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НЕРВНАЯ СИСТЕМА

(учебно-методическое пособие)



Ош, 2025

УДК 611.8
ББК 28.706
Д 42

Печатается по решению ученого совета международного медицинского факультета
Ошского государственного университета

Рецензент: Кенешбаев Б.К., зав. кафедрой нормальной и топографической анатомии с
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Д 42

Джолдубаев С.Дж., Нуруев М.К. и др. Нервная система: Учебно-метод. пособие. – Ош:
2025. – 81с.

ISBN 978-9967-06-193-4

Учебно-методическое пособие содержит в виде рисунков и таблиц обобщенные и систематизированные данные о нервной системе. Пособие составлено с включением большого количества схем и рисунков по всем разделам нервной системы.

Оформленные таблицы и схемы пособия обеспечивают оптимальное усвоение материала студентами. Все анатомические термины даны в соответствии с Международной анатомической номенклатурой.

Учебно-методическое пособие рекомендуется для аудиторной и внеаудиторной самостоятельной работы студентами и может быть использовано как краткий «репетиториум» при изучении нервной системы человека в курсах анатомии медицинских вузов.

The textbook contains generalized and systematized data on the nervous system in the form of figures and tables. The manual is composed with the inclusion of a large number of schemes and figures on all sections of the nervous system.

Formalized tables and schemes of the manual provide optimal assimilation of the material by students. All anatomical terms are given in accordance with the International Anatomical Nomenclature.

The textbook is recommended for classroom and extracurricular independent work of students and can be used as a brief “tutorium” in the study of the human nervous system in the anatomy courses of medical schools.

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LESSON 1

TOPIC: General overview of the nervous system. Spinal cord: macrostructure, topography of gray and white matter, membranes.

NERVOUS SYSTEM

CENTRAL (CNS)

Spinal cord

Segments:

cervical CI-CVIII

thoracic TI-TXII

lumbar LI-LV.

sacral SI-SV

coccygeal CoI-CoII

Cerebrum

Forebrain

Telecephalon

Two hemispheres

Diencephalon

Epithalamus

Thalamus

Hypothalamus

Methalamus

Subthalamus

Midbrain

Peduncles of the brain

Roof of the midbrain

Isthmus of the rhombencephalon

Rhombencephalon

Hindbrain

Pons

Cerebellum

Two hemispheres

Vermis

Medulla oblongata

PERIPHERAL (PNS)

Nodes

Spinal

Cranial

Autonomic

Spinal nerves (31)

Cervical (8)

Thoracic (12)

Lumbar (5)

Sacral (5)

Coccygeal (1)

Plexuses

Cervical (CI-IV)

Brachial (CV-VIII-TI)

Lumbar (LI-IV)

Sacral (LIV-V-SI-IV)

Coccygeal (SV-Col)

Cranial nerves (12)

Olfactory (I)

Optic (II)

Oculomotor (III)

Trochlear (IV)

Trigeminal (V)

Abducens (VI)

Facial (VII)

Vestibulocochlear (VIII)

Glossopharyngeal (IX)

Vagus (X)

Accessory (XI)

Hypoglossa (XII)

Autonomic (animal)

- Central section
- Peripheral section

Sympathetic part

Central part

- Lateral intermediate gray matter (in the lateral columns (CVIII, II-TXI, LI-LII) of the spinal cord)

Peripheral part

- Nerve fibers and nerves going from neurons of the intermediate gray matter to the nodes of the sympathetic trunk and autonomic plexuses
- Right and left sympathetic trunks
- Connecting branches
- Node of the autonomic plexuses in the abdominal cavity and pelvic cavity
- Nerves going to the organs from these plexuses
- Sympathetic fibers in the somatic nerves

Parasympathetic part

Central part

Autonomic

Cranial section:

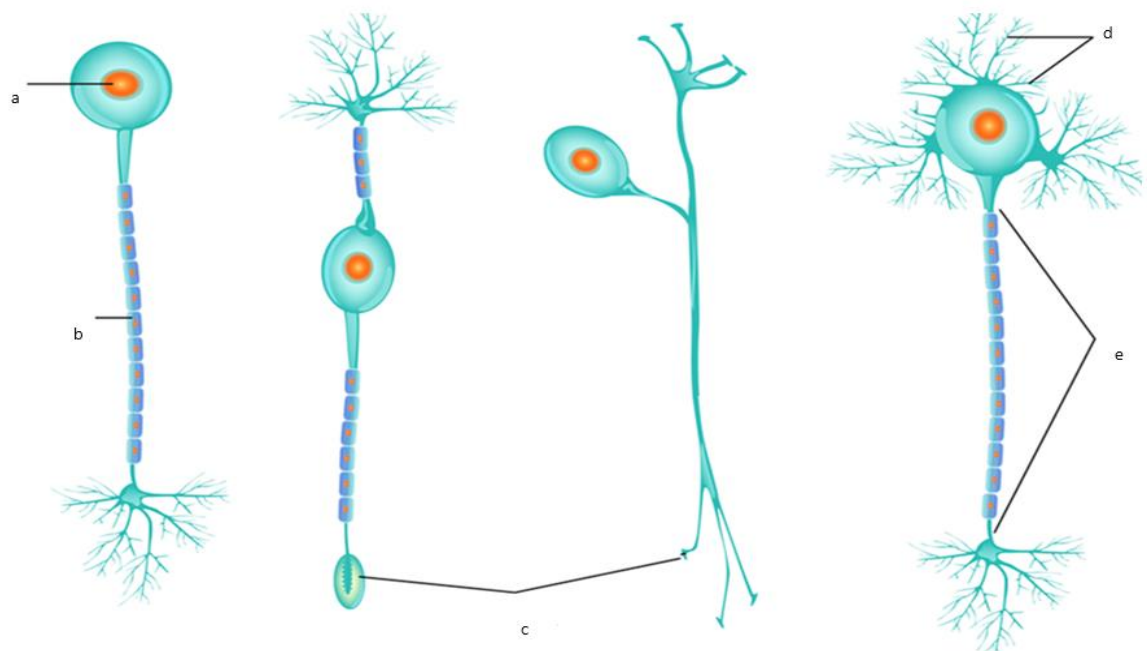
- parasympathetic nuclei of the oculomotor (III), facial (VII), glossopharyngeal (IX), vagus (X) nerves

Sacral section:

- parasympathetic nuclei of the II, III, IV sacral segments

Peripheral part

- Parasympathetic fibers of the oculomotor (III), facial (VII), glossopharyngeal (IX), vagus (X) nerves; ciliary, pterygopalatine, submandibular, sublingual, auricular and other nodes and their branches
- Splanchnic pelvic nerves, parasympathetic pelvic nodes and their branches



Pig.1. Main types nerve cells.

1-unipolar. 2- bipolar. 3-pseudounipolar. 4- multipolar. Nucleus, b-myelin sheath, c- receptors, d-dendrites, e-axon,)

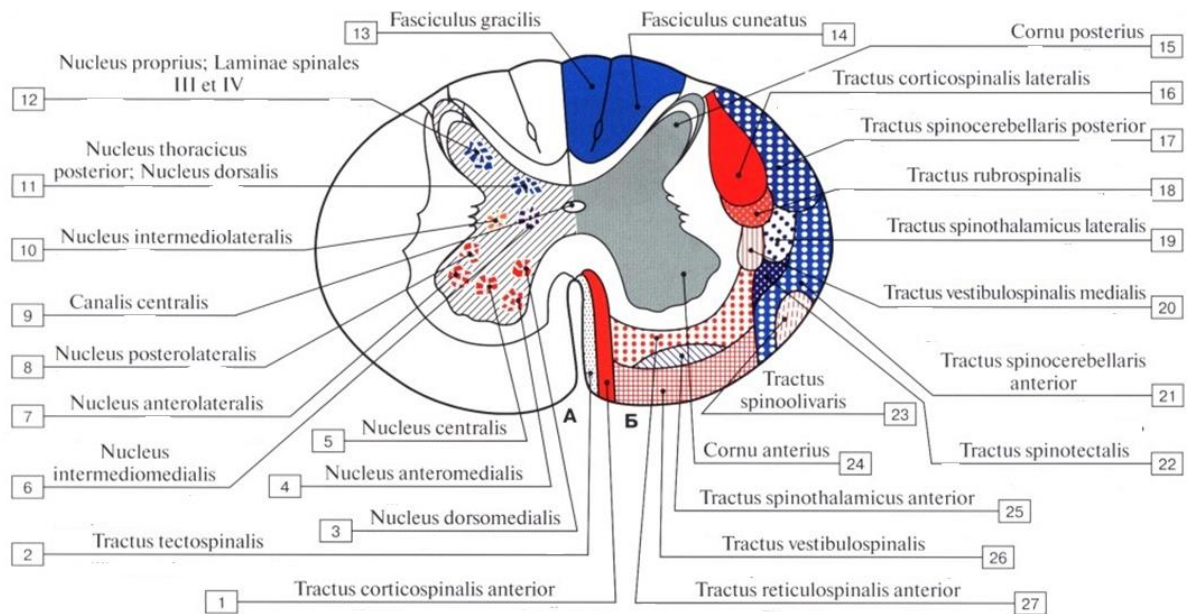


Fig.2. Nucleus and pathways of the spinal cord (diagram)

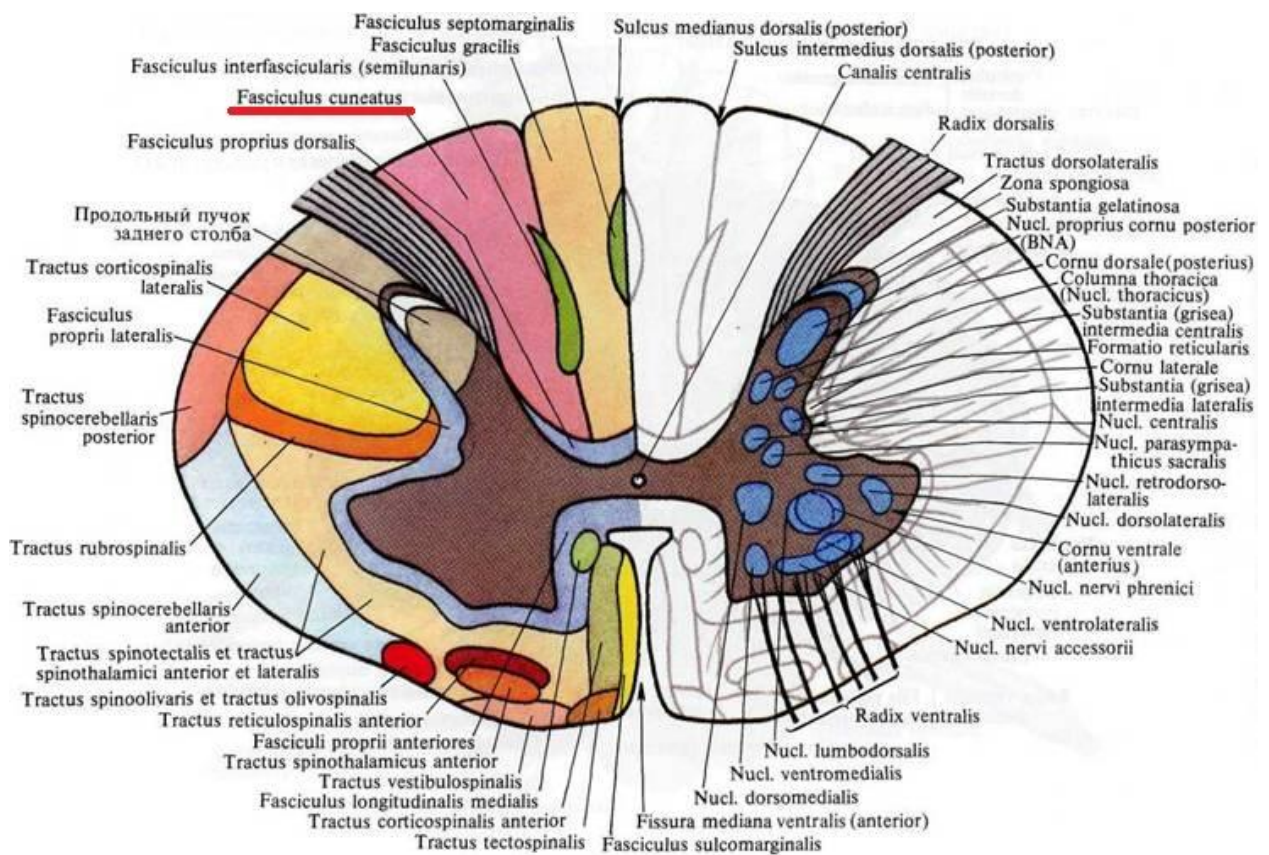
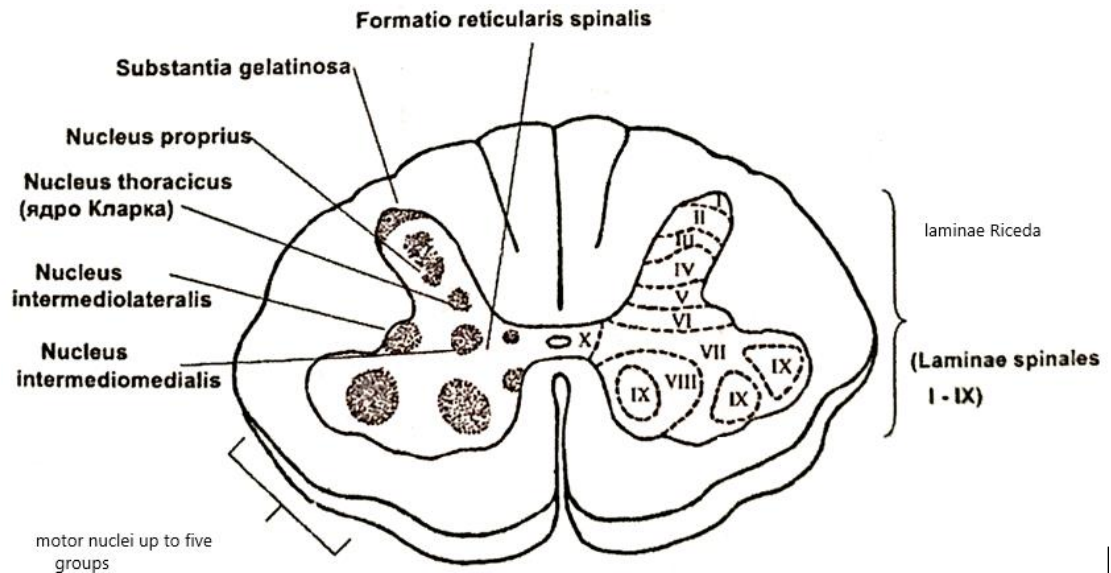
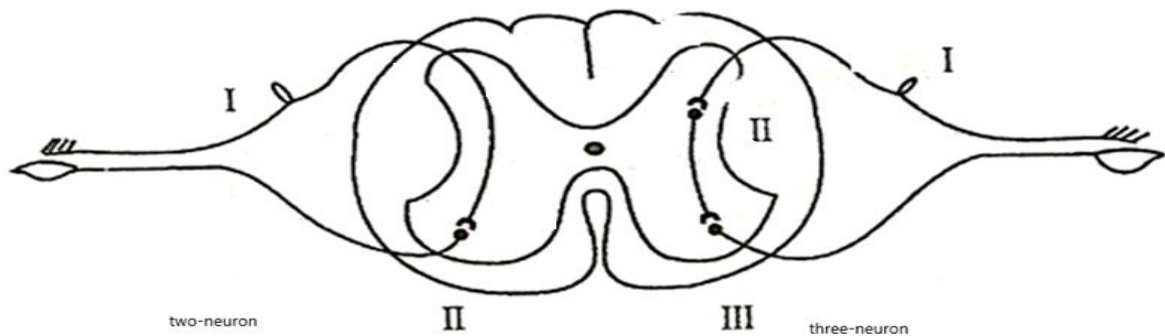


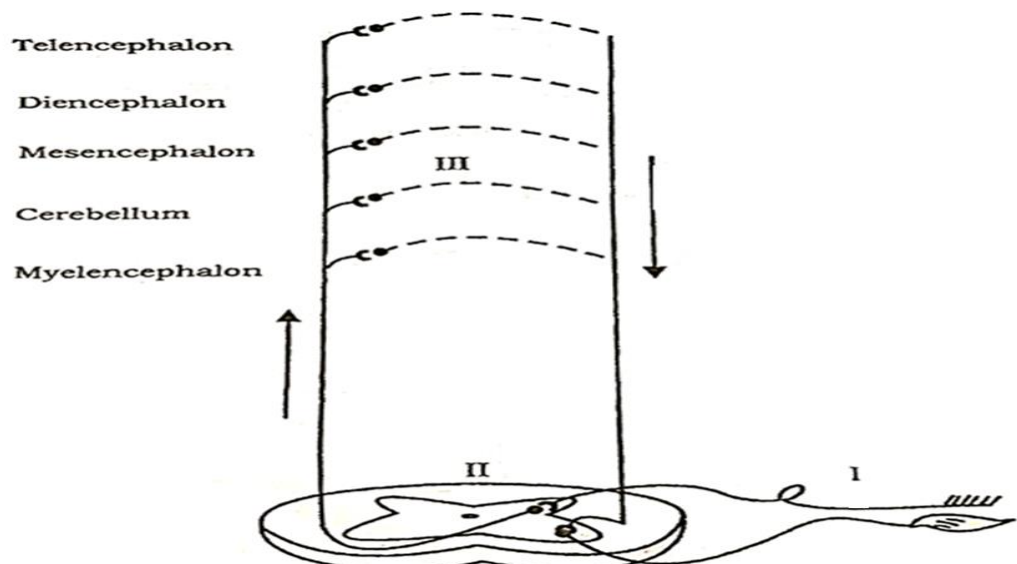
Fig.3. Transverse section of the spinal cord (diagram)



Piq.4. Nucleus gray matter of the spinal cord (diagram).



Piq.5. Simple complex arc: 1-receptor. 2-assosiative. 3-effector neuron



Piq.6. Complex reflex arc