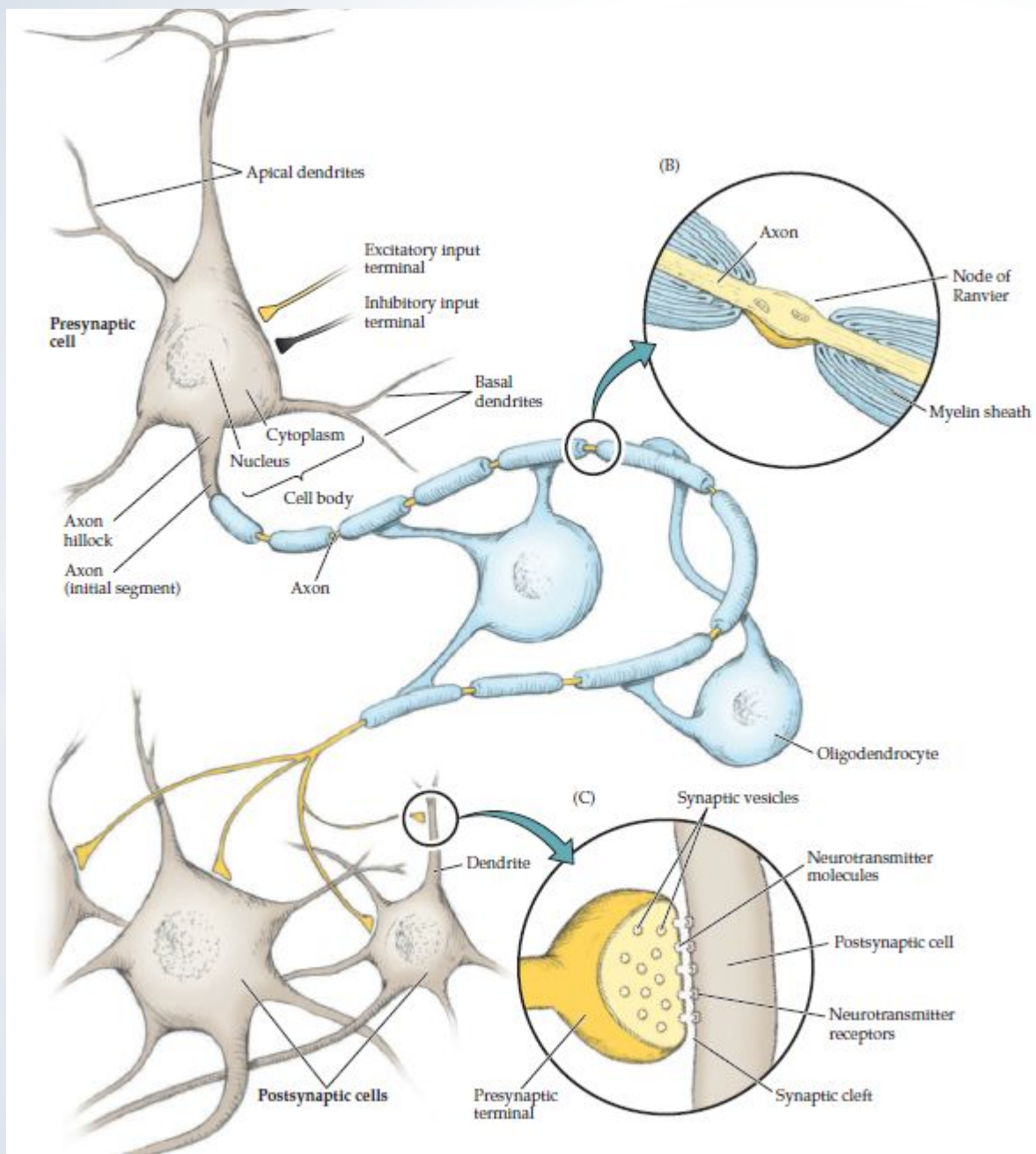
# Anatomical designatio





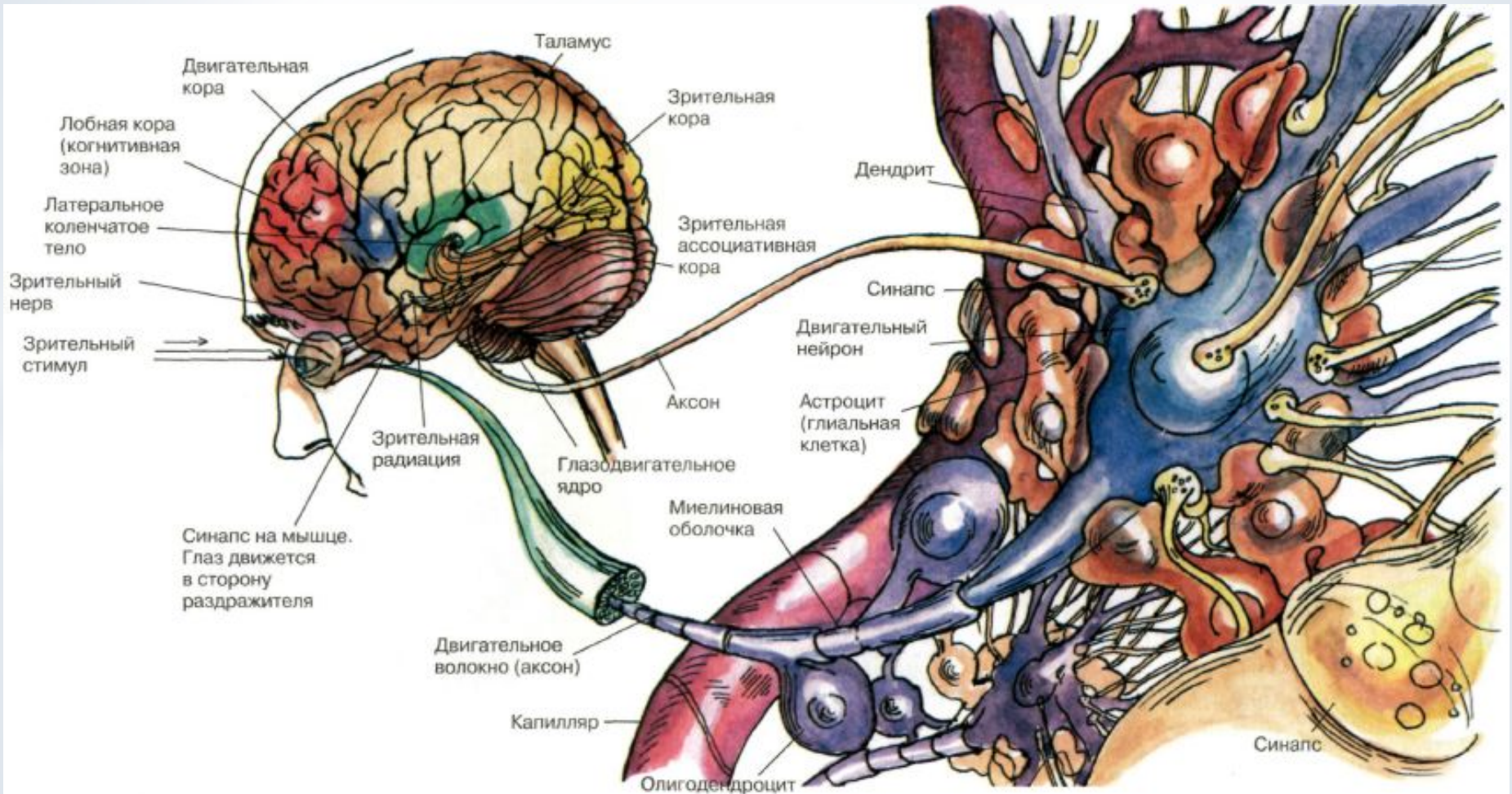
Vascularization zones of the brain.  
Red – MCA, Blue – ACA, Green – PCA.



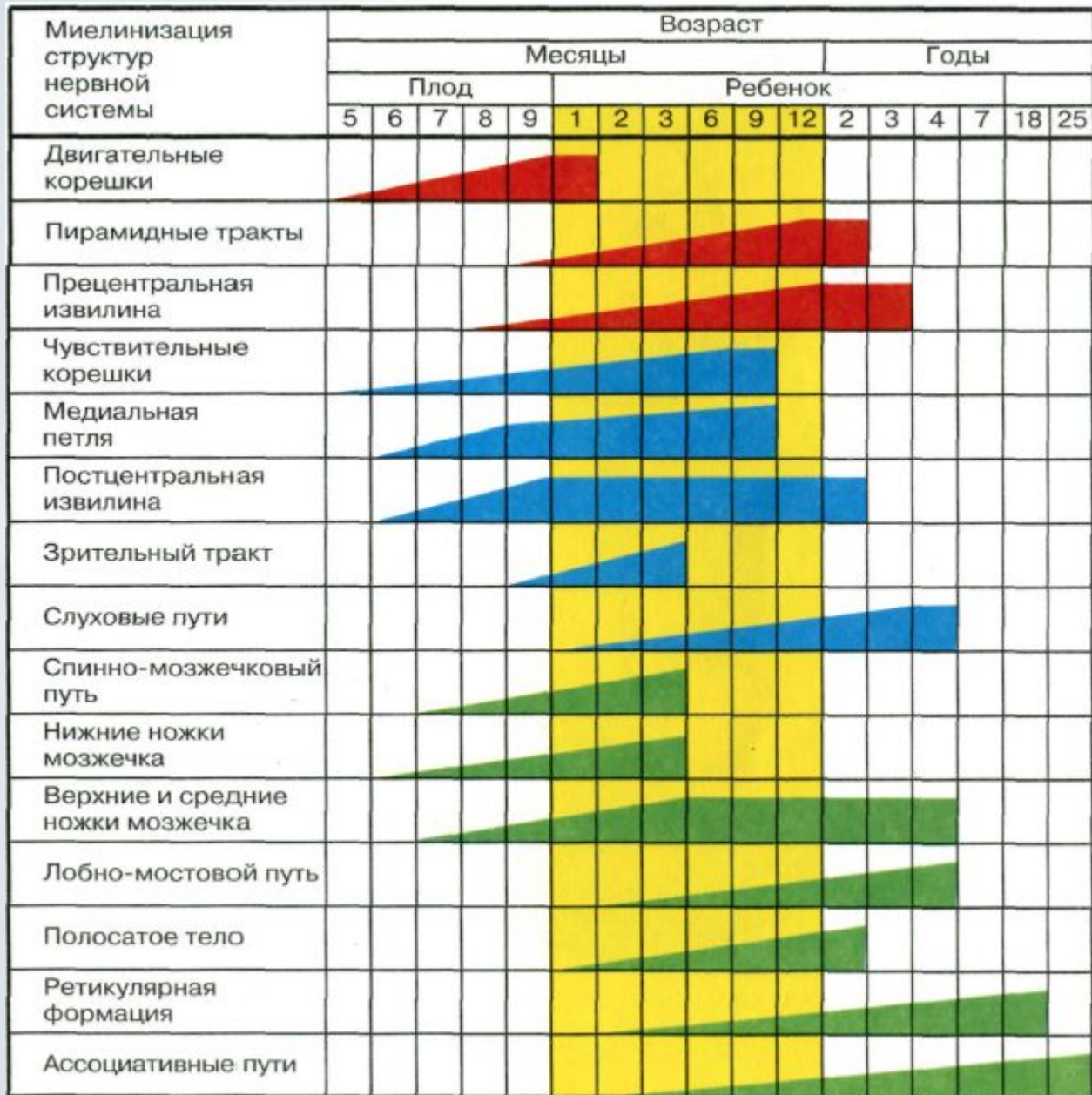


**Source:** Blumenfeld h neuroanatomy through clinical case

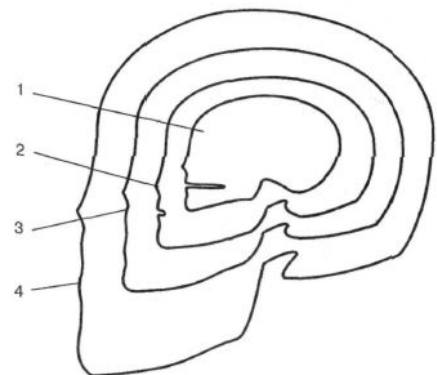




# Схема сроков миелинизации



(По Бадалян)





# Anamnesis

- age;
- complaints;
- family history;
- lifestyle, nutrition, bad habits, working and living conditions;
- past illnesses;
- menstrual and reproductive functions, the character of contraception;
- the history of the present disease.
- physical examination



**TABLE 3.1** Outline of the Neurologic Exam**I. MENTAL STATUS**

1. Level of alertness, attention, and cooperation
2. Orientation
3. Memory
  - Recent memory
  - Remote memory
4. Language
  - Spontaneous speech
  - Comprehension
  - Naming
  - Repetition
  - Reading
  - Writing
5. Calculations, right–left confusion, finger agnosia, agraphia
6. Apraxia
7. Neglect and constructions
8. Sequencing tasks and frontal release signs
9. Logic and abstraction
10. Delusions and hallucinations
11. Mood

**II. CRANIAL NERVES**

1. Olfaction (CN I)
2. Ophthalmoscopic exam (CN II)
3. Vision (CN II)
4. Pupillary responses (CN II, III)
5. Extraocular movements (CN III, IV, VI)
6. Facial sensation and muscles of mastication (CN V)
7. Muscles of facial expression and taste (CN VII)
8. Hearing and vestibular sense (CN VIII)
9. Palate elevation and gag reflex (CN IX, X)
10. Muscles of articulation (CN V, VII, IX, X, XII)
11. Sternocleidomastoid and trapezius muscles (CN XI)
12. Tongue muscles (CN XII)

**III. MOTOR EXAM**

1. Observation
  - Involuntary movements, tremor, hypokinesia

2. Inspection
  - Muscle wasting, fasciculations
3. Palpation
  - Tenderness, fasciculations
4. Muscle tone
5. Functional testing
  - Drift
  - Fine finger movements
  - Rapid toe tapping
6. Strength of individual muscle groups

**IV. REFLEXES**

1. Deep tendon reflexes
2. Plantar response
3. Reflexes tested in special situations
  - Suspected spinal cord damage
  - Frontal release signs
  - Posturing

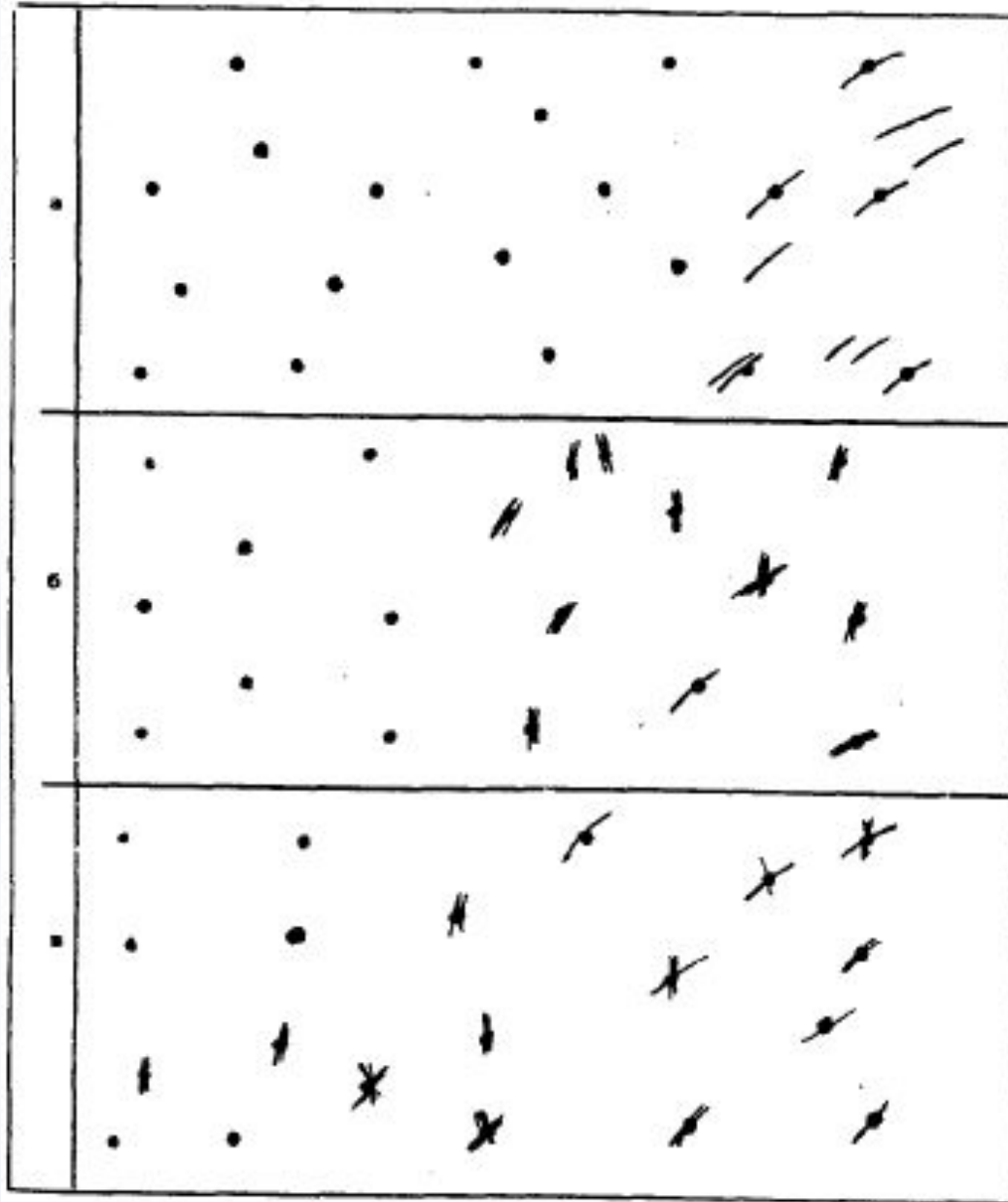
**V. COORDINATION AND GAIT**

1. Appendicular coordination
  - Rapid alternating movements
  - Finger–nose–finger test
  - Heel–shin test
  - Overshoot
2. Romberg test
3. Gait
  - Ordinary gait
  - Tandem gait
  - Forced gait

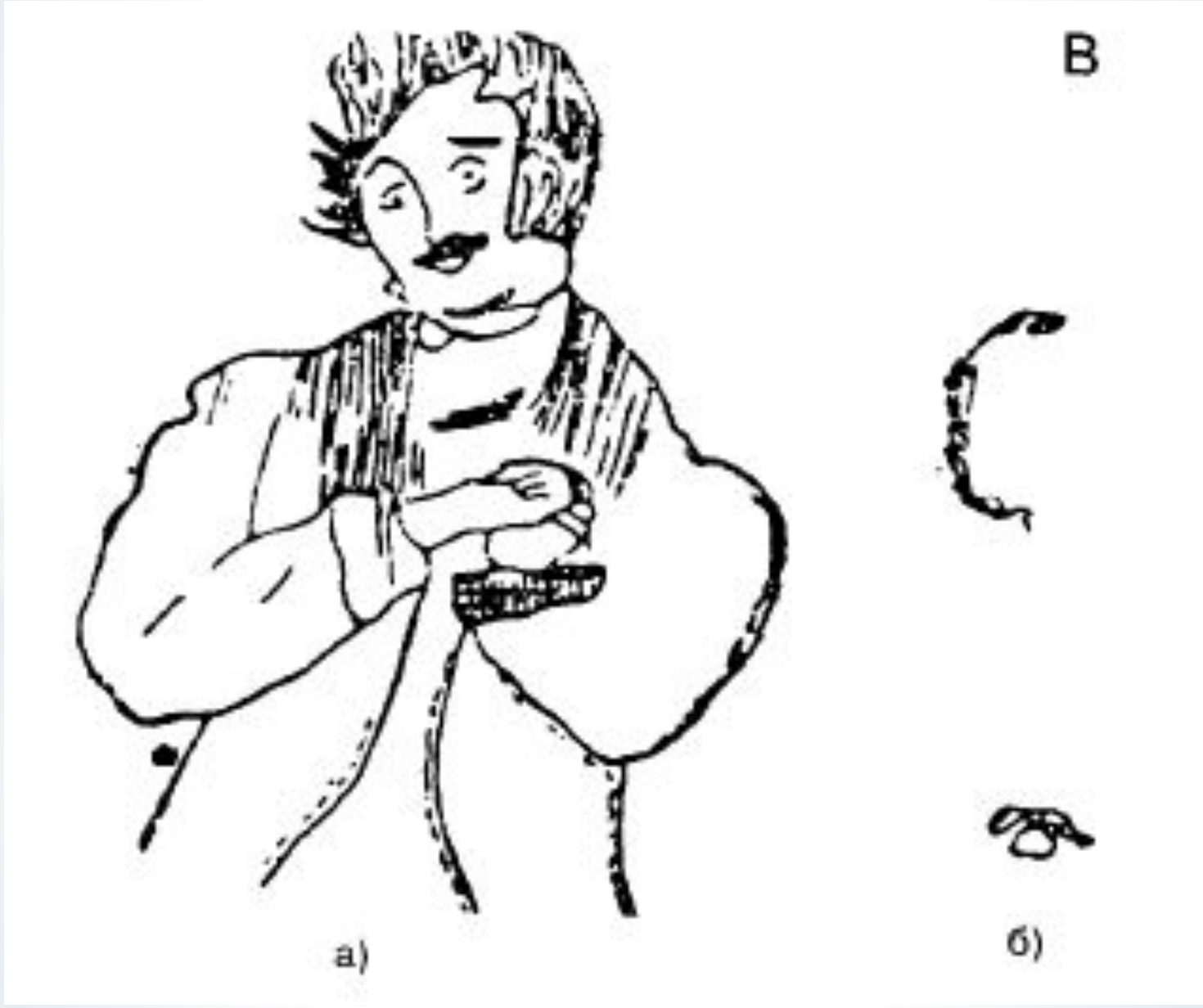
**VI. SENSORY EXAM**

1. Primary sensation—*asymmetry, sensory level*
  - Pain (sharp vs. dull)
  - Temperature (cold vs. warm)
  - Vibration and joint position sense
  - Light touch and two-point discrimination
2. Cortical sensation
  - Graphesthesia
  - Stereognosis
3. Extinction

Strikethrough points to patients in the process of rehabilitation. 49 days – a,  
58 – b, 81 – c.



# Visual agnosia. Facial agnosia



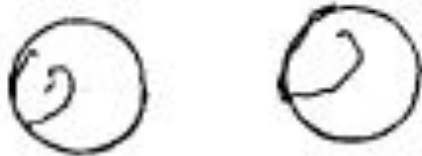


# Impairment of optical-motor coordination of the patient

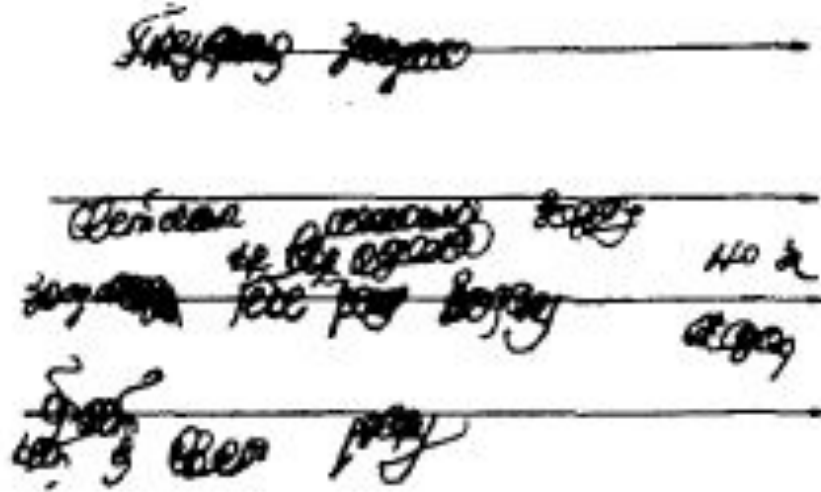
Painting



Circleing



Вписывание окружности между двумя имеющимися



«Трудно: я не вижу одновременно то и другое: и карандаш, и круг. Рука идет не туда, куда я хочу».

б)

Б

1



\*Visual agnosia. Ignoring the left side

# Tissue biopsy and cytology

In gynecology used **excisional biopsy** (excision of a piece of tissue), **targeted biopsy** - under the visual control of an enlarged colposcopy or hysteroscope and a puncture biopsy.

**Cytological examination** is a screening method for conducting mass preventive examinations of women, in groups at increased risk for the development of cancer.







**THANK YOU GOOD SIR**

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