Development of Complex Curricula for Molecular Bionics and Infobionics Programs within a consortial* framework**

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**Molekuláris bionika és Infobionika Szakok tananyagának komplex fejlesztése konzorciumi keretben

***A projekt az Európai Unió támogatásával, az Európai Szociális Alap társfinanszírozásával valósul meg.

BASICS OF NEUROBIOLOGY

Neurobiológia alapjai

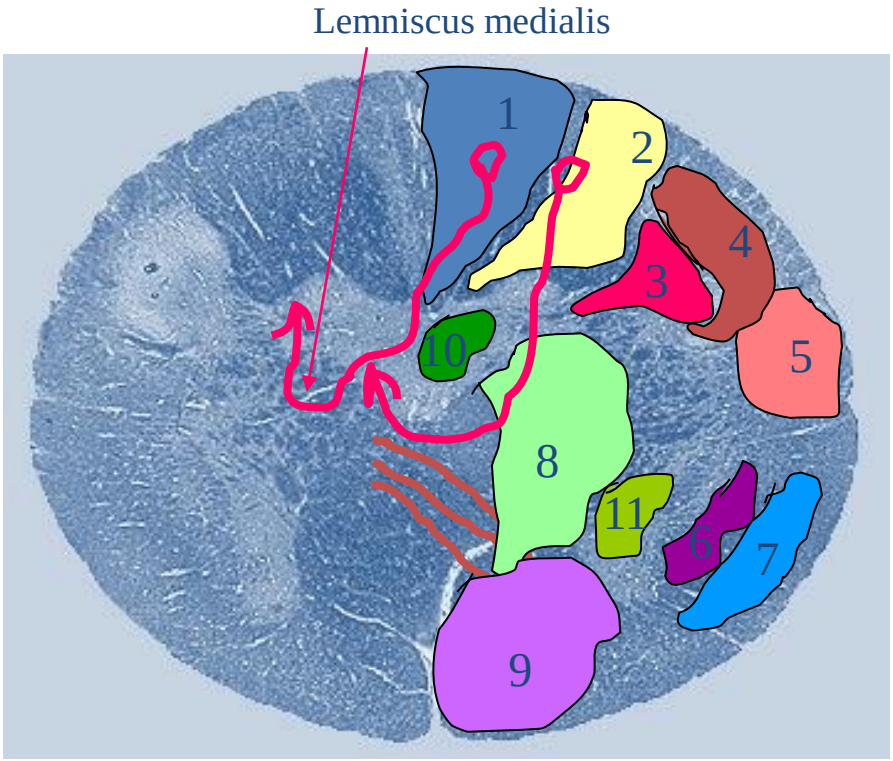
ORGANIZATION OF THE BRAIN STEM

(Agytörzs szerkezete)

ZSOLT LIPOSITS

SPINO-MEDULLARY JUNCTION. PYRAMIDAL DECUSSATION

1. Nucleus gracilis
2. Nucleus cuneatus
3. N. spinalis n.V
4. Tr. spinalis n.V
5. Tr. spinocerebellaris d.
6. Tr. spinothalamicus
7. Tr. spinocerebellaris v.
8. Decussatio pyramidum
9. Pyramid
10. Nucleus n. XII
11. Nucleus ambiguus. N. motorius IX, X, XI



MEDULLA OBLONGATA

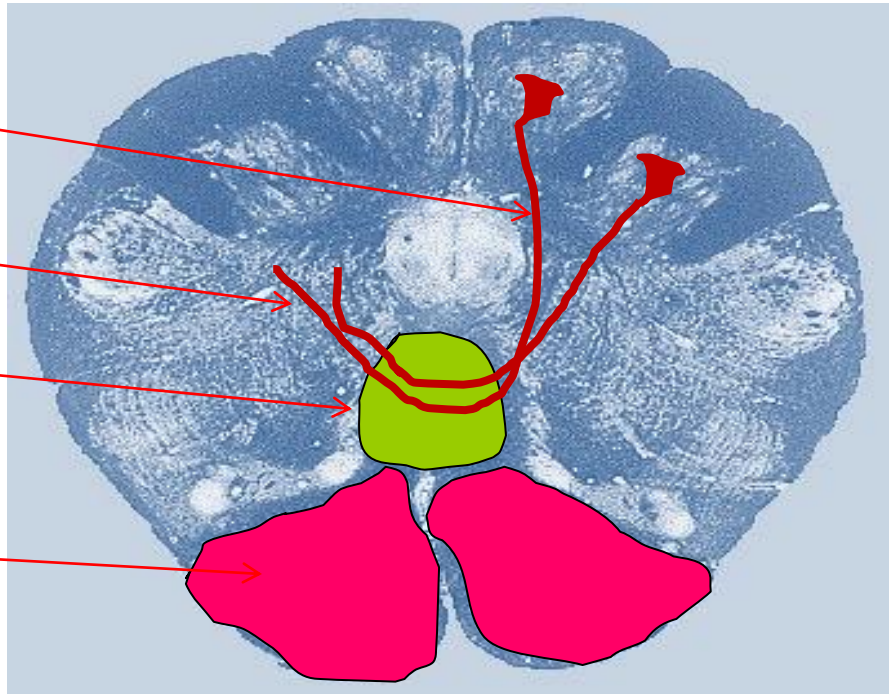
LEVEL OF DECUSSATION OF THE MEDIAL LEMNISCUS

Fibrae arcuatae

Lemniscus medialis

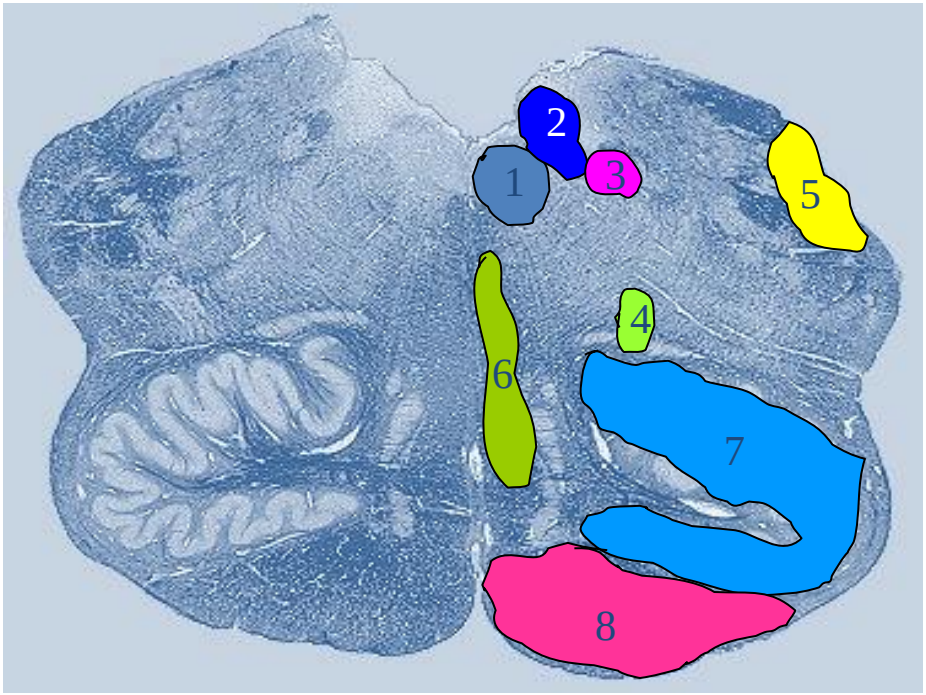
Decussatio lemniscorum

Tr. corticospinalis



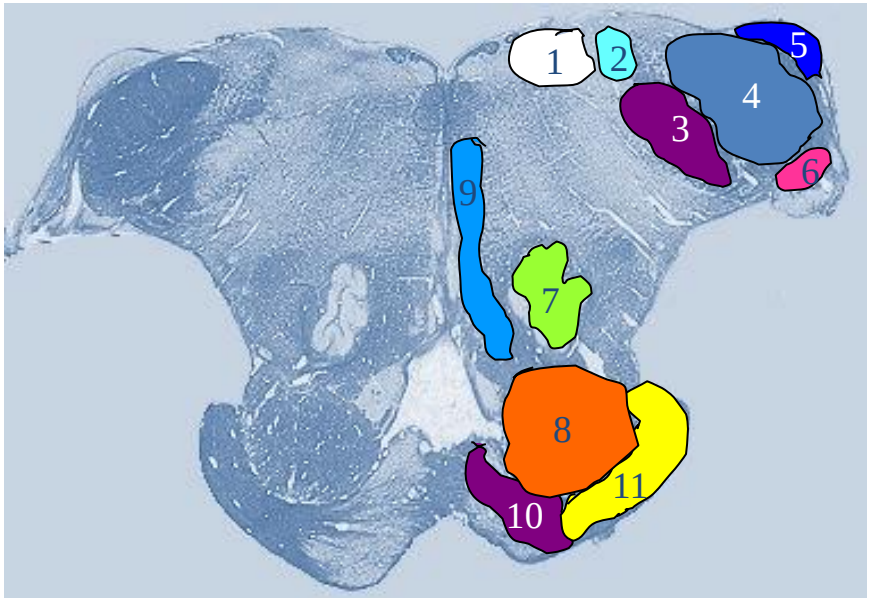
MEDULLA AT LEVEL OF THE INFERIOR OLIVE

1. N. nervi XII
2. N. dorsalis. n. X
3. N. et tractus solitarius
4. N. ambiguus
5. Ped. cerebellaris inf.
6. Lemniscus medialis
7. Oliva inferior
8. Tr. corticospinalis

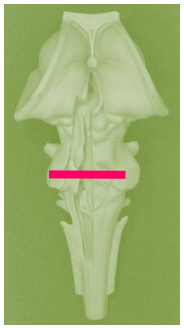


THE OPEN PART OF THE MEDULLA

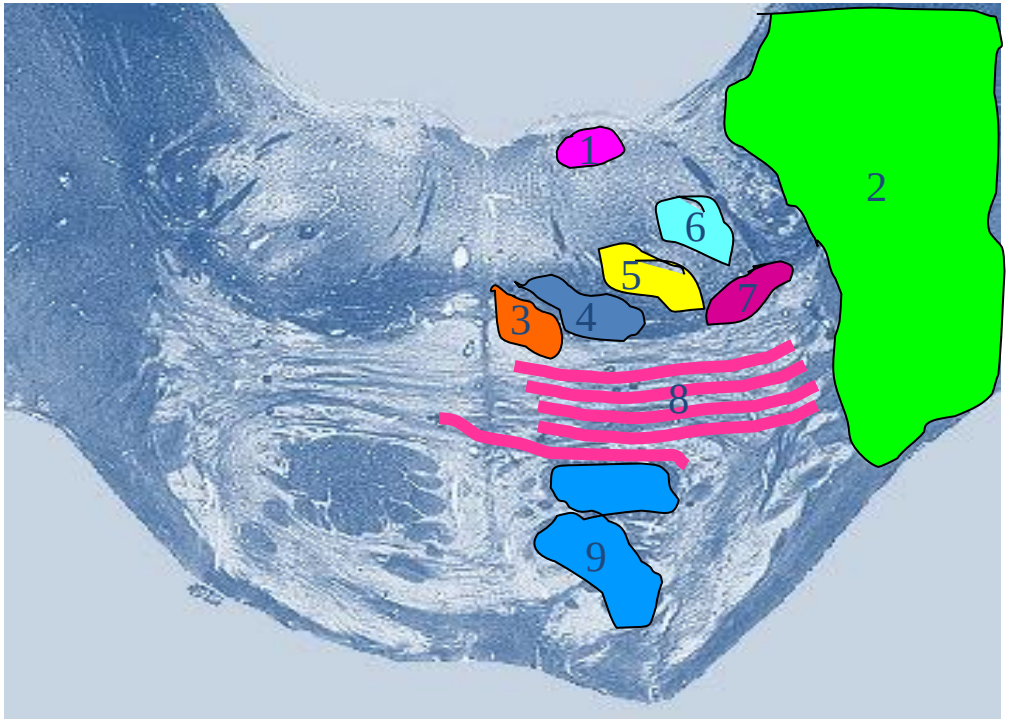
1. N. vestibularis medialis
2. N. vestibularis inferior
3. N. et tr. spinalis n. V
4. Ped. cerebellaris inf.
5. N. cochlearis dorsalis
6. N. cochlearis ventralis
7. Oliva inferior
8. Pyramidal tract
9. Lemniscus medialis
10. Basis pontis
11. Pedunculus cerebellaris medius



PONS AT THE LEVEL OF THE FACIAL COLLICULUS

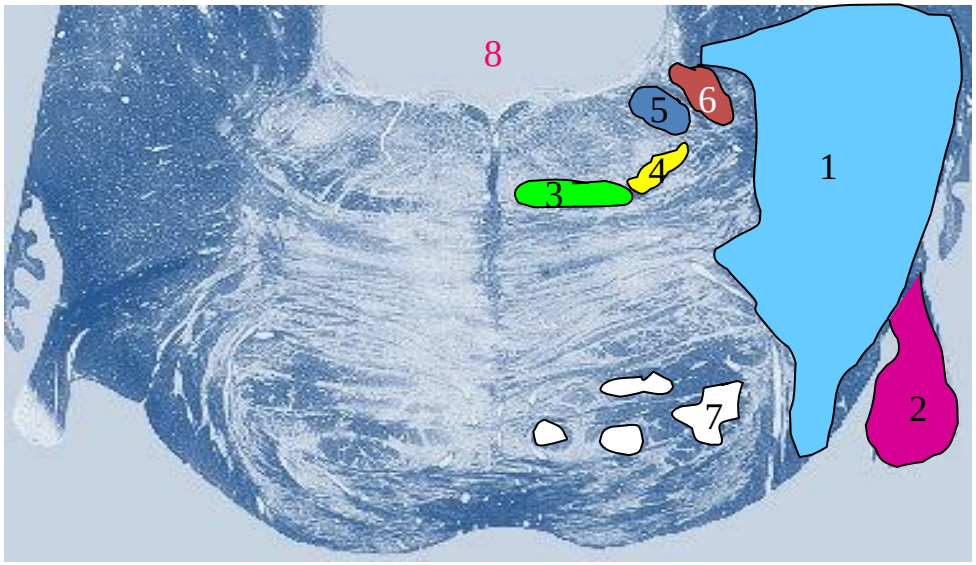


1. Colliculus facialis
2. Brachium pontis
3. Corpus trapezoideum
4. Lemniscus medialis
5. Oliva superior
6. N. motorius n. VII
7. Lemniscus lateralis
8. Pontocerebellar fibers
9. Pyramid tract
10. Nuclei pontis



PONS AT THE LEVEL OF TRIGEMINAL NUCLEI

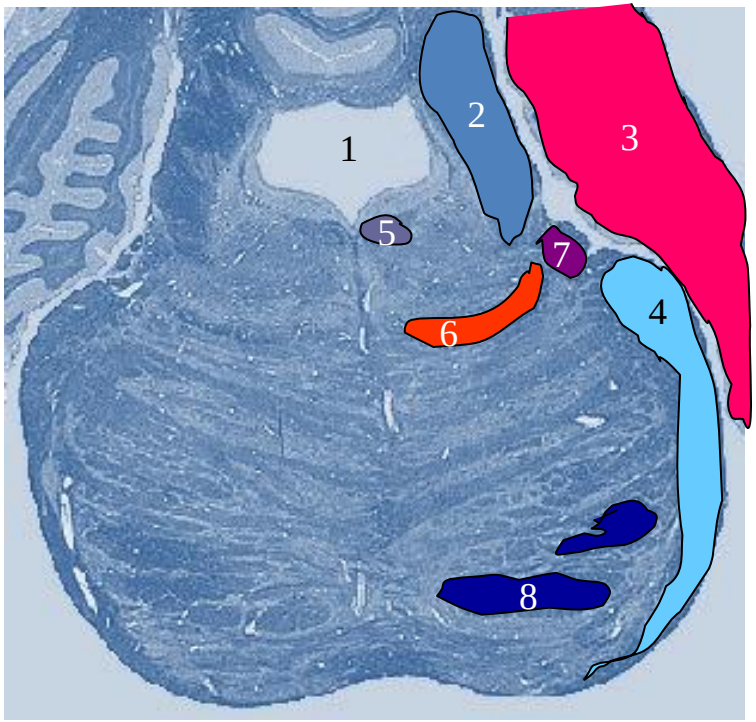
1. BRACHIUM PONTIS
2. N. TRIGEMINUS
3. LM+ EDINGER TRACT (E)
4. LEMN. LATERALIS
5. N. MOT. N. V
6. N. SEN. PRINC. N. V.
7. PYRAMID TRACT
8. 4TH VENTRICLE



ROSTRAL PART OF THE PONS

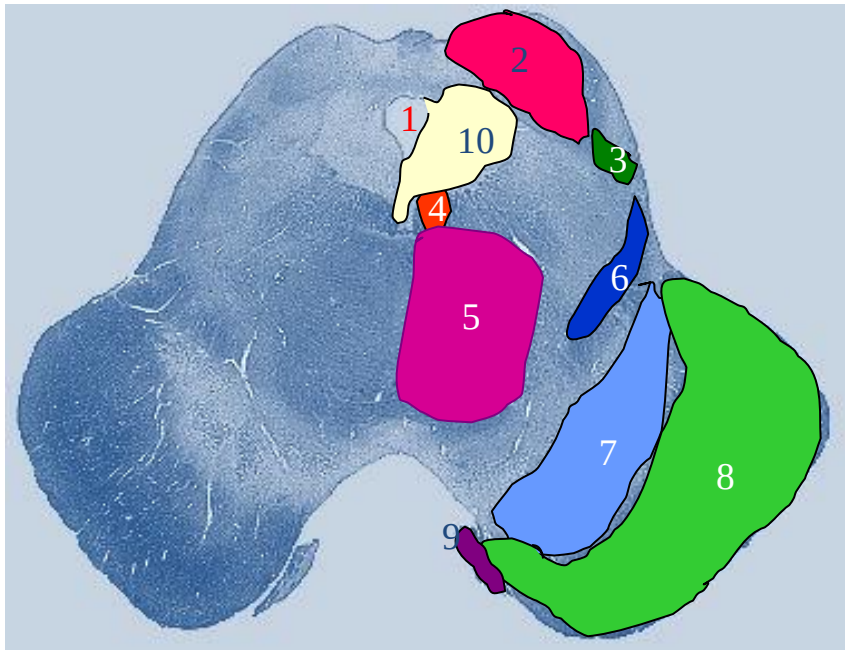
1. 4TH VENTRICLE
2. UPPER CEREBELLAR PEDUNCLE
3. CEREBELLUM
4. BRACHIUM PONTIS
5. FASC. LONG. MED.
6. LM+E
7. LEMNISCUS LATERALIS
8. PYRAMID TRACT

(TR. CORTICOPONTINUS, TR, CORTICOBULBARIS, TR.CORTICOSPINALIS)

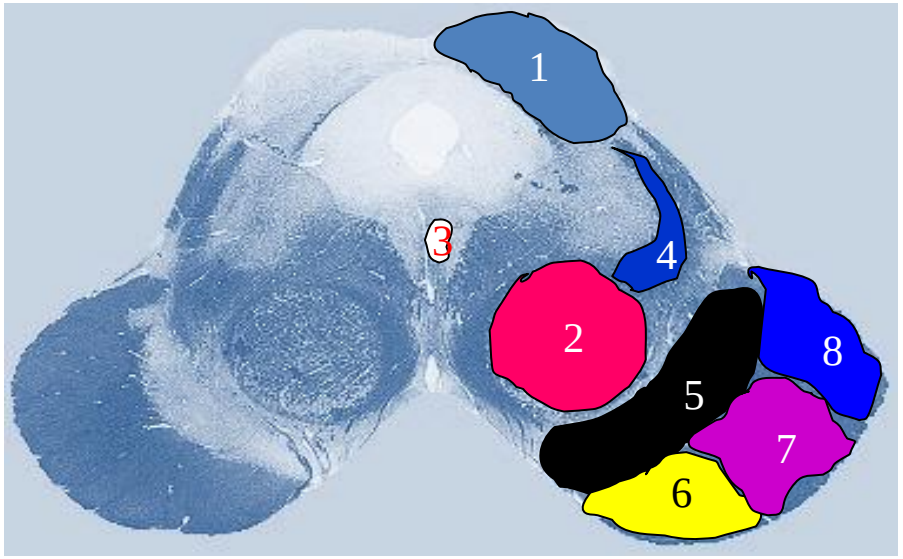


MESENCEPHALON AT THE LEVEL OF INFERIOR COLLICULI

1. AQUEDUCTUS CEREBRI
2. COLLICULUS INFERIOR
3. LEMNISCUS LATERALIS
4. NUCL. NERVI IV.
5. DECUSSATION OF CEREBEL. PED.
6. LM+E
7. SUBSTANTIA NIGRA
8. PEDUNCULUS CEREBRI
9. N. OCULOMOTORIUS
10. CENTRAL GRAY MATTER



MESENCEPHALON AT THE LEVEL OF SUPERIOR COLLICULI



1. COLLICULUS SUPERIOR
2. NUCLEUS RUBER
3. NUCLEUS N. III.
4. LM+E
5. SUBSTANTIA NIGRA
6. TR. FRONTOPONTINUS
7. TR. CORTICOBULBARIS ET SPINALIS
8. TR. OCCIPITO-TEMPOROPONTINUS

THE RETICULAR FORMATION OF THE BRAIN STEM

MAIN REGULATORY FUNCTIONS

RESPIRATION
CIRCULATION
FEEDING
EYE MOVEMENTS
MOTOR COORDINATION
STATE OF CONSCIOUSNESS
AROUSAL