

1-ma'ruza

NEVROLOGIYA FANI TARIXI, MAQSAD VA VAZIFALARI. NEVROLOGIYADA FUNKSIONAL DIAGNOSTIKA USULI. NERV TO'QIMASI TUZILISHI VA FUNKSIYASI. ORQA MIYA.

Toshkent tibbiyot akademiyasi
Nevrologiya kafedrası
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BUGUNGI MA'RUZA QANDAY SAVOLLARGA JAVOB BERADI?

1

- Nevrologiya fani. Uning maqsad va vazifalari.

2

- Nevrologiya tarixi. O'zbekistonda nevrologiya fani asoschilari.

3

- Nevrologiyada funksional diagnostika usuli. Nerv to'qimasi va uning tuzilishi.

4

- Orqa miya va uning funksional anatomiyasi

NEVROLOGIYA FANI TARIXI



**Jan Marten Sharko
(1825-1893)**



**Sharko - Nevrologiya
Napoleoni!
Jahon nevrologiyasiga
asos solgan. Birinchi “
Nevrologiya” darsligini
shu olim yozgan (1880).**

O'ZBEKISTONDA NEVROLOGIYA FANI ASOSCHILARI



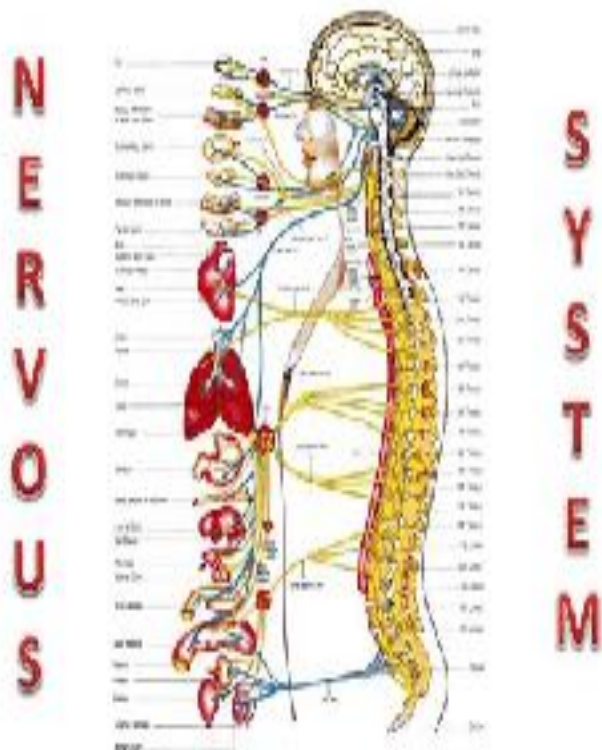
Akademiq Nabi Majidov
(1928-2010)



Akademiq Abdumannon Raximjonov
(1928-2010)

NERV SISTEMASI 2 XIL VAZIFANI BAJARADI

:



1-vazifasi: Ichki a'zolar faoliyatini boshqaradi, ya'ni gomeastazni ta'minlaydi

2-vazifasi: Organizmni tashqi muhit bilan bog'laydi.

NEVROLOGIYA NIMANI O'RGANADI?

ESIZ!
SHUNIYAM
BILMAYSANMI?

USTOZ! NEVROLOGIYA
NIMANI O'RGANADI?



NEVROLOGIYA NIMANI O'RGANADI?

Ushbu fan nerv
sistemi
anatomiyasi,
gistologiyasi,
fiziologiyasi va
patologiyasini
o'rganadi.

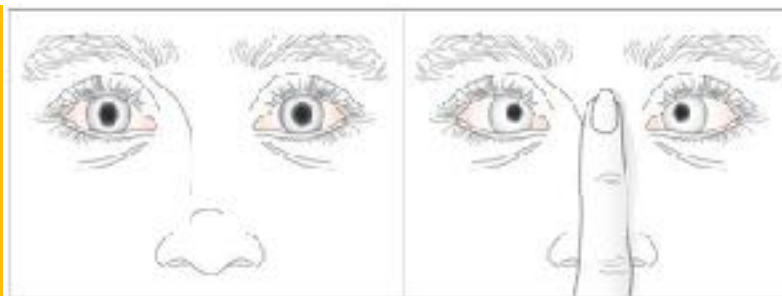


A'LOCHI TALABA

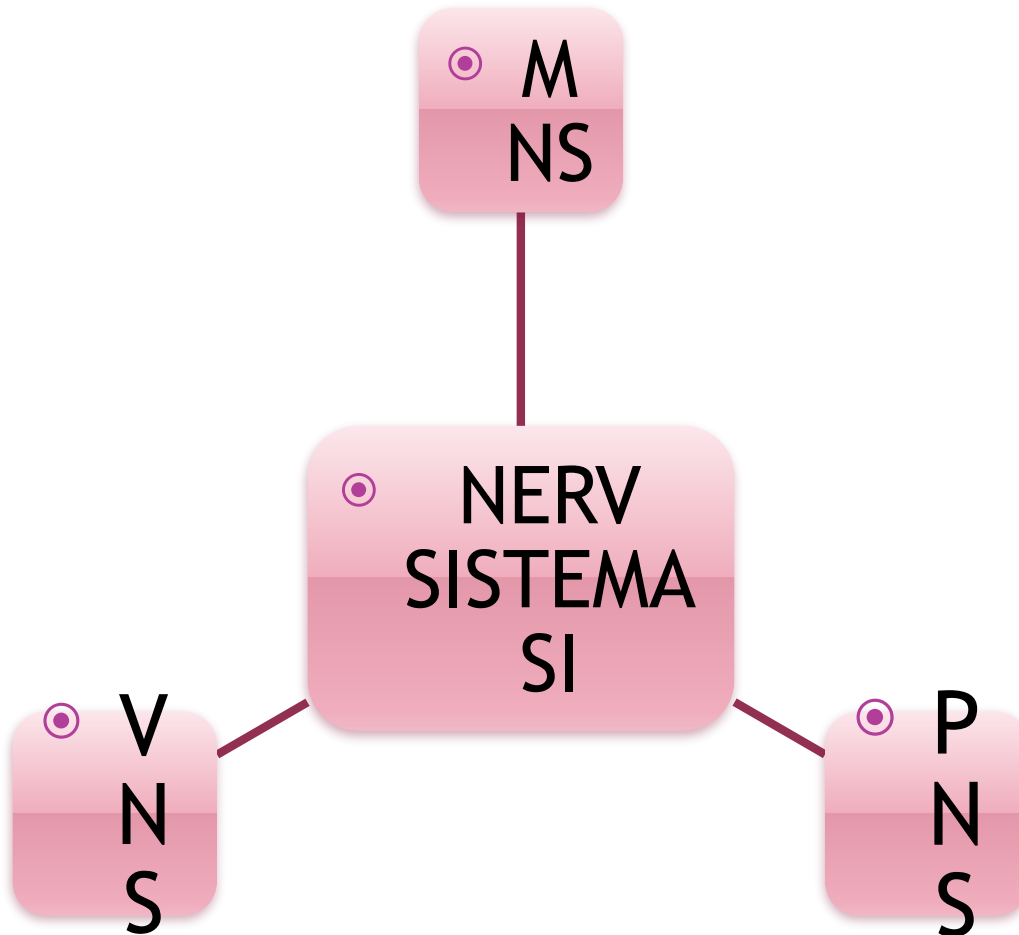
◉ Z.Ibodullayev. www.asab.uz

NEVROLOGIYADA FUNKSIONAL DIAGNOSTIKA USULI NIMA?

- BUZILGAN FUNKSIYAGA QARAB TOPIK O'CHOQNI ANIQLASHGA QARATILGAN USULGA **FUNKSIONAL DIAGNOSTIKA USULI** DEB AYTIлади.



NERV SISTEMASI

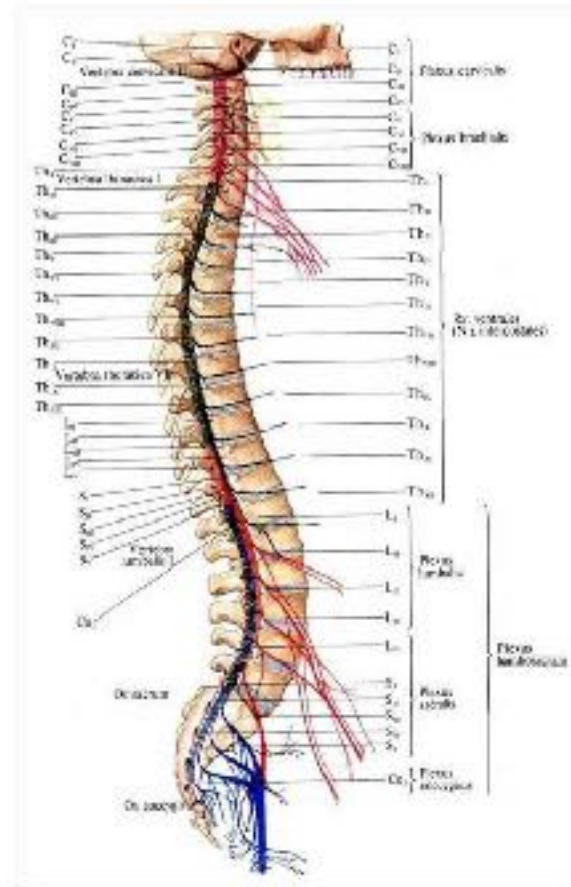


MARKAZIY NERV SISTEMASI

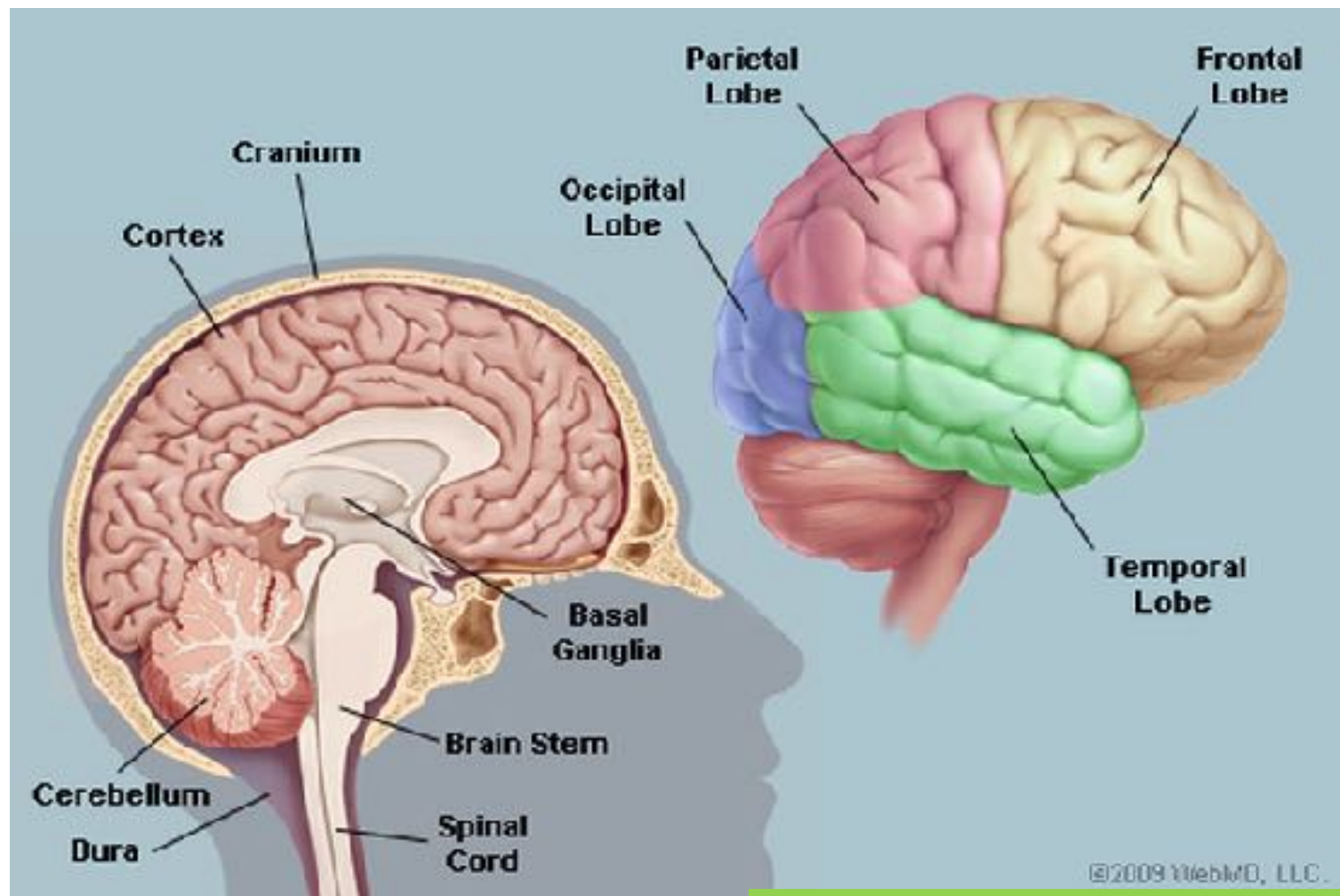
○ Bosh miya



○ Orqa miya



BOSH MIYA QANDAY TUZILMALARDAN IBORAT?



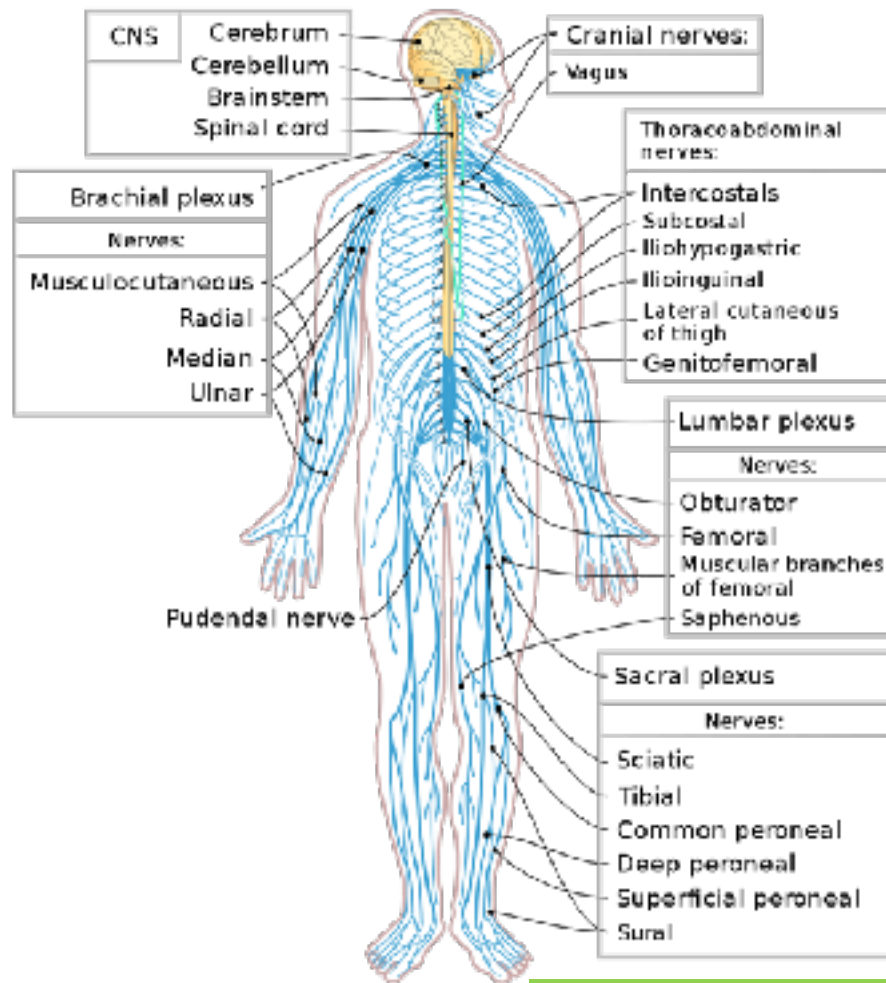
PERIFERIK NERV SISTEMASI

- Kranial nervlar

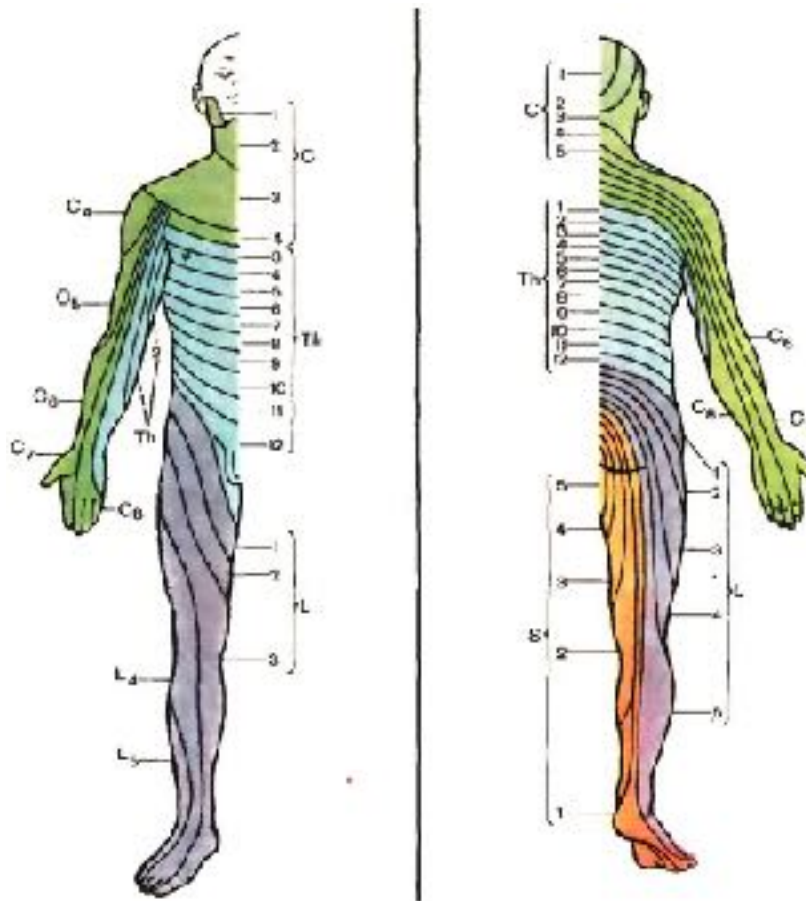
- Chigallar, ildizchalar, gangliyalar

- Periferik nervlar

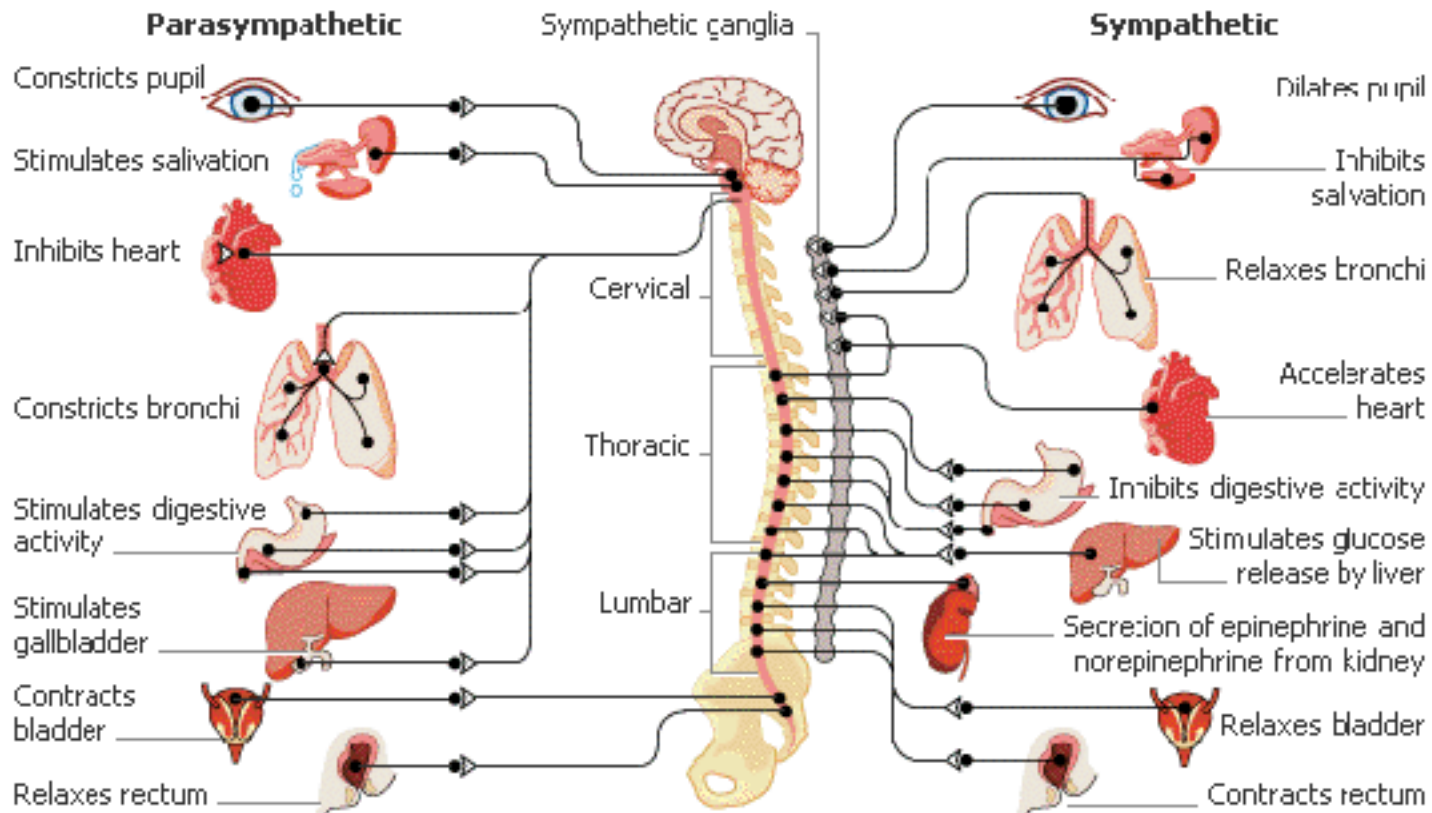
PERIFERIK NERV SISTEMASI



INSON TANASINING SEGMENTAR INNERVATSIYASI



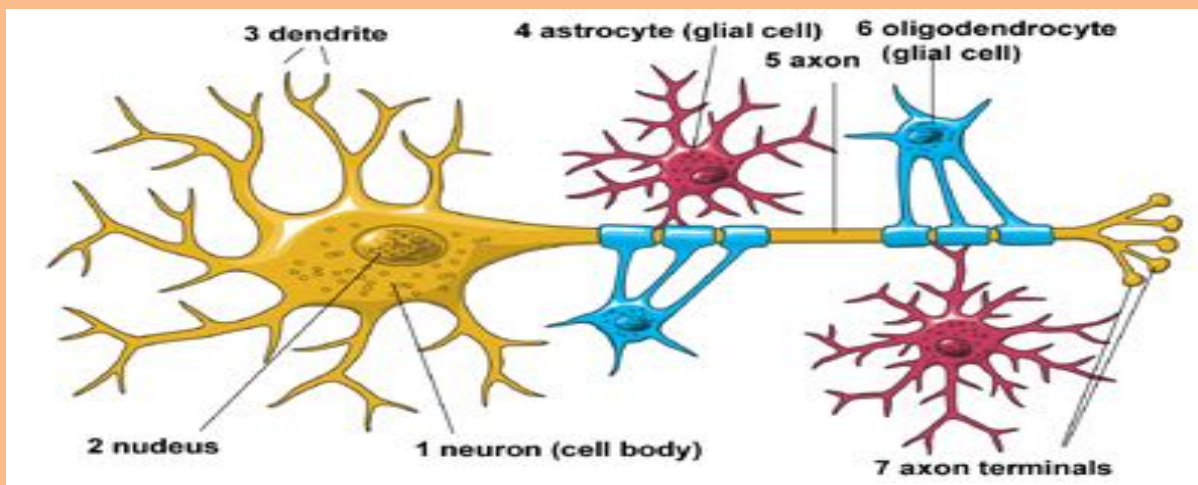
VEGETATIV (AVTONOM) NERV SISTEMASI



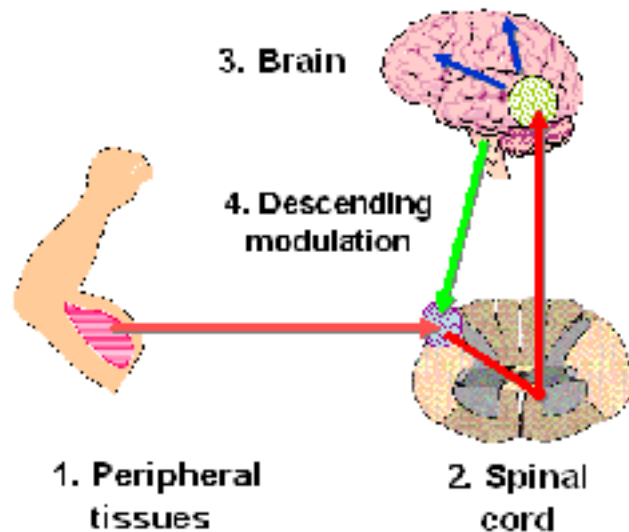
1. Simpatik nerv sistemasi
2. Parasimpatik nerv sistemasi

NERV TO'QIMASI QANDAY TUZILGAN?

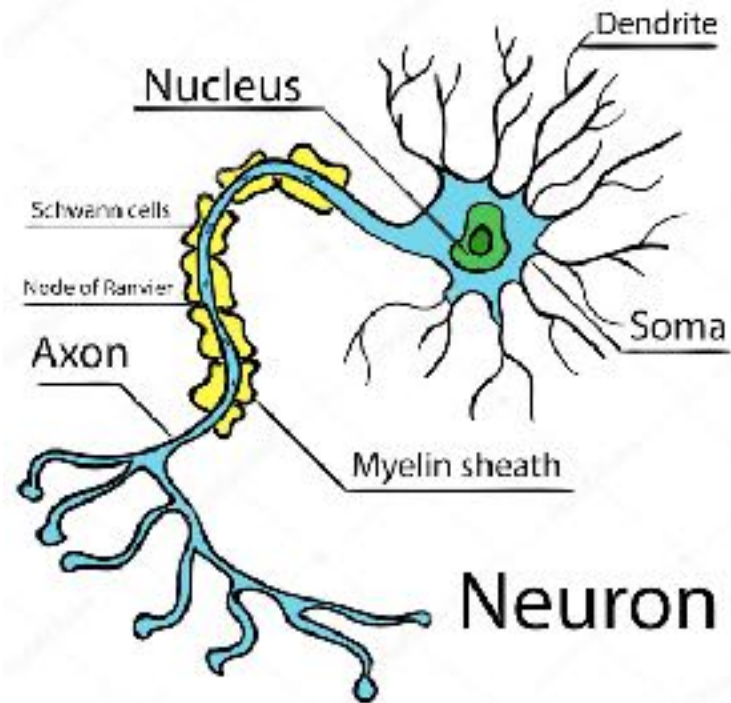
- Nerv to'qimasi funksional jihatdan bir-biridan mutlaq farq qiluvchi ikki xil hujayra, ya'ni *neyron* va *gliyadan* tashkil topgan. Nerv hujayrasiga *neyron* deb aytiladi. Nerv to'qimasi tarkibiga kiruvchi glial hujayralar esa *neyroglia* nomini olgan.



NEYRON - NERV HUYAYRASI



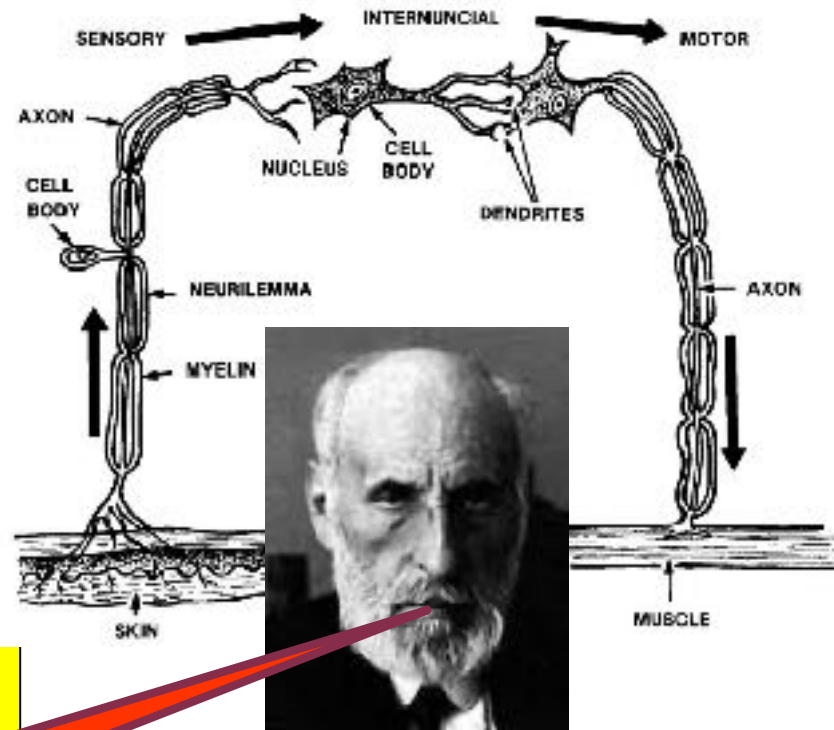
Neyron va refleks



Harakat neyroni

RAMON KAXAL QONUNI

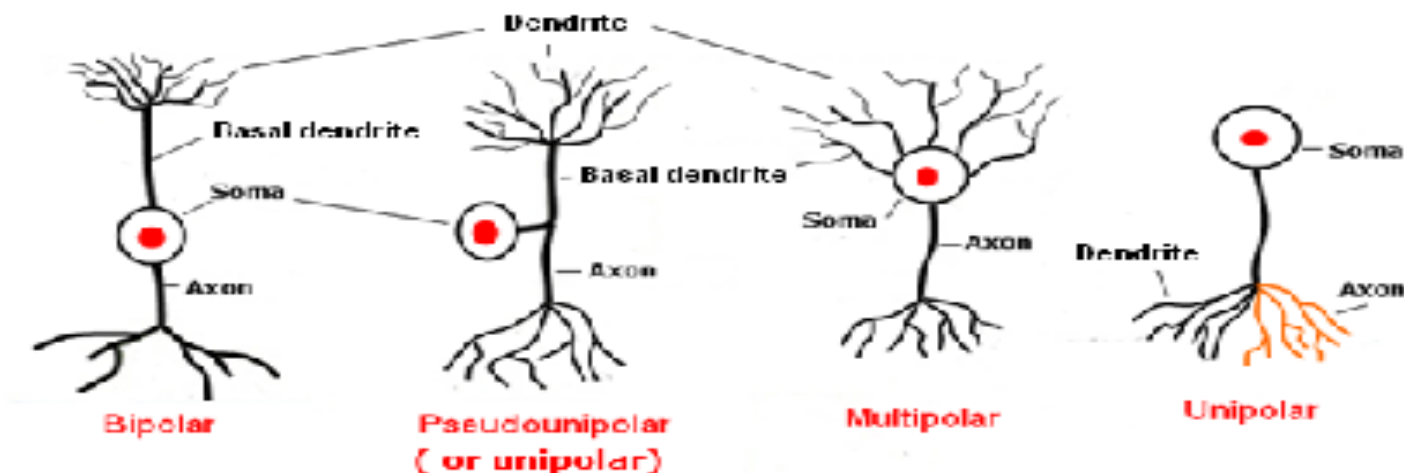
- Nerv impulsi har doim bir tomonga qarab harakatlanadi: dendrit → neyron tanasi → akson (dinamik qutbsizlanish qonuni)



Eslab qol! Faqat
bir tomonga!!!

Ramon Kaxal (1852-1934)

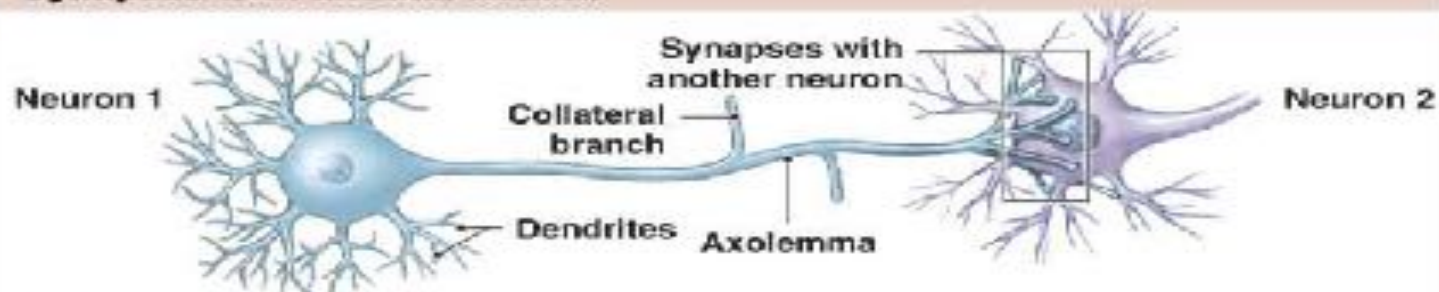
QANDAY NEYRONLAR BO‘LADI?



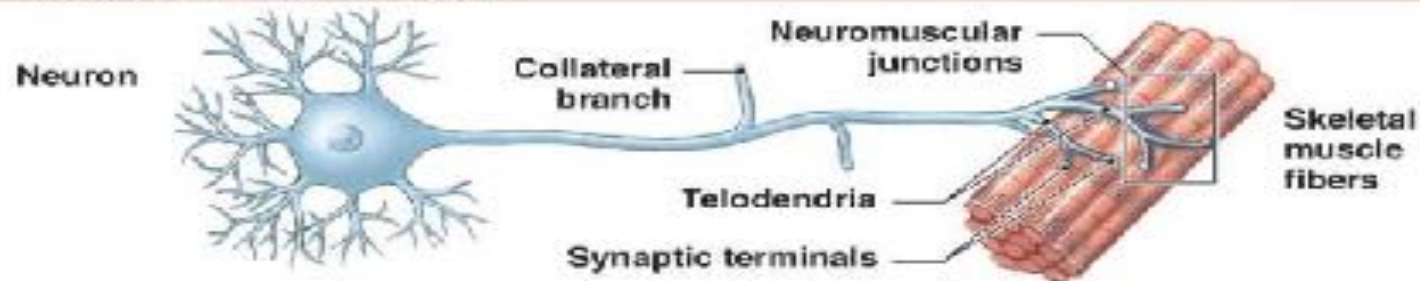
1. BIPOLYAR - BITTA AKSON, BITTA DENDRIT (HIDLOV, KO‘RUV, ESHITUV);
2. PSEVDOUNIPOLYAR - BITTA AKSON AJRALIB, IKKITAGA BO‘LINIB KETADI (SEZGI NEYRONLARI, SPINAL VA KRANIAL GANGLIYALAR);
3. MULTIPOLYAR - BITTA AKSON VA BIR NECHTA DENDRIT (BOSH MIYA KATTA YARIM SHARLARIDA JUDA KO‘P);
4. UNIPOLYAR - TANADAN BITTA AKSON CHIQADI VA KEYINCHALIK AKSON VA DENDRITLARGA BO‘LINIB KETADI (V NERVNING MEZENSEFAL YADROSII).

NEYRONAL BOG‘LANISH TURLARI

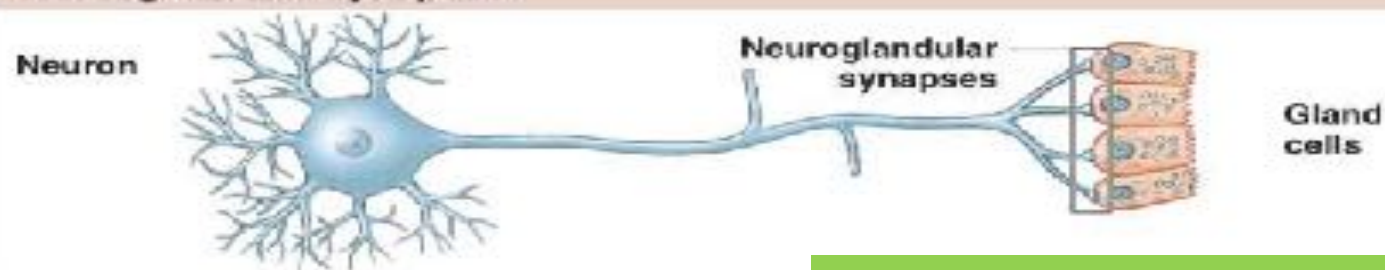
Synapses with another neuron



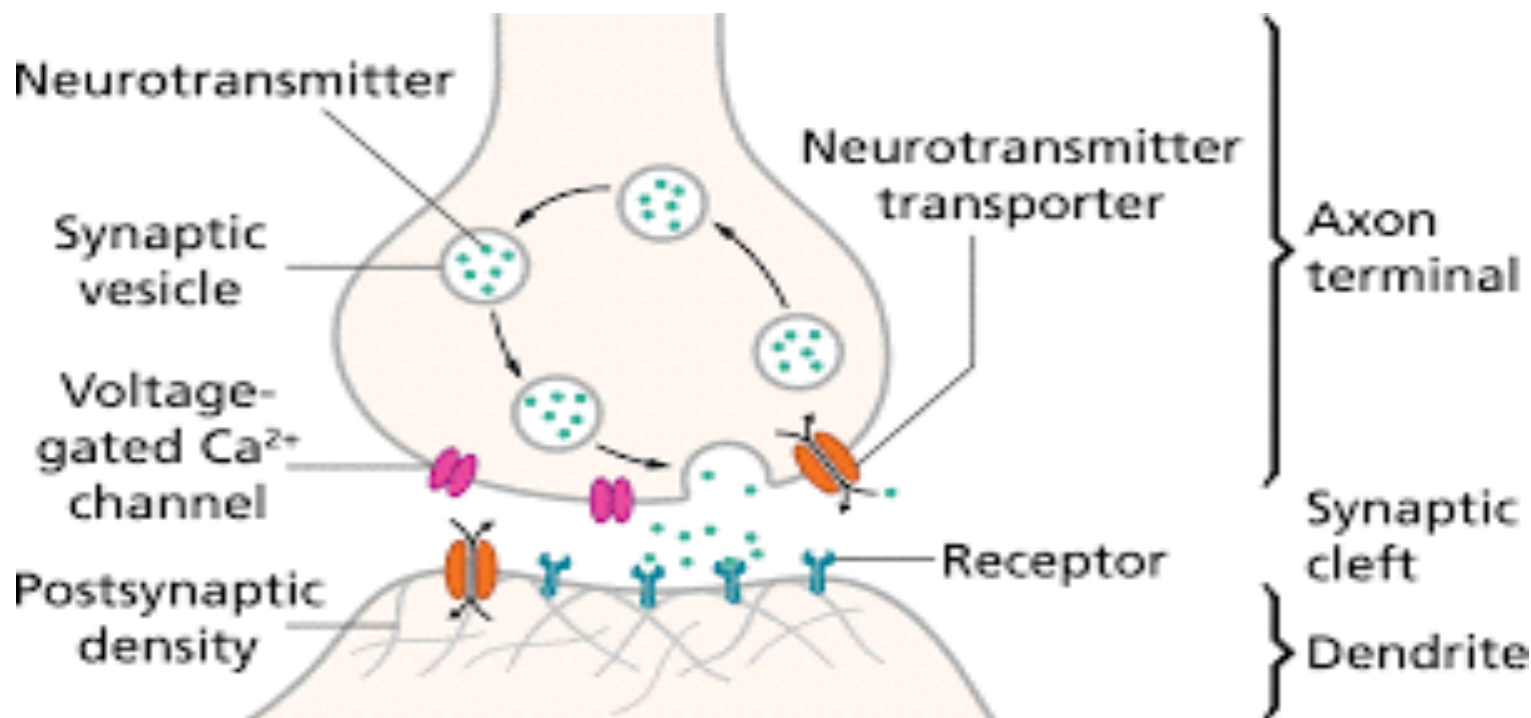
Neuromuscular junctions



Neuroglandular synapses

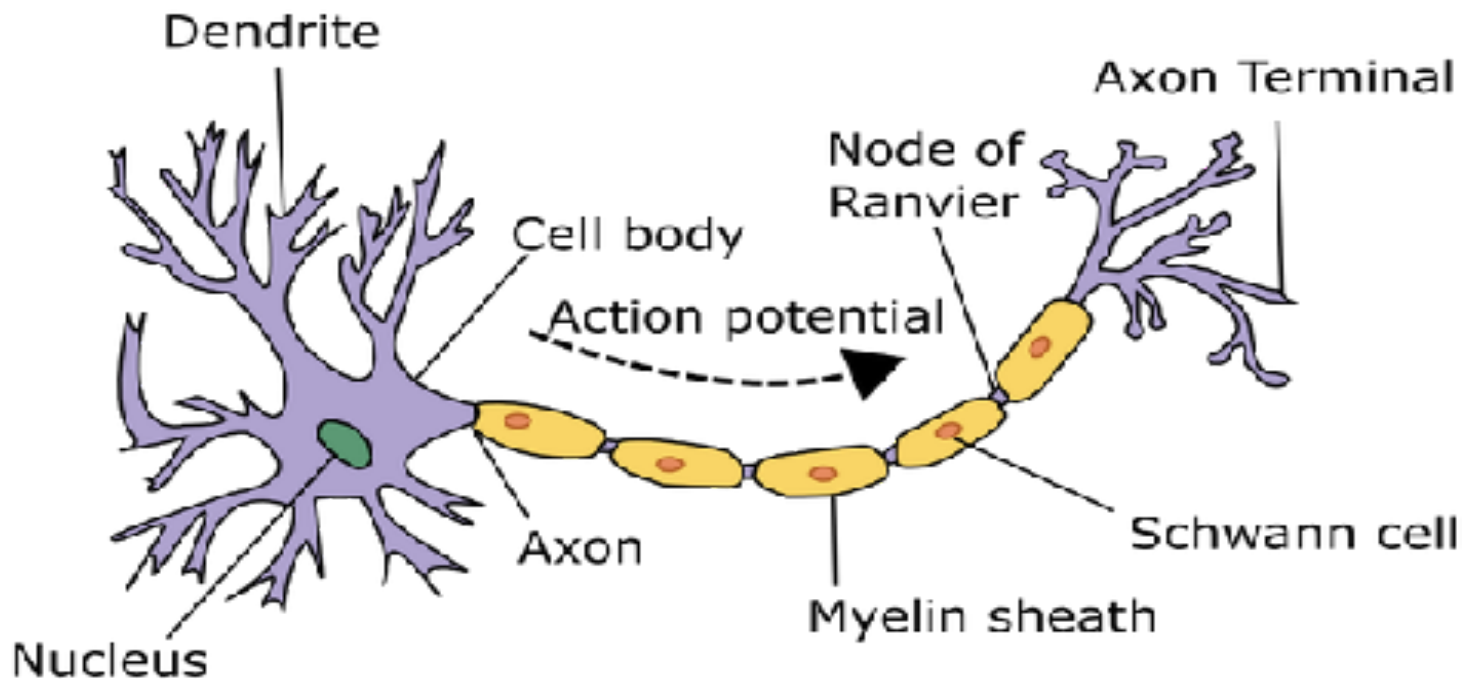


SINAPS NIMA? SINAPS - BU YORIQ!



- ◉ **Sinaps** - bu ikkala neyron yoki neyron va signal oluvchi hujayra orasidagi yoriq.
- ◉ **Sinaps** - nerv impulslarini uzatuvchi vosita!

MIELIN PARDA QANDAY VAZIFANI BAJARADI?



- Aksonlar mielin parda bilan qoplangan va har 2-3 mm masofada uzilish bo‘lib, buni Ranve o‘yiqchalari deyishadi. Mielin bilan qoplangan aksonlarda impuls tezligi 420 m/s

NEYRONLAR FUNKSIYASIGA QARAB QANDAY TURLARGA AJRATILADI?

1

- Afferent - markazga impuls olib boruvchi neyronlar (sensor neyronlar). MNS dan tashqarida joylashgan..

2

- Efferent - markazdan periferiyaga impuls olib ketuvchi neyronlar (motor neyronlar). MNS da joylashgan.

3

- Oraliq (interneyronlar) - afferent va efferent neyronlar orasidagi neyronlar. MNS da joylashgan.

NEYROGLIYA VA NEYRON

- ◉ **Neyrogliya** – nerv hujayralari uchun himoya, sekretor, gomeostatik, trofik va tayanch vazifalarni bajaradi.
- ◉ Neyrogliya qo‘zg‘alish xususiyatiga ega emas.

- ◉ **Neyron** – qo‘zg‘alishlarni qabul qilish, qayta ishlash va uzatish funksiyalarini bajaradi.
- ◉ Neyron qo‘zg‘alish xususiyatiga ega!
- ◉ Neyronlar glial hujayralardan bir necha barobar kam.

NEYROGLIYAGA NIMALAR KIRADI?

• MN
S

• Astrositlar (astrogliya)

• MN
S

• Oligodendrositlar

• MN
S

• Mikroqliya

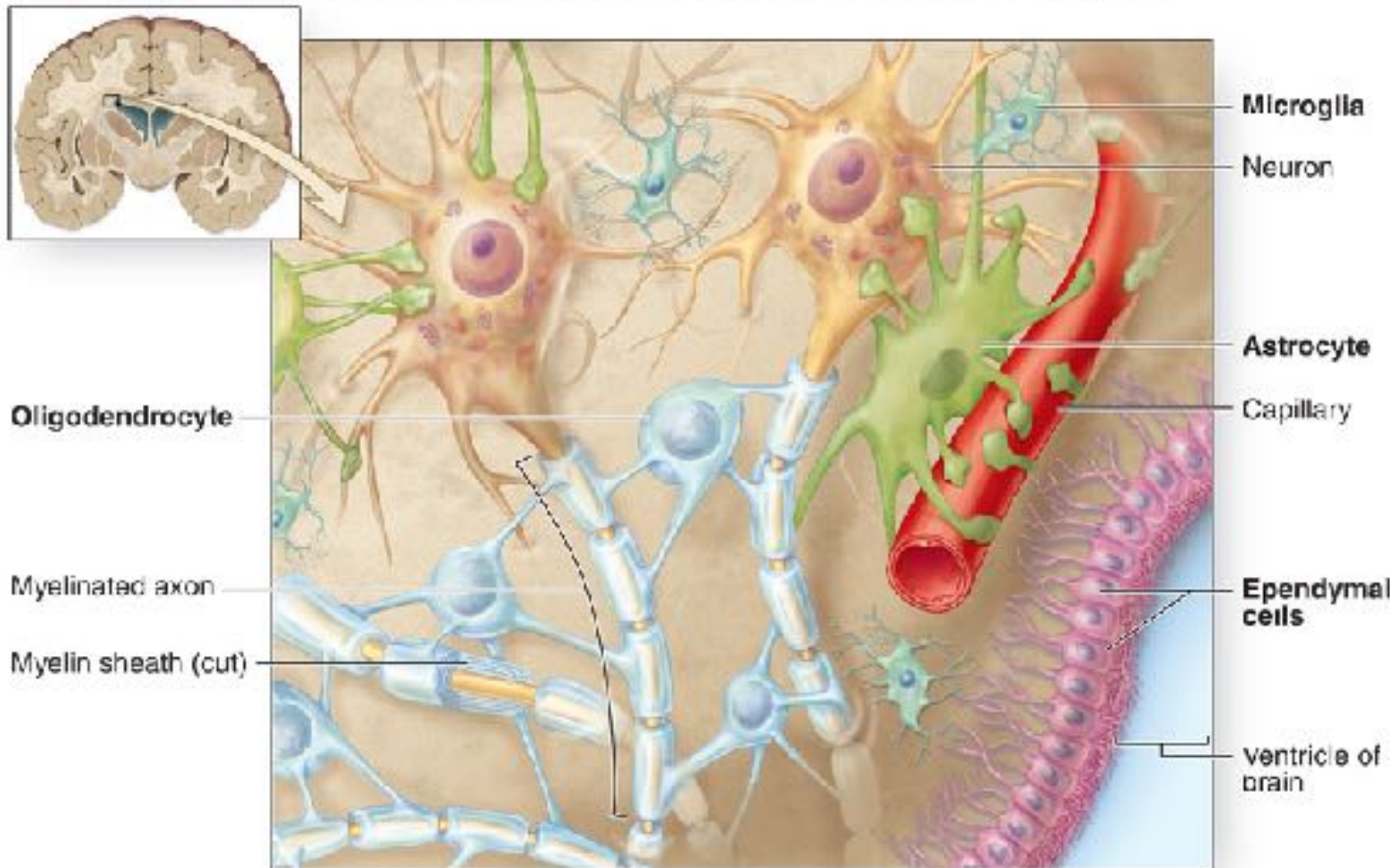
• MN
S

• Ependimositlar

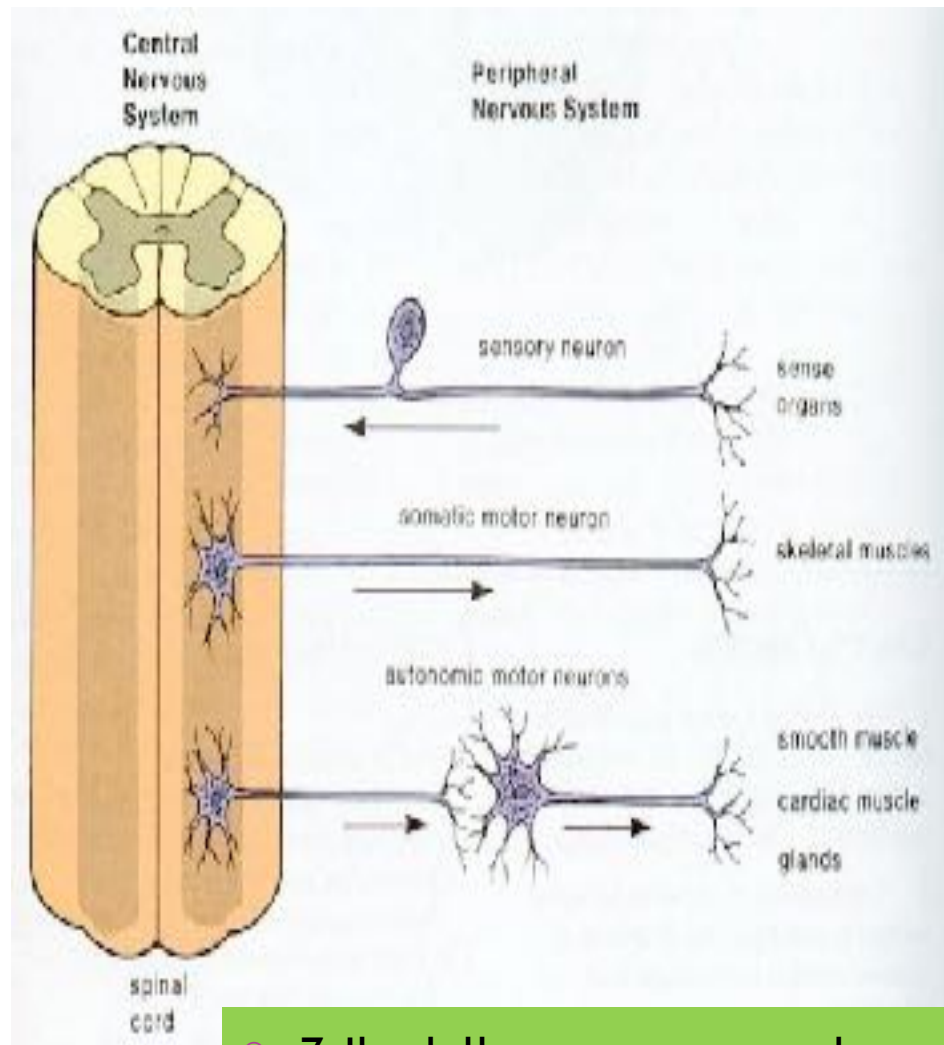
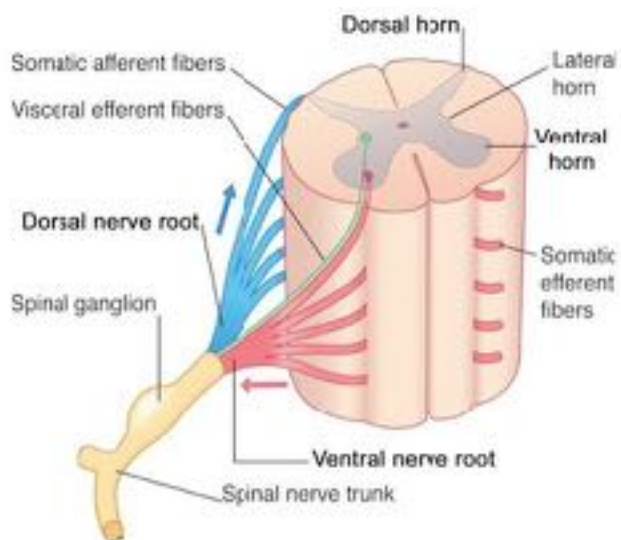
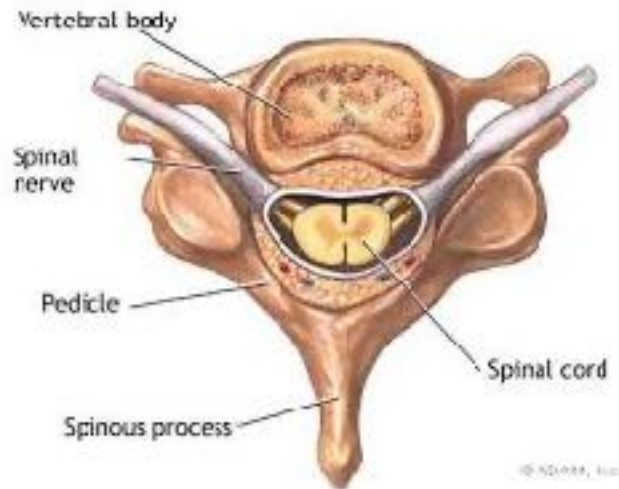
• PN
S

• Shvann hujayralari

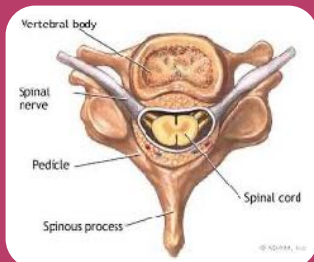
NERV TO'QIMASI: NEYRONLAR VA GLIYA



ORQA MIYA (SPINAL CORD)



ORQA MIYA TUZILISHI QANDAY?



- MNSning umurtqa kanali ichida joylashgan qismiga orqa miya deb aytiladi



- Orqa miya segmentar tuzilishga ega. Ularning soni 31-32 ta

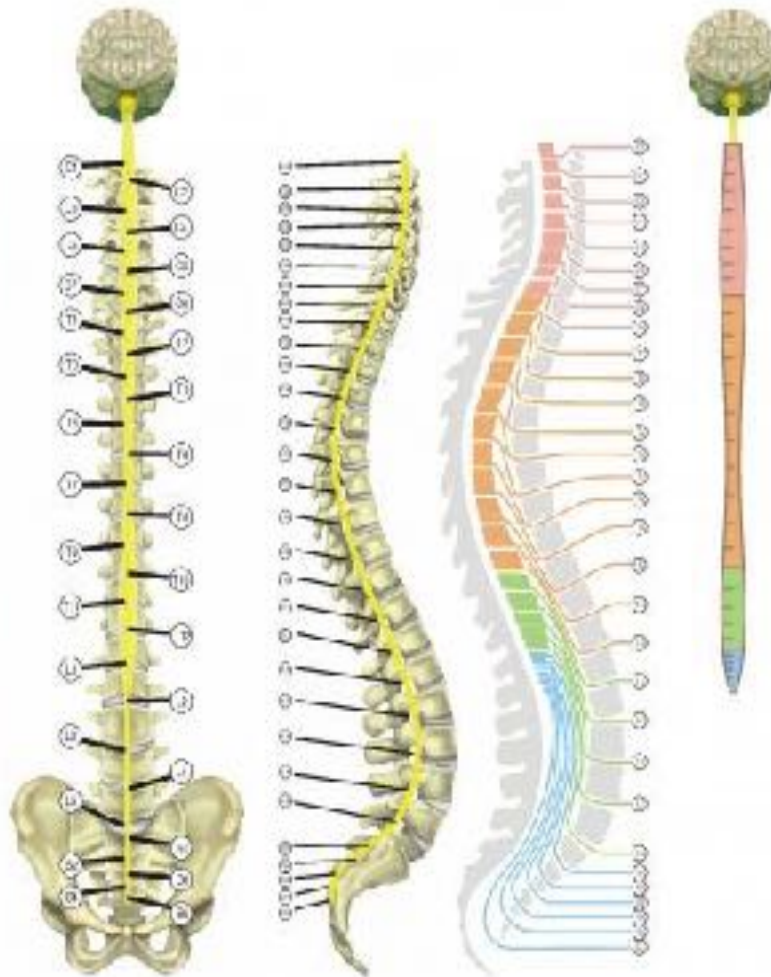


- Orqa miya uzunligi - 42-45 sm. Bo'yin va bel kengligidan iborat

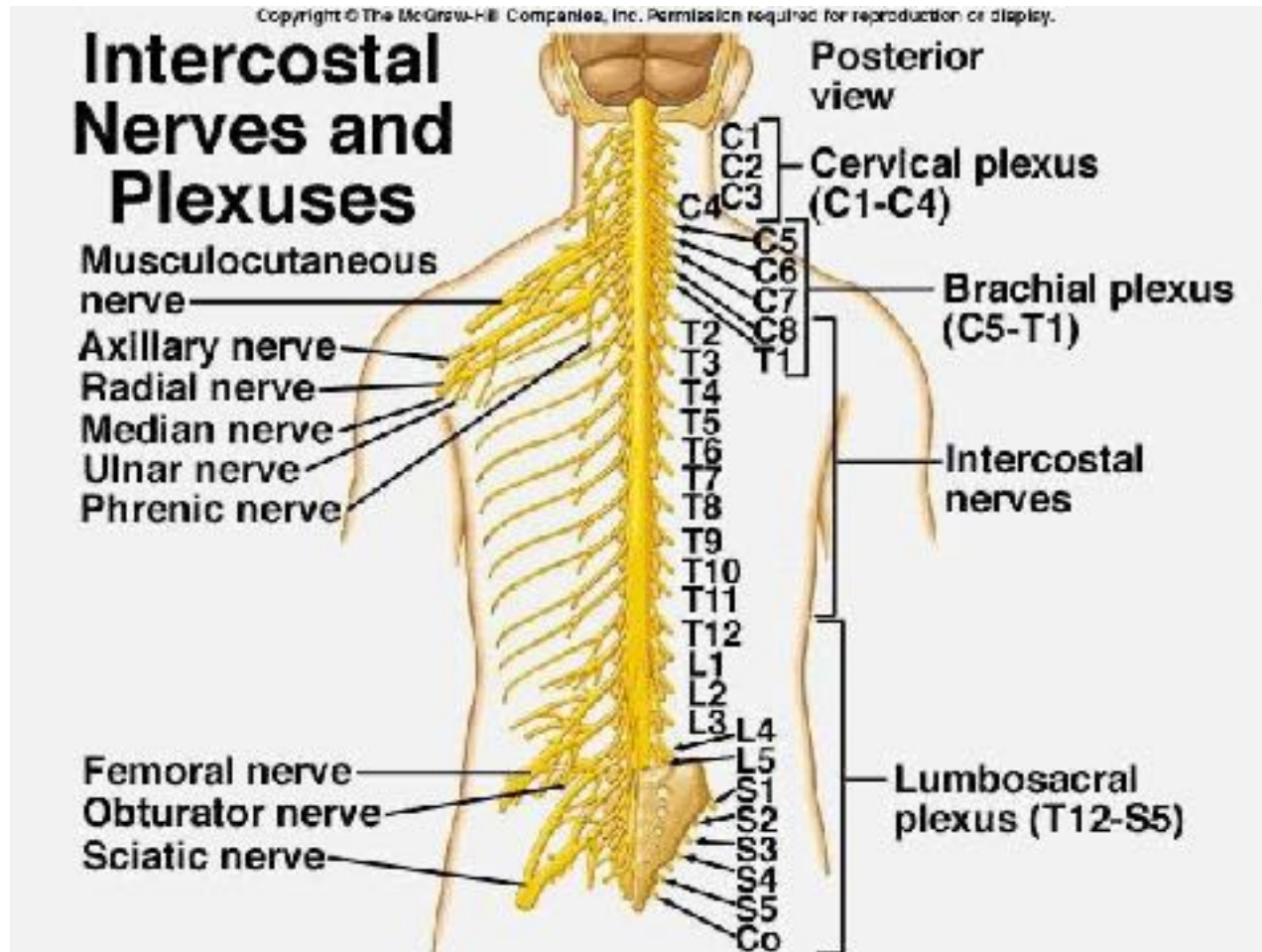
ORQA MIYA

Myotomes / Voluntary Movement

Cervical	<p>C1</p> <p>C2</p> <p>C3 Diaphragm (breathing)</p> <p>C4 Diaphragm (breathing), shoulder (wing)</p> <p>C5 to hand and arms, or (wings) (birds) (wings, elbow)</p> <p>C6 neck (back) (arm) (hand)</p> <p>C7 -wings- (straight) (arm)</p> <p>C8 Hand and fingers</p>
Thoracic	<p>T1 Hand and fingers</p> <p>T2 Chest muscles</p> <p>T3 Chest muscles</p> <p>T4 Chest muscles</p> <p>T5 Chest muscles</p> <p>T6 Chest and abdominal muscles</p> <p>T7 Chest and abdominal muscles</p> <p>T8 Chest and abdominal muscles</p> <p>T9 Abdominal muscles</p> <p>T10 Abdominal muscles</p> <p>T11 abdominal muscles</p> <p>T12 Abdominal muscles</p>
Lumbar	<p>L1 Hip muscles (groin) (leg)</p> <p>L2 Hip muscles</p> <p>L3 Knee muscles (straight) (leg)</p> <p>L4 Knee and ankle muscles</p> <p>L5 Ankle and toe muscles (the leg, toe and foot)</p>
Sacrum & Coccyx	<p>S1 Leg and toe muscles (toes) (foot)</p> <p>S2 Ankle and toe muscles (toes)</p> <p>S3 Ankle and toe muscles (toes)</p> <p>S4 Ankle and toe muscles (toes)</p> <p>S5 Ankle and toe muscles (toes)</p>

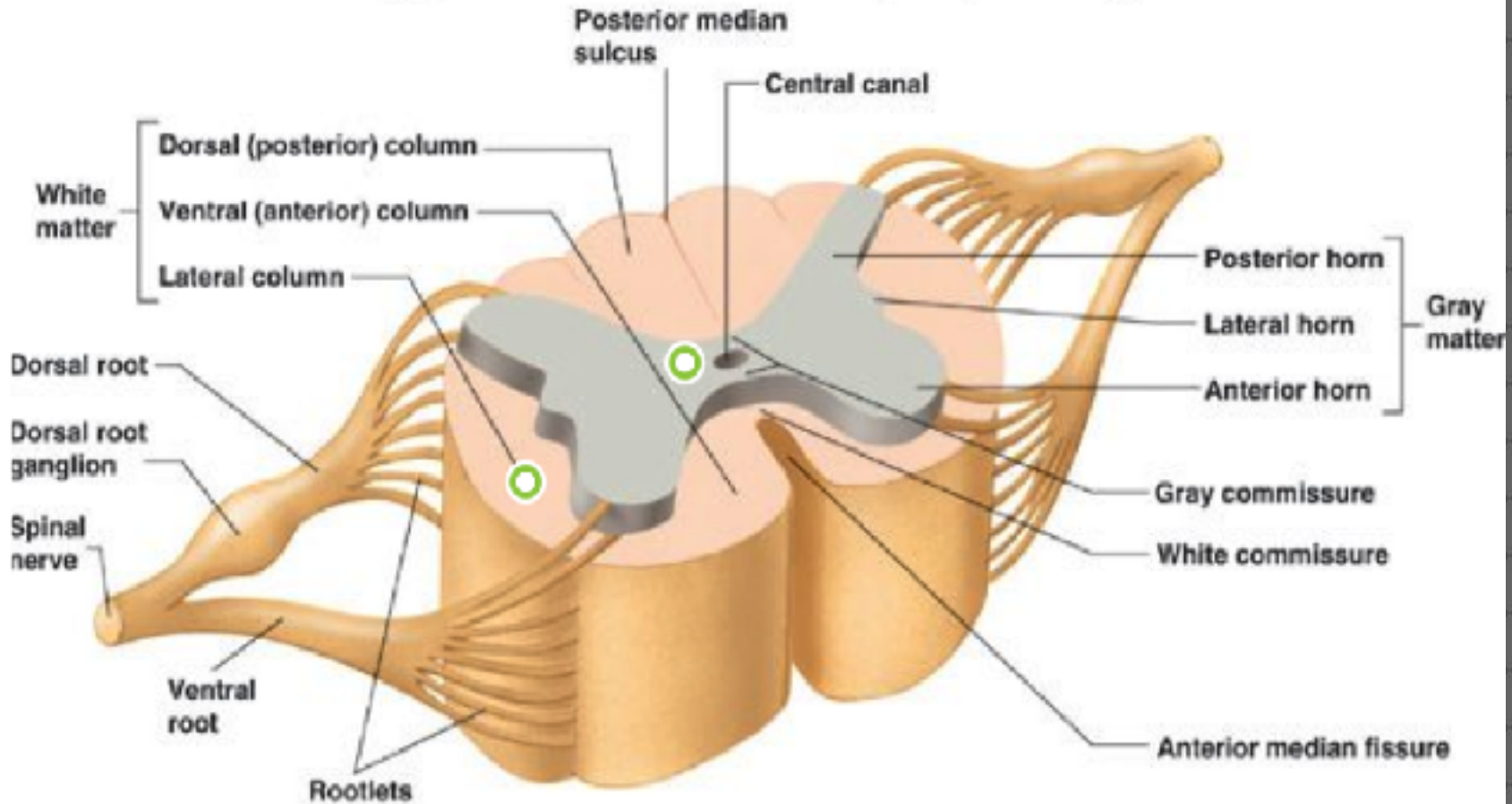


ORQA MIYA CHIGALLARI



SPINAL SEGMENT TUZILISHI

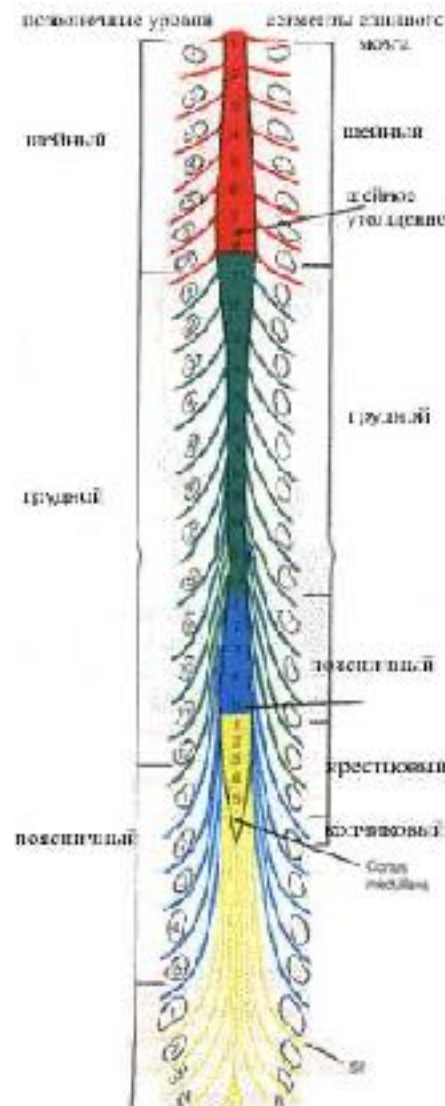
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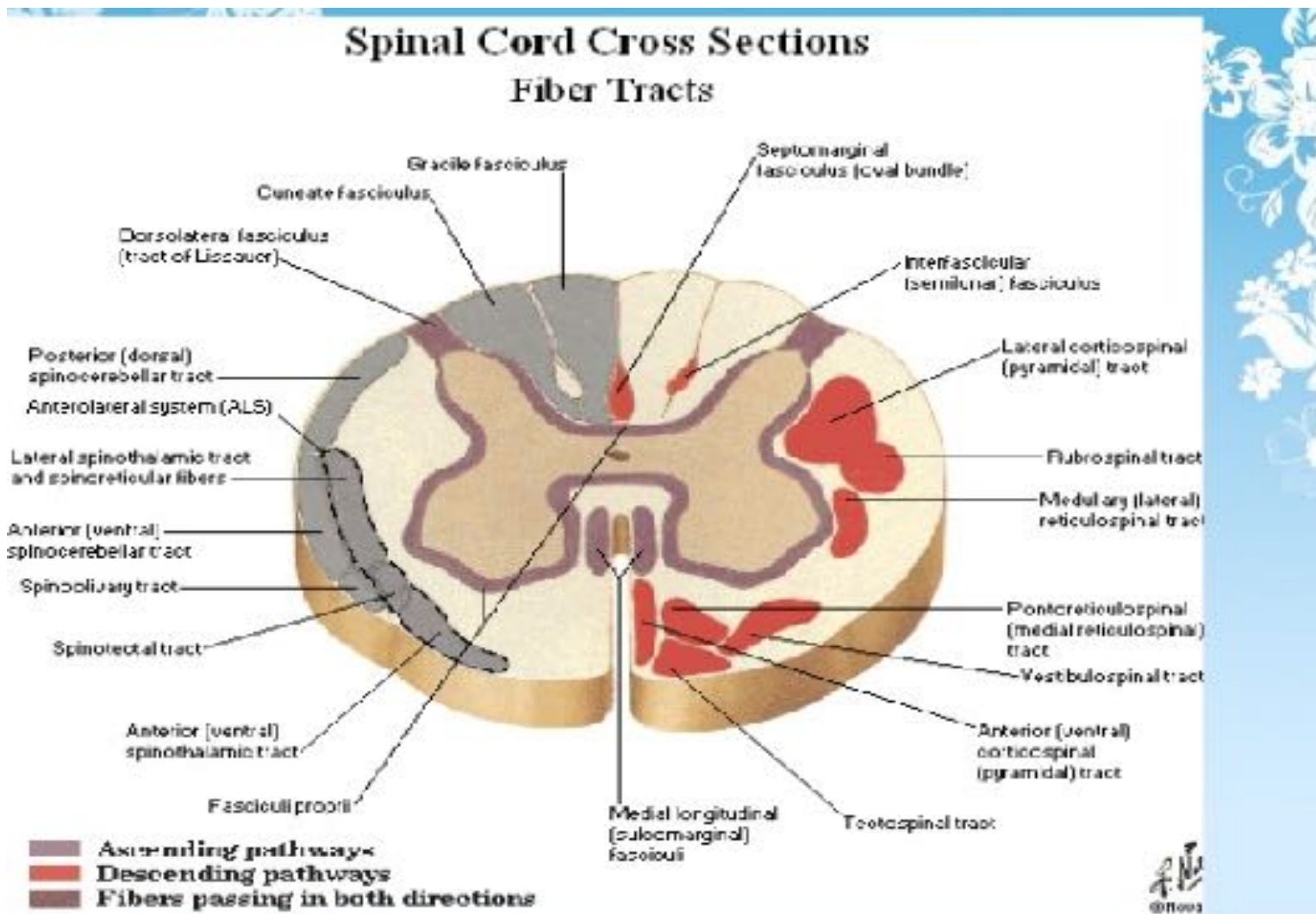
(a) Anterolateral view

ORQA MIYANING UZUNASIGA TUZILISHI

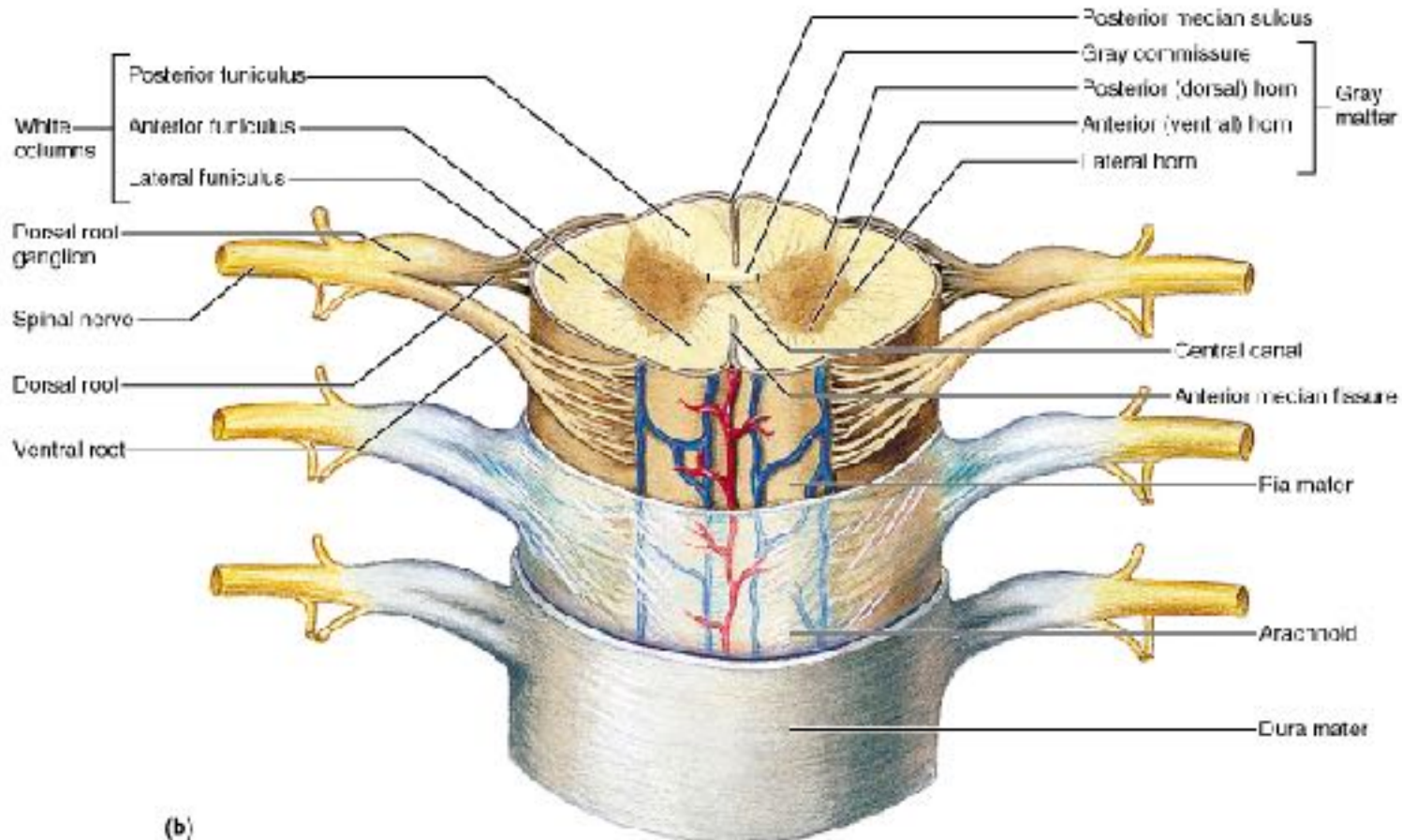
- Orqa miyada 2 ta kenglik farq qilinadi:
- Bo'yin kengligi (C5-C8, Th1);
- Bel kengligi (Th12, L1-L5, S1-2)



ORQA MIYANING O'TKAZUVCHI YO'LLARI



ORQA MIYA PARDALARI

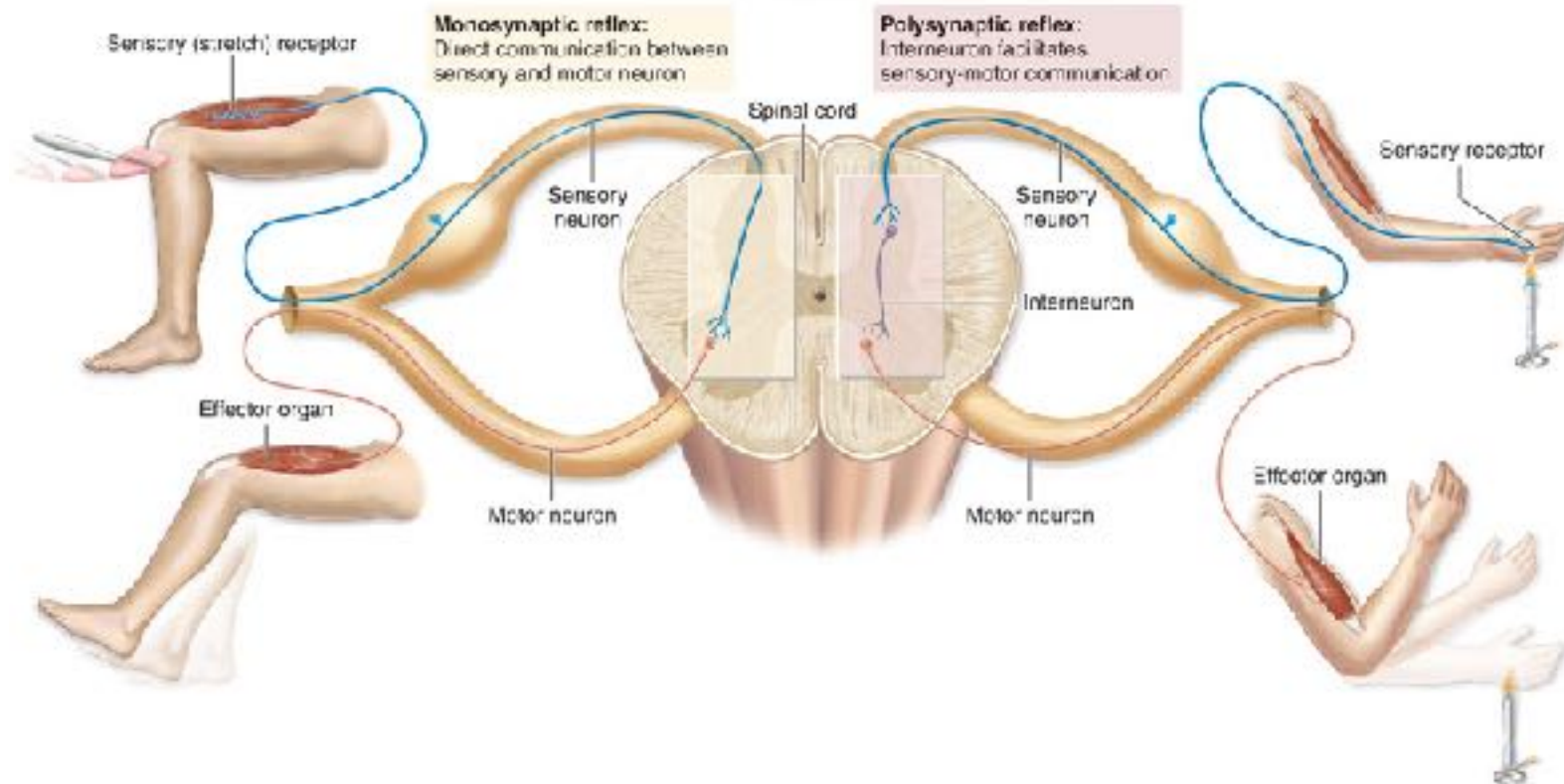


(b)

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SPINAL REFLEKS

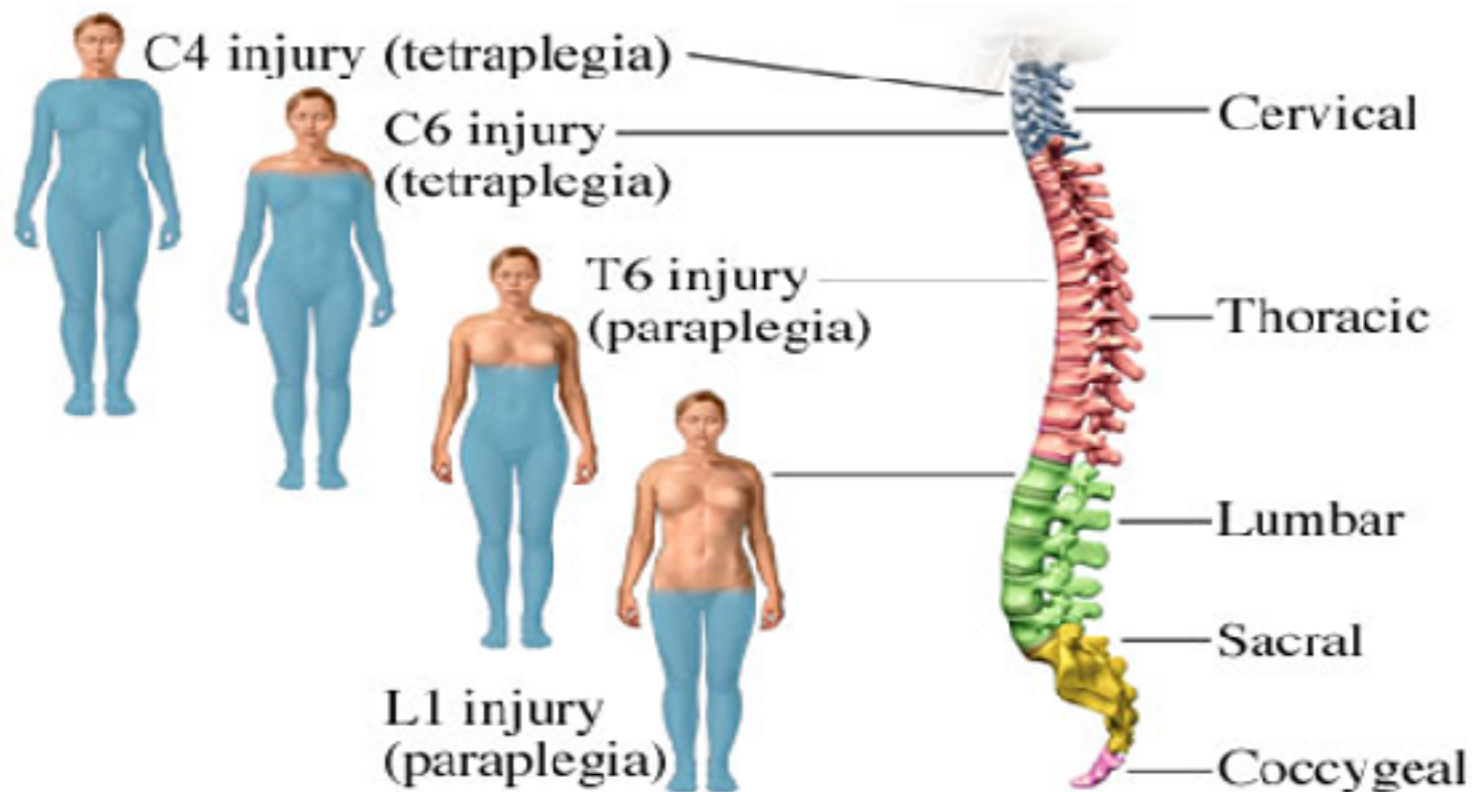
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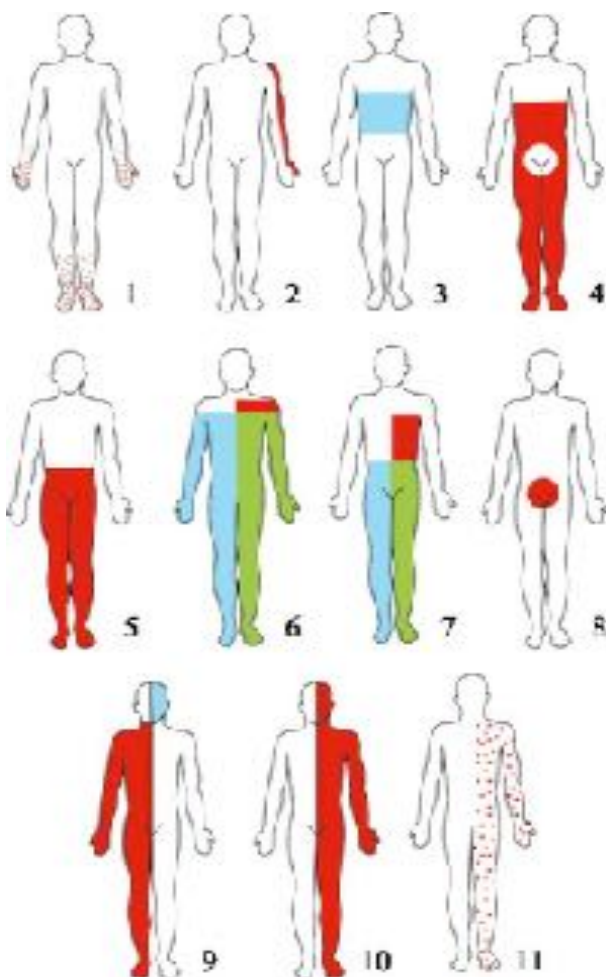
ORQA MIYANING ZARARLANISH SINDROMLARI

- 1 • Bo'yin qismi (C1-C4) zararlanishi.
- 2 • Bo'yin kengligi (C5-C8, Th1) zararlanishi.
- 3 • Ko'krak qismi (Th2-T11) zararlanishi.
- 4 • Bel kengligi (Th12, L1-L5, S1-2) zararlanishi.
- 5 • Epikonos (L4-L5, S1-S2) zararlanishi.
- 6 • Konus (S3-S5, Co1-2) zararlanishi.

ORQA MIYA ZARARLANISHI



SEZGI BUZILISHLARI



- 1 - polinevritik tipda;
- 2 - C_{VI} zararlanishi;
- 3 - Th_{IV} - Th_{IX} sohada zararlanish;
- 4 - Th_{IV} - Th_{IX} segmentlarda zararlanish;
- 5 - Th_{VII} segmentning to'la zararlanishi;
- 6 - C_{IV} segmentning chap yarmi zararlangan (Broun-Sikar sindromi);
- 7 - Th_{IV} segmentning chap tomoni zararlangan (Broun-Sikar sindromi);
- 8 - ot dumi zararlangan;
- 9 - Miya ustuni chap tomonda zararlangan (Alternirlashgan gemisindrom);
- 10 - ichki kapsula o'ng tomonda zararlangan;
- 11 - o'ng parietal soha zararlangan.

Bo'yin qismi (C1-C4) zararlanish sindromlari:

- ◆ **1. Markaziy tetraparez, tetraplegiya;**
- ◆ **2. Tetranesteziya;**
- ◆ **3. Tos a'zolari funksiyasi markaziy tipda buziladi.**

Bo'yin kengligi (C5-8, Th1) zararlanish sindromlari:

- ◆ 1. Aralashgan tetraparez – qo'llarda periferik (atrofik), oyoqlarda markaziy paraparez;
- ◆ 2. C5 dan pastda barcha sezgilar tetranesteziyasi;
- ◆ 3. Siydik va najas tutilishi;
- ◆ 4. Ptoz, mioz, enoftalm (Gorner) sindromi.

Ko'krak segmentlari zararlanish sindromlari

- ◆ 1. Oyoqlarda spastik (markaziy) paraparez;
- ◆ 2. Zararlangan joydan pastda barcha sezgilar anesteziyasi;
- ◆ 3. Siydik va najas tutilishi;
- ◆ 4. Tanada kuchli ifodalangan vegetativ-trofik buzilishlar

Bel kengligi (Th12, L1-L5, S1-2) zararlanish sindromlari

- ◆ **1. Pastki periferik paraparez (atrofiya, arefleksiya, atoniya);**
- ◆ **2. Oyoqlarda barcha sezgilar anesteziyasi;**
- ◆ **3. Siydik va najas tutilishi.**

Orqa miya konusi (S3-S5) zararlanishi belgilari:

- ◆ **1. Anogenital sohada anesteziya;**
- ◆ **2. Siydik va najas tuta olmaslik;**
- ◆ **3. Sakral sohada trofik o'zgarishlar.**

Ot dumi (cauda equina)

1

- Ikkala oyoq va anogenital sohada kuchli og'riq

2

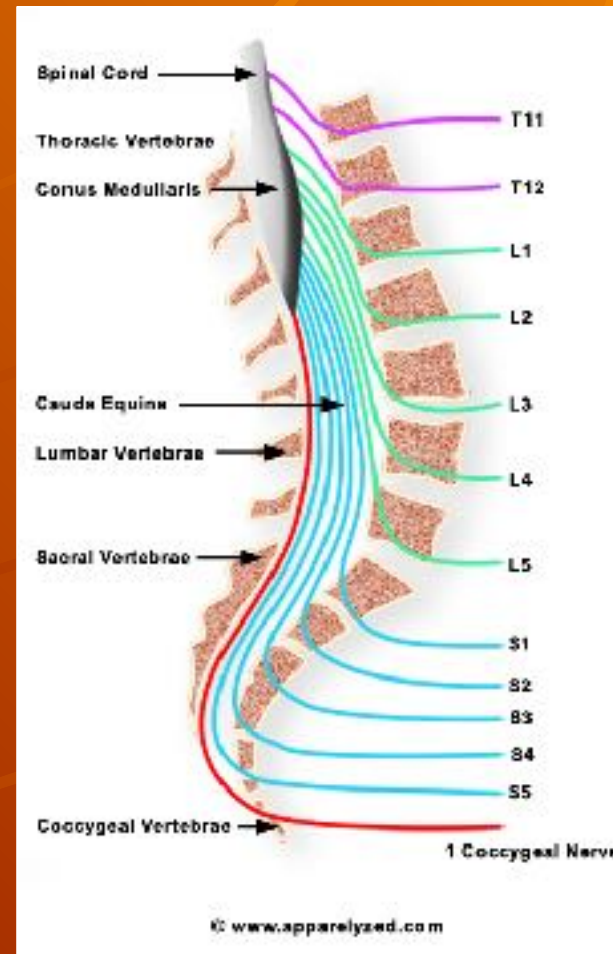
- Radikulyar tipda sezgi buzilishlari

3

- Tos a'zolarining periferik tipda buzilishi

4

- Anal refleks so'nishi



Orqa ildizcha zararlanishi sindromlari:

- ◆ **Atrofiya;**
- ◆ **Arefleksiya;**
- ◆ **Atoniya;**
- ◆ **Fassikulyar tebranishlar;**
- ◆ **Bunda ham periferik falajlik rivojlanadi**

Orqa ustun zararlanishi sindromlari:

- ◆ **Zararlangan joydan pastda chuqur sezgi o`tkazuvchi tipda buziladi;**
- ◆ **Afferent parez kuzatiladi;**
- ◆ **Pay reflekslari so`nadi;**
- ◆ **Mushaklar atoniyasi kuzatiladi;**
- ◆ **Biroq periferik falajlikdagi kabi mushaklar atrofiyasi bo`lmaydi!.**

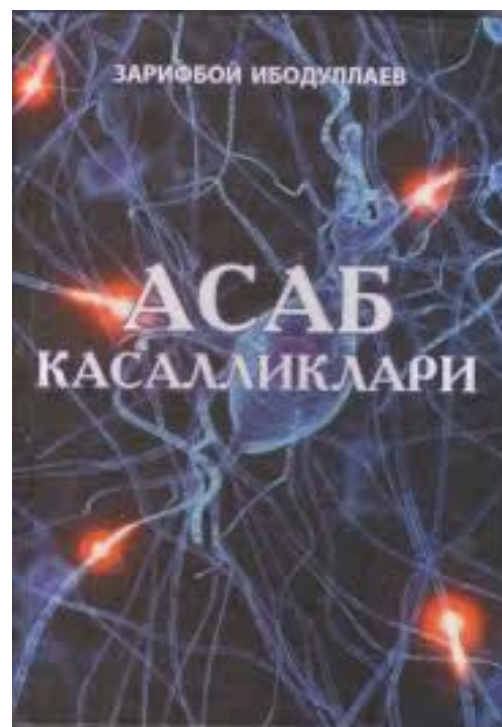
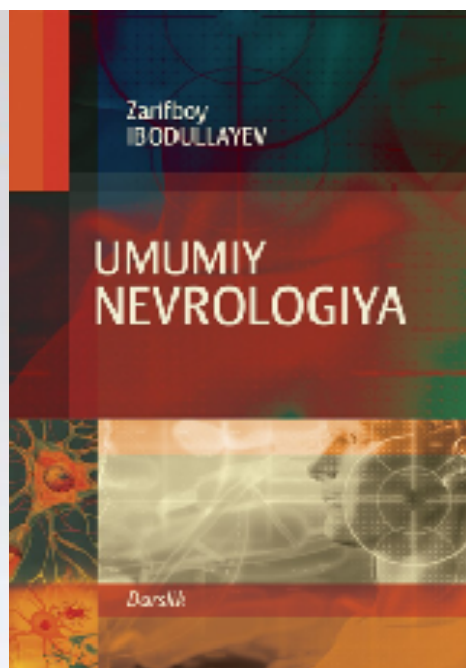
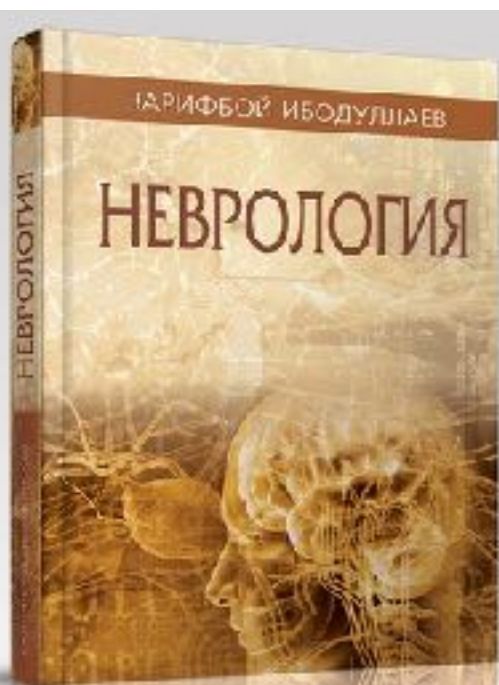
Spinal gangliya zararlanishi:

- ◆ 1. Segmentar tipda yuzaki va chuqur sezgining buzilishi;
- ◆ 2. O`ta kuchli kuydiruvchi segmentar og`riqlar;
- ◆ 3. Herpez zoster (toshmalar);
- ◆ 4. Zararlangan sohada teri va pay reflekslarining pasayishi.

Broun–Sekar sindromi:

- 1. Zararlangan tomonda markaziy (spastik) paraparez;**
- 2. Zararlangan tomonda chuqur sezgining o`tkazuvchi tipda buzilishi;**
- 3. Qarama-qarshi tomonda o`tkazuvchi tipda yuzaki sezgining buzilishi**

E'TIBORINGIZ UCHUN RAHMAT!



Z.Ibodullayev. www.asab.uz

Ma'ruza muallifi



Zarifboy Ibodullayev – tibbiyot fanlari doktori, professor. Toshkent tibbiyot akademiyasida ishlaydi. 150 dan oshiq ilmiy asarlar muallifi. Uning “Asab kasalliklari” va “Tibbiyot psixologiyasi” darsliklari “Yilning eng yaxshi darsligi” sovriniga sazovor bo‘lgan. “Umumiy nevrologiya” darsligi 2021 yil nashrdan chiqdi. Olimning “Epilepsiya”, “Asab va ruhiyat” “Insult va Koma” nomli qo‘llanmalari ham chop etilgan.