

Organizacija živčanog sustava

Prof. dr. sc. Ivan Bielen

Klinika za neurologiju, KB "Sveti Duh"

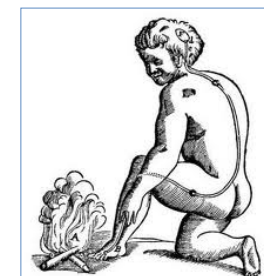
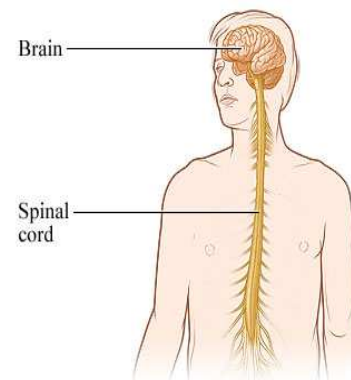
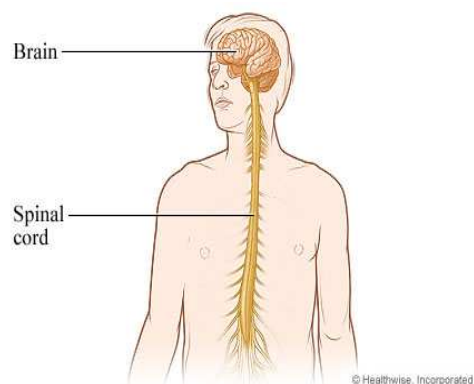
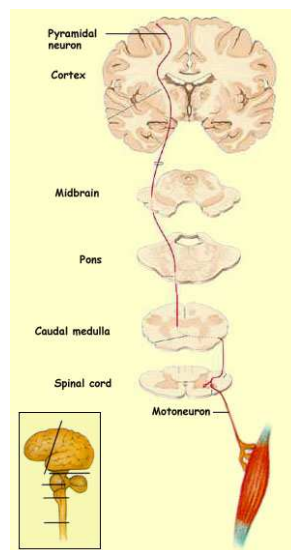


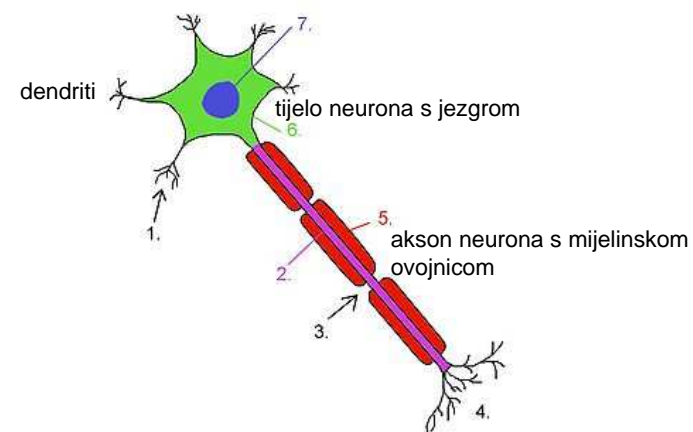
Illustration of the pain pathway in René Descartes' *Traite de l'homme (Treatise of Man)* 1664 © René Descartes, *Traite de l'homme (Treatise of Man)* 1664



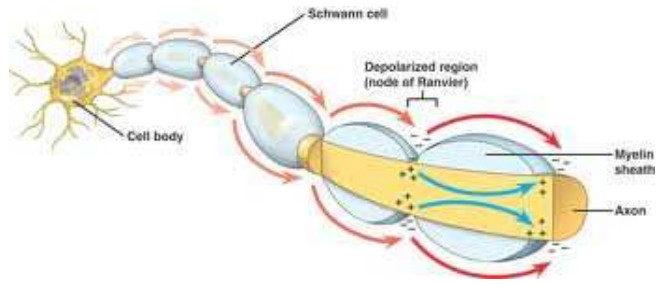
motorički (piramidni) put



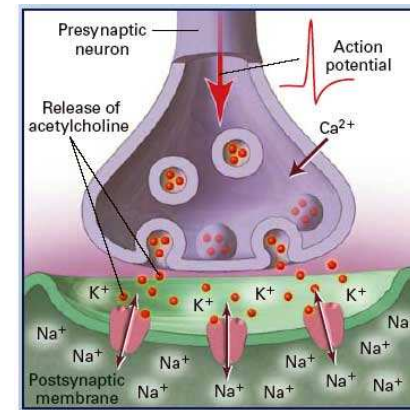
Neuroni su elementarne jedinice živčanog sustava



AKCIJSKI POTENCIJALI:
prijenos informacija duž aksona



SINAPSE:
mjesto gdje neuroni komuniciraju



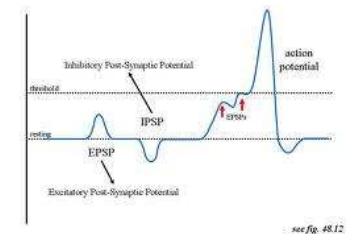
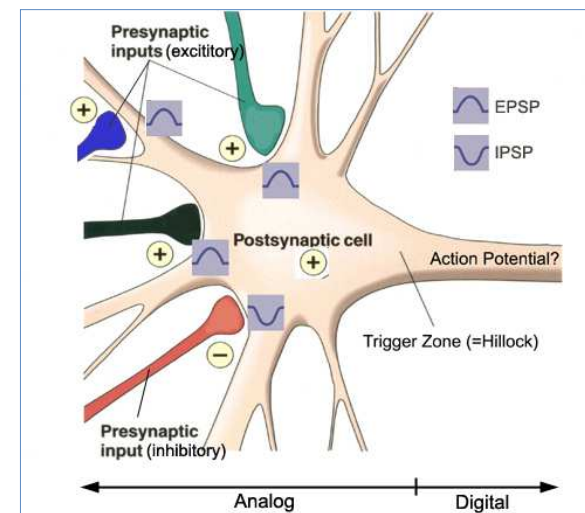
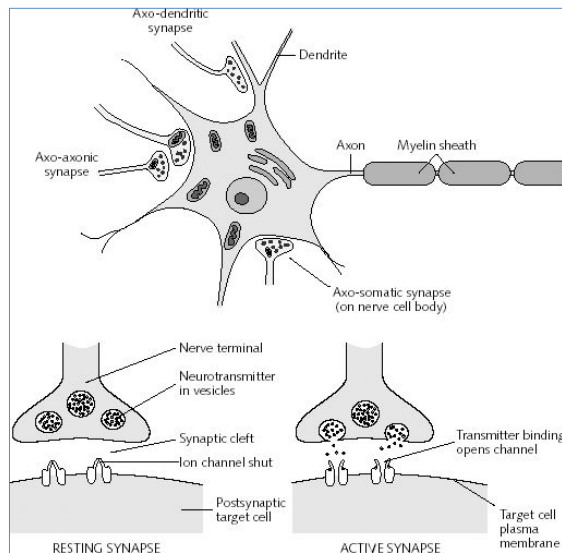
elementi sinapse:

- presinaptički završetak
- presinaptičke vezikule
- neurotransmitor (neuroprijenosnik)
- postsinaptička membrana
- sinaptički receptori

neki od mogućih učinaka sinaptičkog prijenosa:

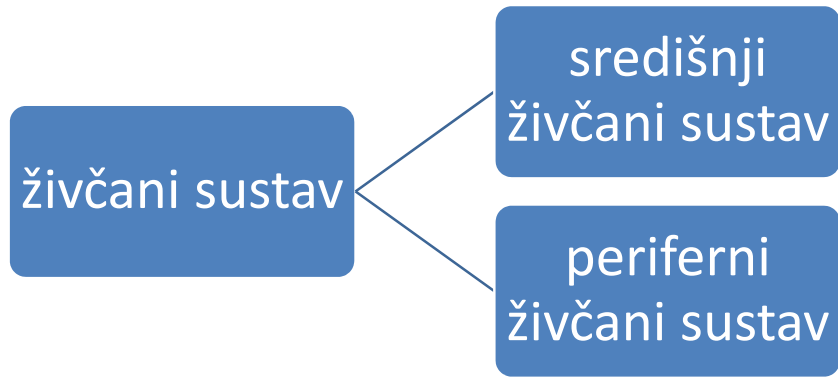
- ekscitacijski postsinaptički potencijal
- inhibicijski postsinaptički potencijal

sinapse

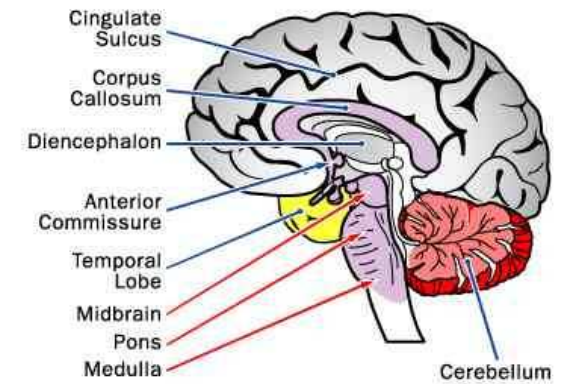


see fig. 48.12

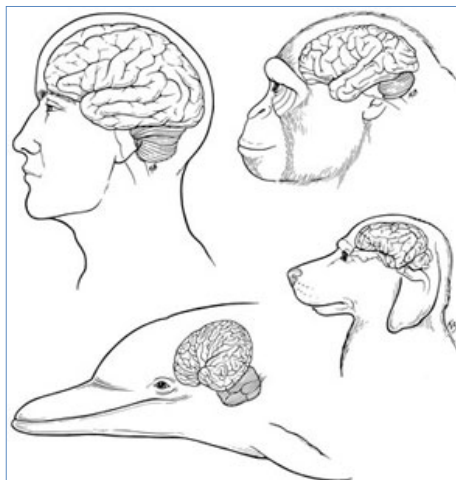
ANATOMSKA PODJELA



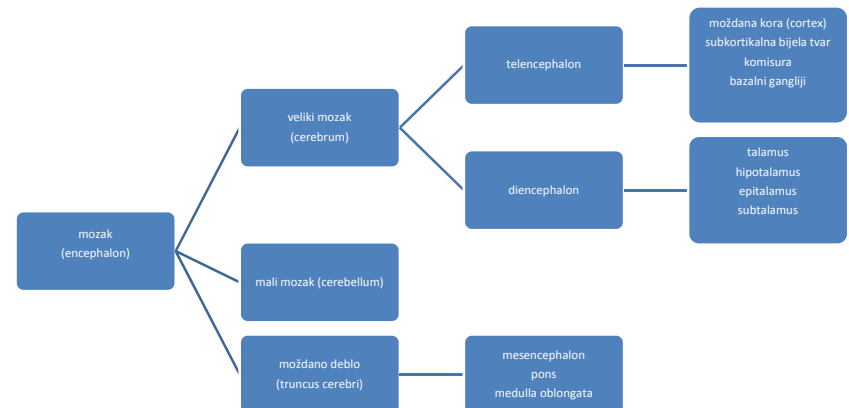
Major Internal Parts of the Human Brain



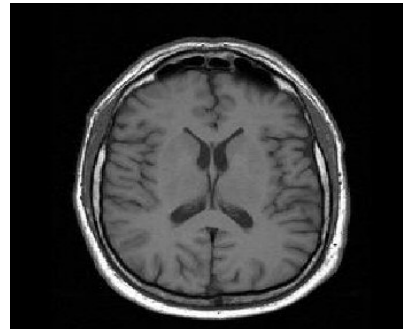
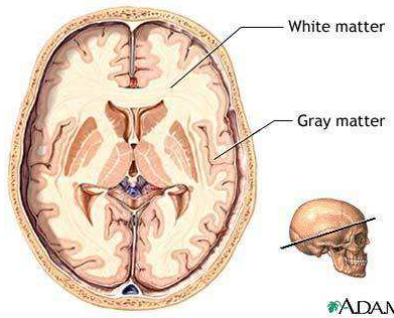
mediosagitalni presjek mozga



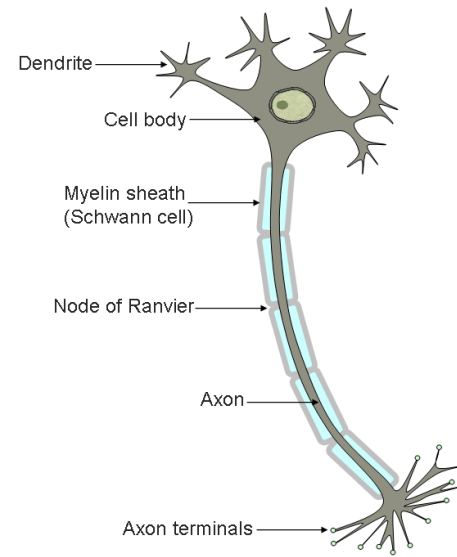
MOZAK



Siva i bijela tvar



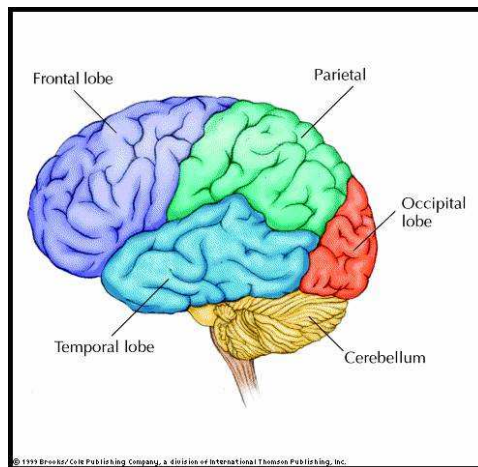
CT mozga



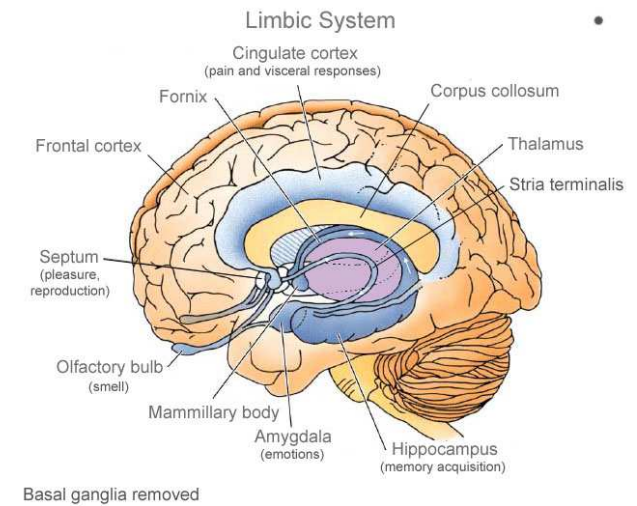
Siva i bijela tvar

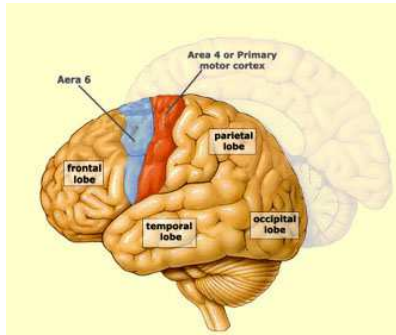
veličina tijela živčane stanice?
dužina aksona živčane stanice?

FUNKCIONALNA ANATOMIJA MOZGA

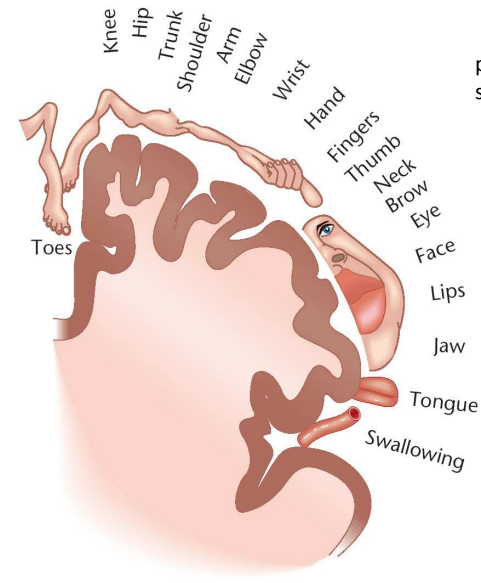
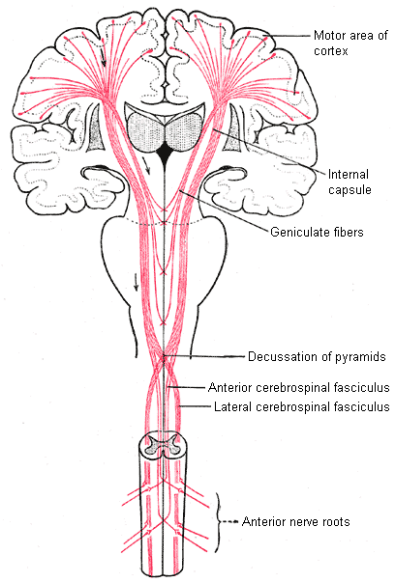


LIMBIČKI SUSTAV: anatomija i funkcije





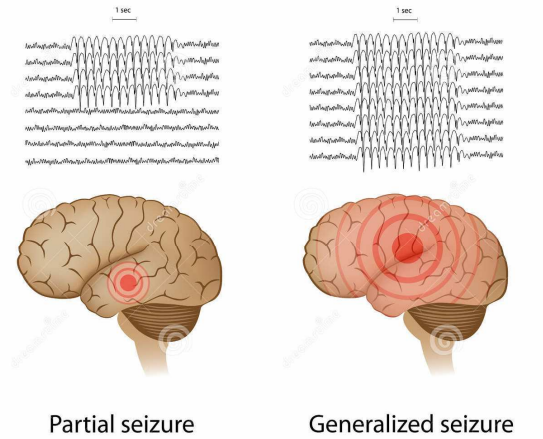
kortikospinalni (piramidni) trakt:
voljna kontrola motorike



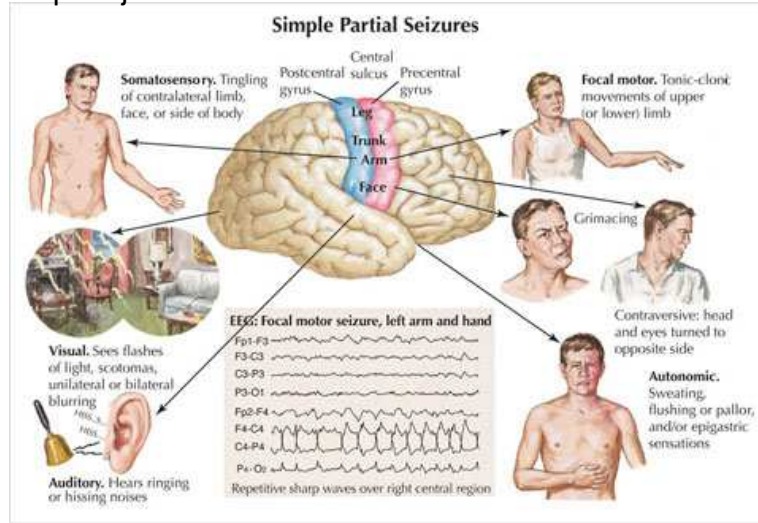
projekcije osjeta u primarnoj somatosenzoričkoj regiji



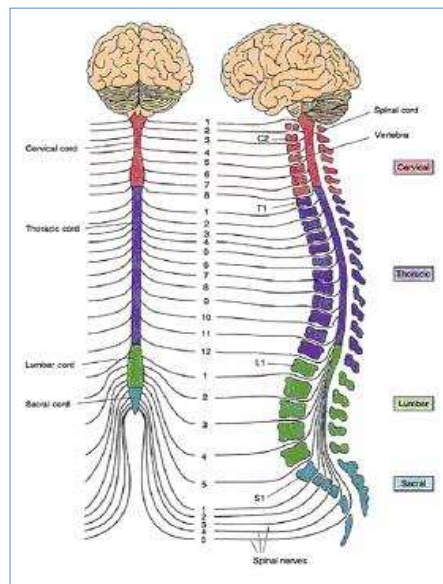
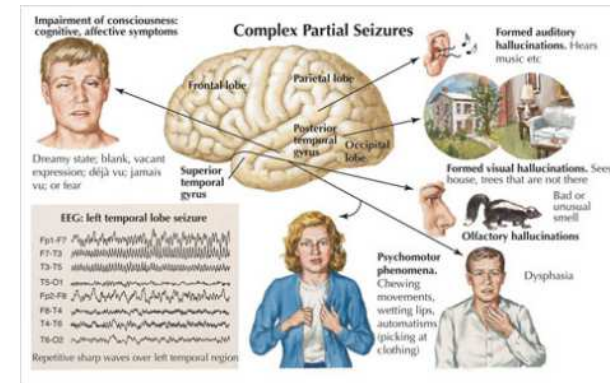
**GENERALIZIRANI NAPADAJI:
generalizirani toničko-klonički napadaj (grand mal)**



Parcijalni – žarišni – „localization related napadaji



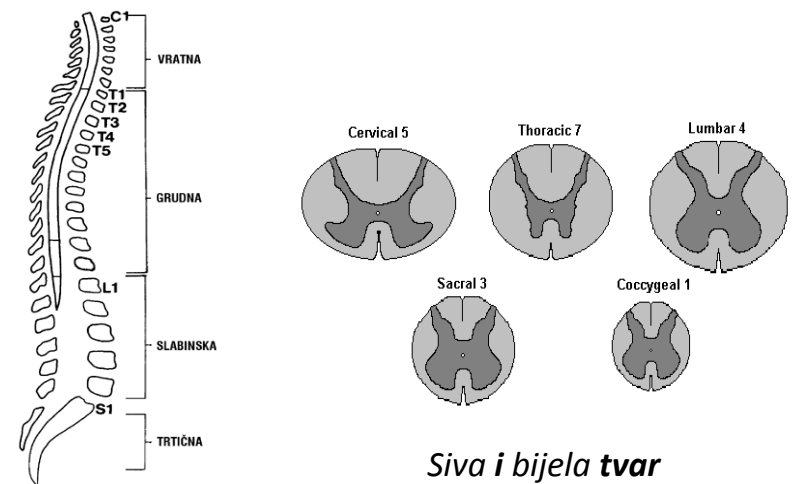
Parcijalni napadaji praćeni poremećajem svijesti (kompleksni parcijalni) najčešće su temporalnog ishodišta (60%)

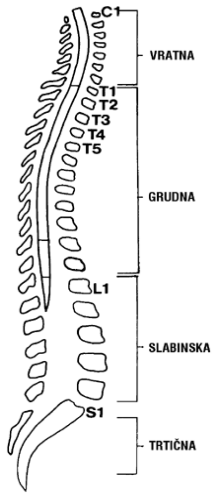


SŽS: mozak i leđna moždina

PŽS: živci

KRALJEŠNIČNA (LEĐNA) MOŽDINA

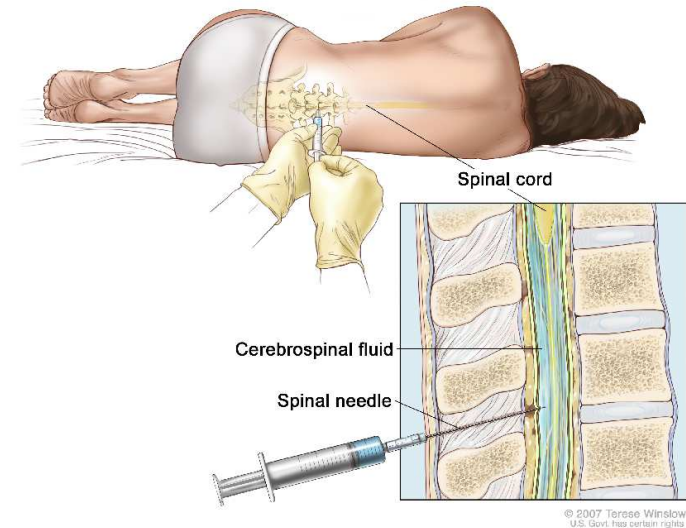




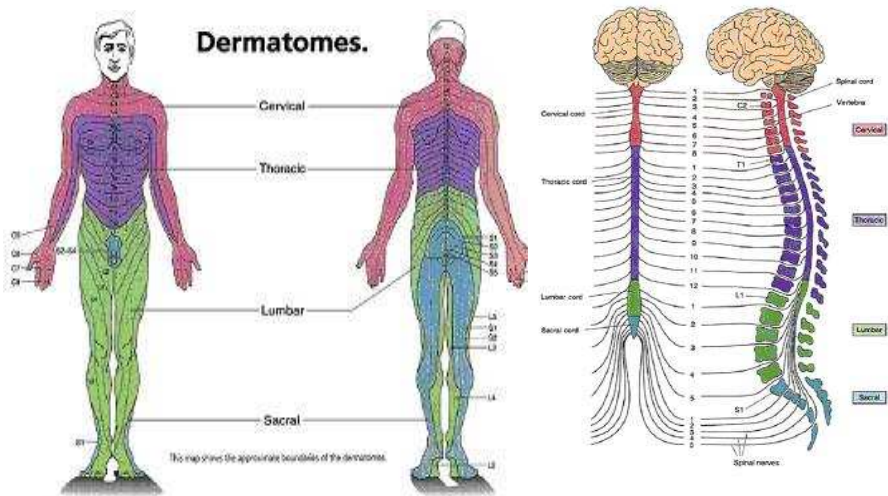
- 8 vratnih spinalnih živaca (nn. cervicales)
- 12 prsnih ili grudnih spinalnih živaca (nn. thoracici)
- 5 slabinskih ili lumbalnih (nn. lumbales)
- 5 sakralnih (nn. sacrales)
- 1 trtični spinalni živac (lat. n. coccygeus)

gdje završava leđna moždina?

Upalne bolesti: analiza cerebrospinalnog likvora



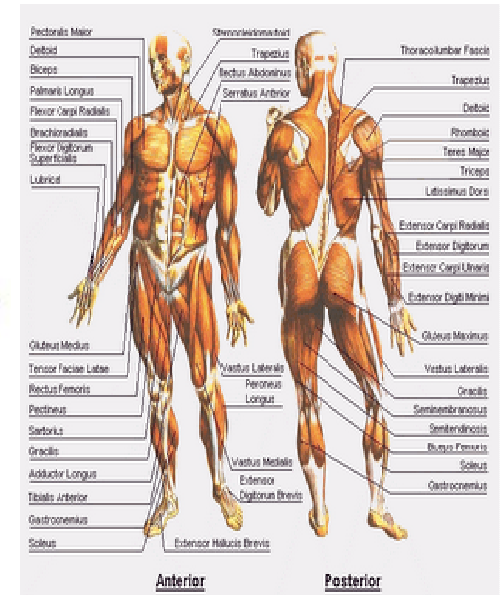
Ispitivanje osjeta



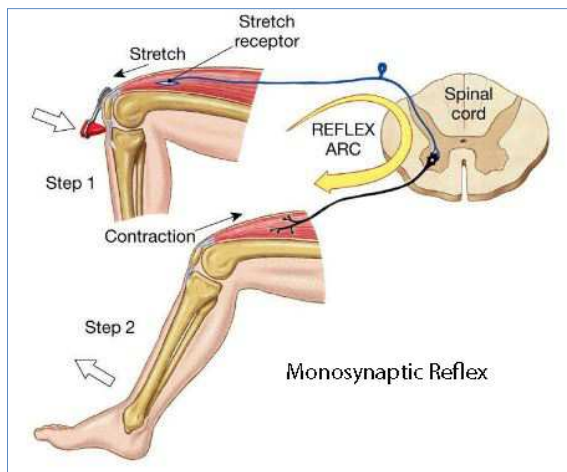
Ispitivanje motorike



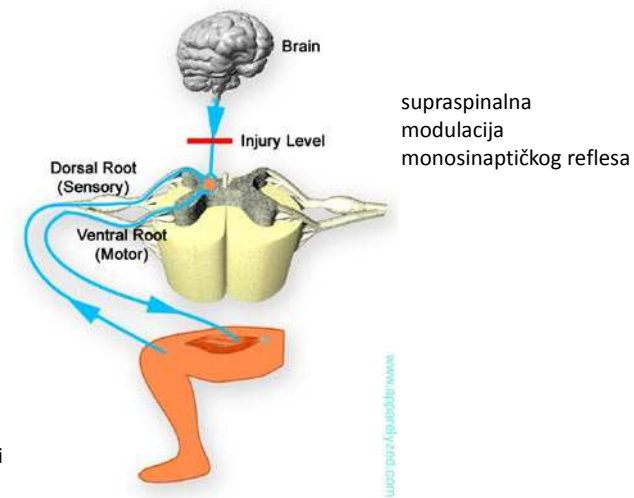
Miotomi



Monosinaptički refleks izezanja

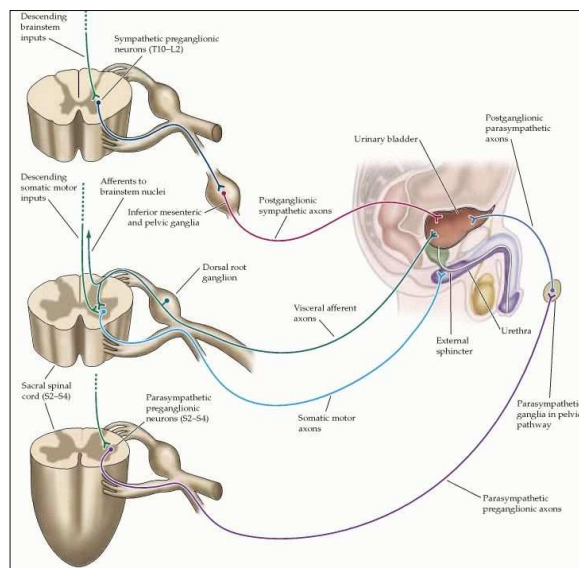


Ispitivanje tetivnih refleksa



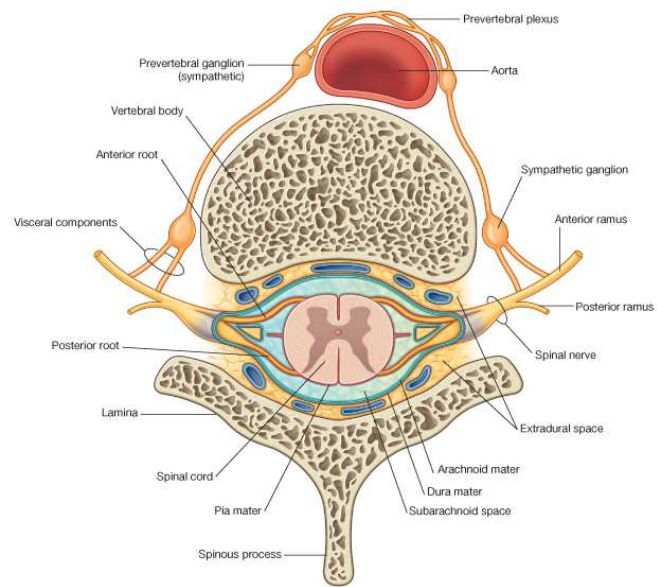
Oštećenje PŽS:
tetivni refleksi inhibirani
Oštećenje SŽS:
tetivni refleksi facilitirani

kod oštećenja iznad razine spinalnih centara razvija se “refleksni mokraćni mjehur”



semiologija bolesti leđne moždine

- motorika (monopareza, parapareza, kvadrupareza)
- osjet
- refleksi
- sfinkteri
- nema simptoma/znakova oštećenja cererebralnih struktura

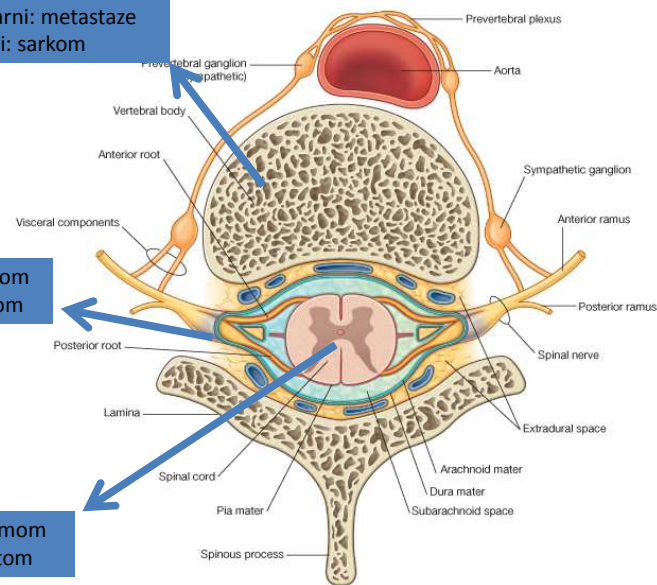


presjek kroz torakalni dio kralješničkog kanala

sekundarni: metastaze
primarni: sarkom

neurofibrom
meningeom

ependimom
astrocitom



meningeom torakalno:

motorika?
osjet?
refleksi?
mokrenje?

tijek simptoma?

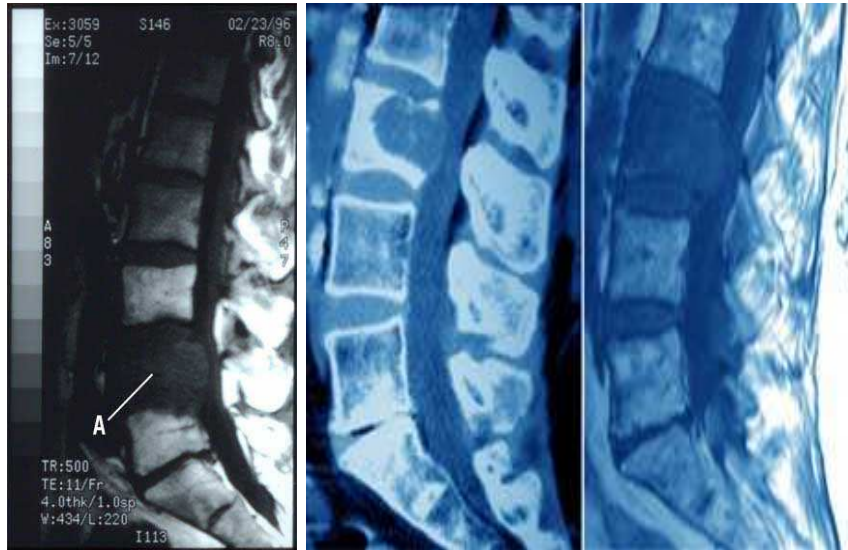
cervikalni neurinom

motorika?
osjet?
refleksi?
mokrenje?

tijek simptoma?



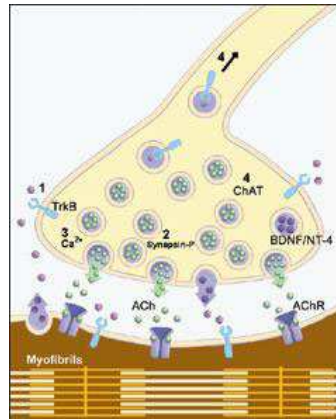
Metastatski tumori



PERIFERNI ŽIVČANI SUSTAV

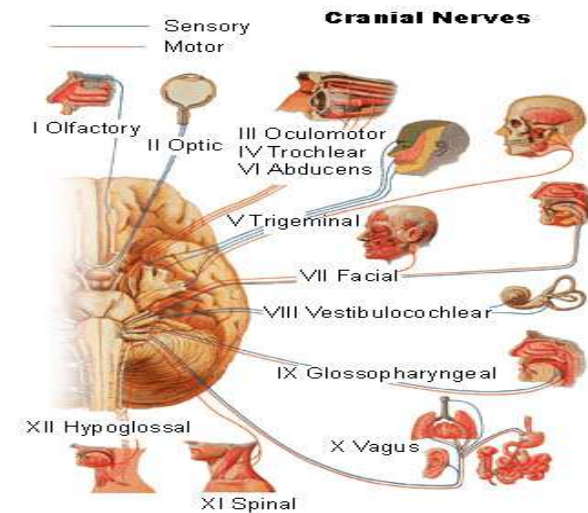
- kranijski (moždani) živci
- spinalni (moždinski) živci

neuromuskularna sinapsa:
neurotransmitor je acetilholin

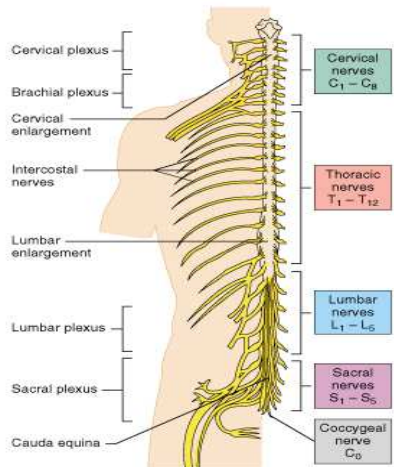


motorički živci završavaju
sinaptičkim spojem s
mišićnom stanicom

KRANIJSKI (MOŽDANI) ŽIVCI



SPINALNI (MOŽDINSKI) ŽIVCI



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FUNKCIONALNA PODJELA ŽIVČANOG SUSTAVA

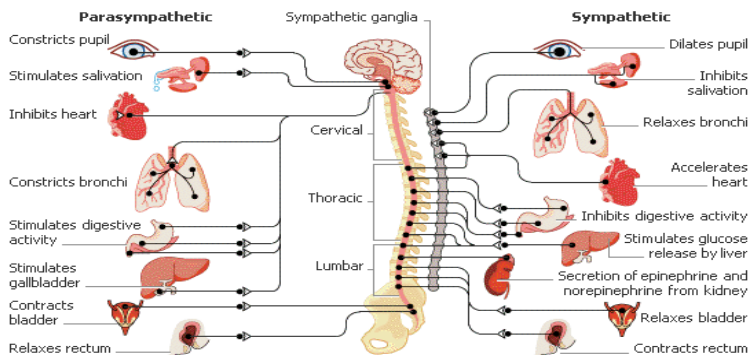
živčani sustav

somatski živčani sustav

autonomni živčani sustav

AUTONOMNI (VISCERALNI) ŽIVČANI SUSTAV

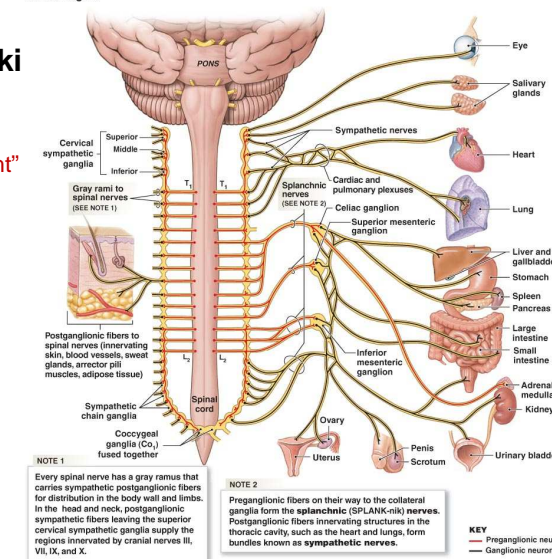
- inervacija žlijezda, glatkih mišića unutarnjih organa i krvnih žila



Simpatički dio

„Fight-or-flight“

The innervation of the sympathetic division: at left, the distribution of nerves to the skin, skeletal muscles, and tissues of the body wall; at right, the distribution of nerves to visceral organs



Gangliji:
Paravertenbralni lanac

Ganglij (lat. ganglion) je skup tijela živčanih stanica koja oblikuju strukture nalik na čvorove.

Parasimpatički dio

„Rest and digest“

Gangliji:
terminalni ili intramuralni

