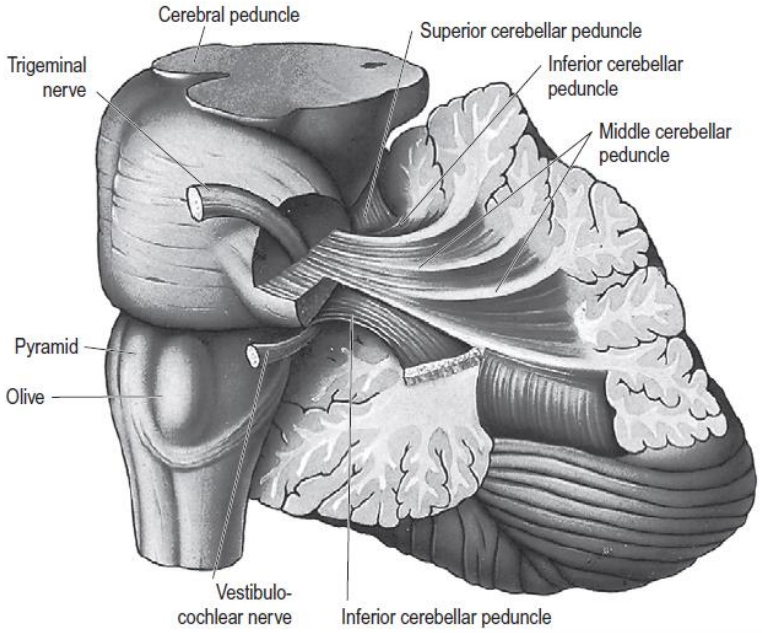
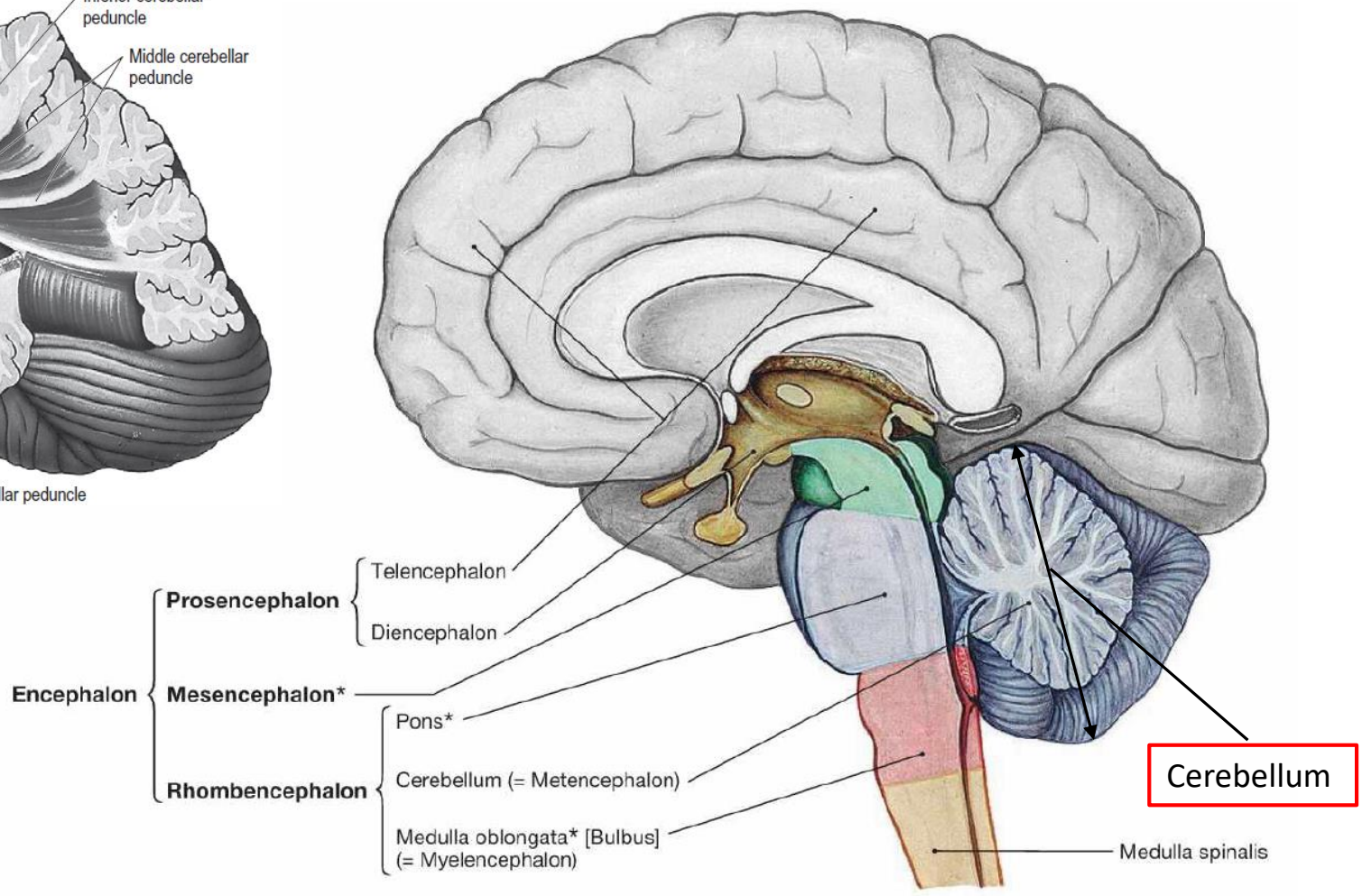
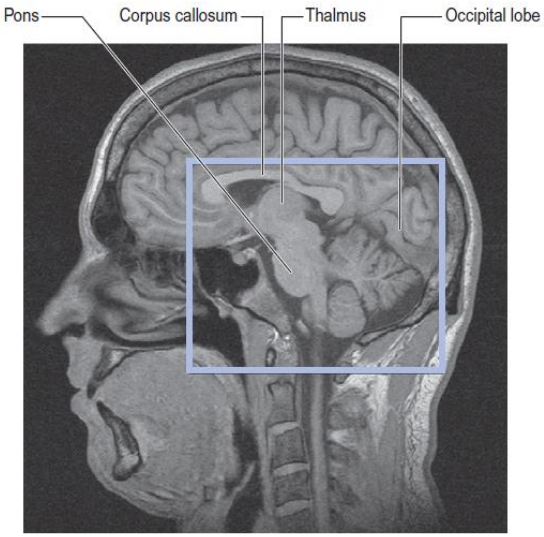
Neuroanatomy 6: Cerebellum

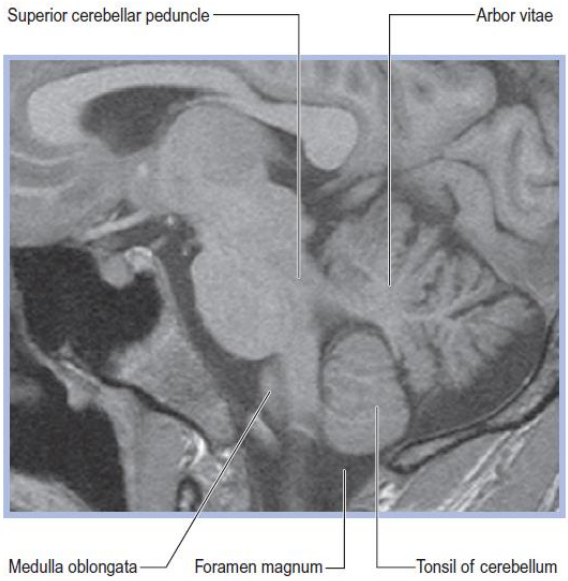
Dr. Ali Mohsin





MRI images showing the cerebellum





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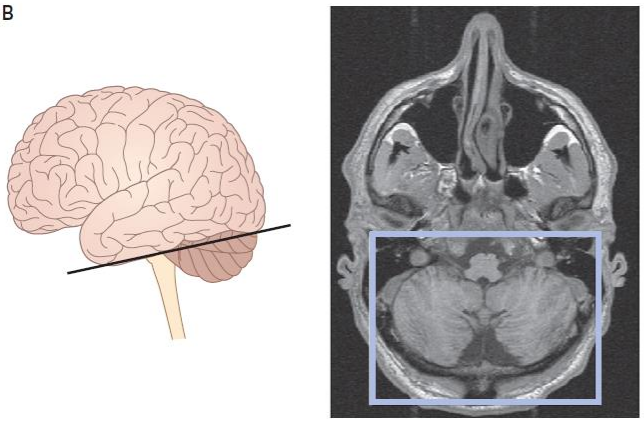
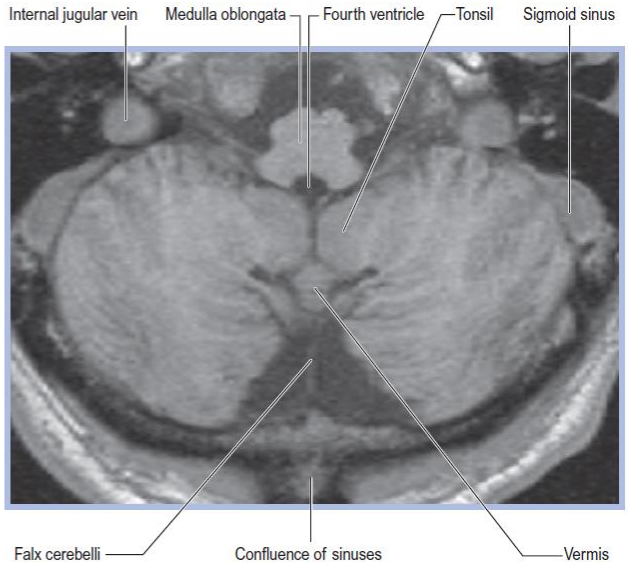
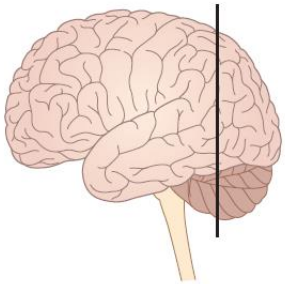
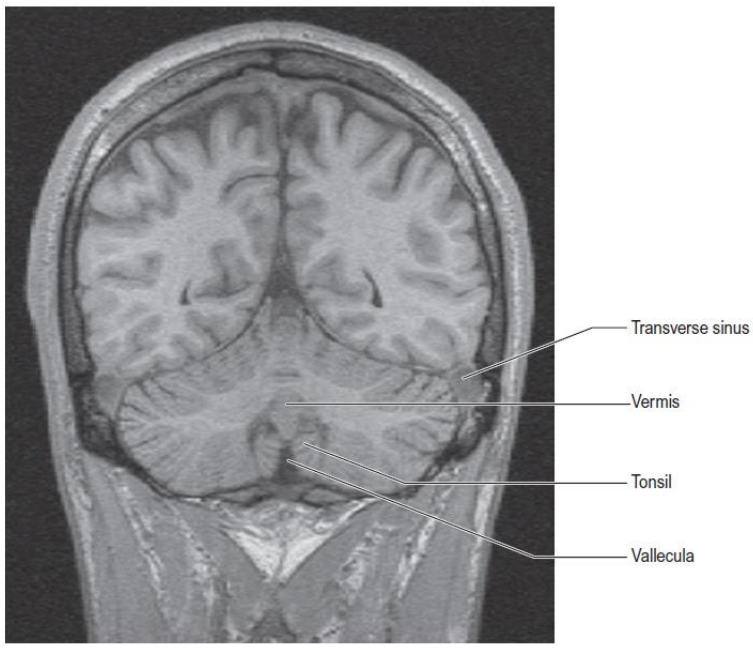
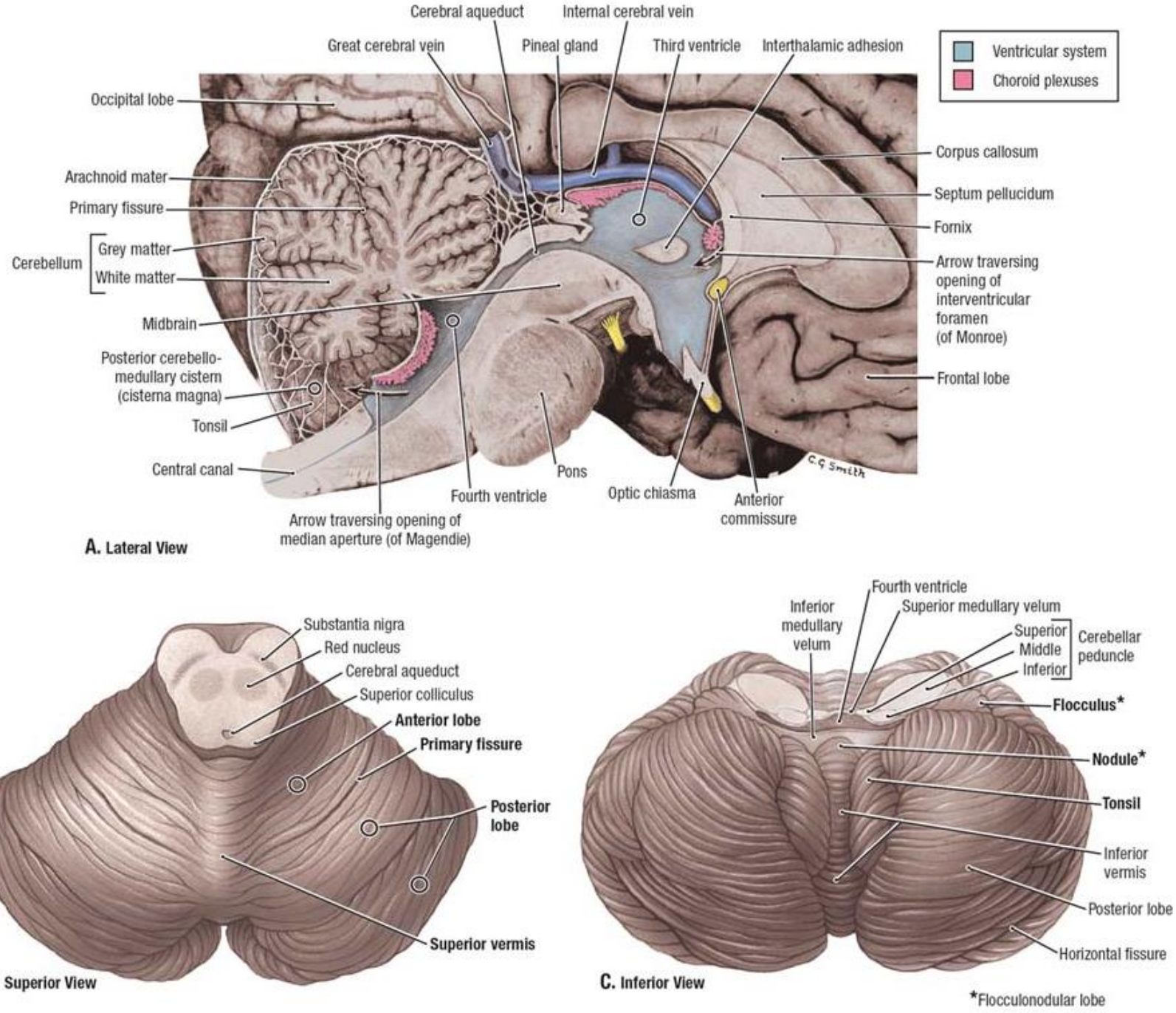
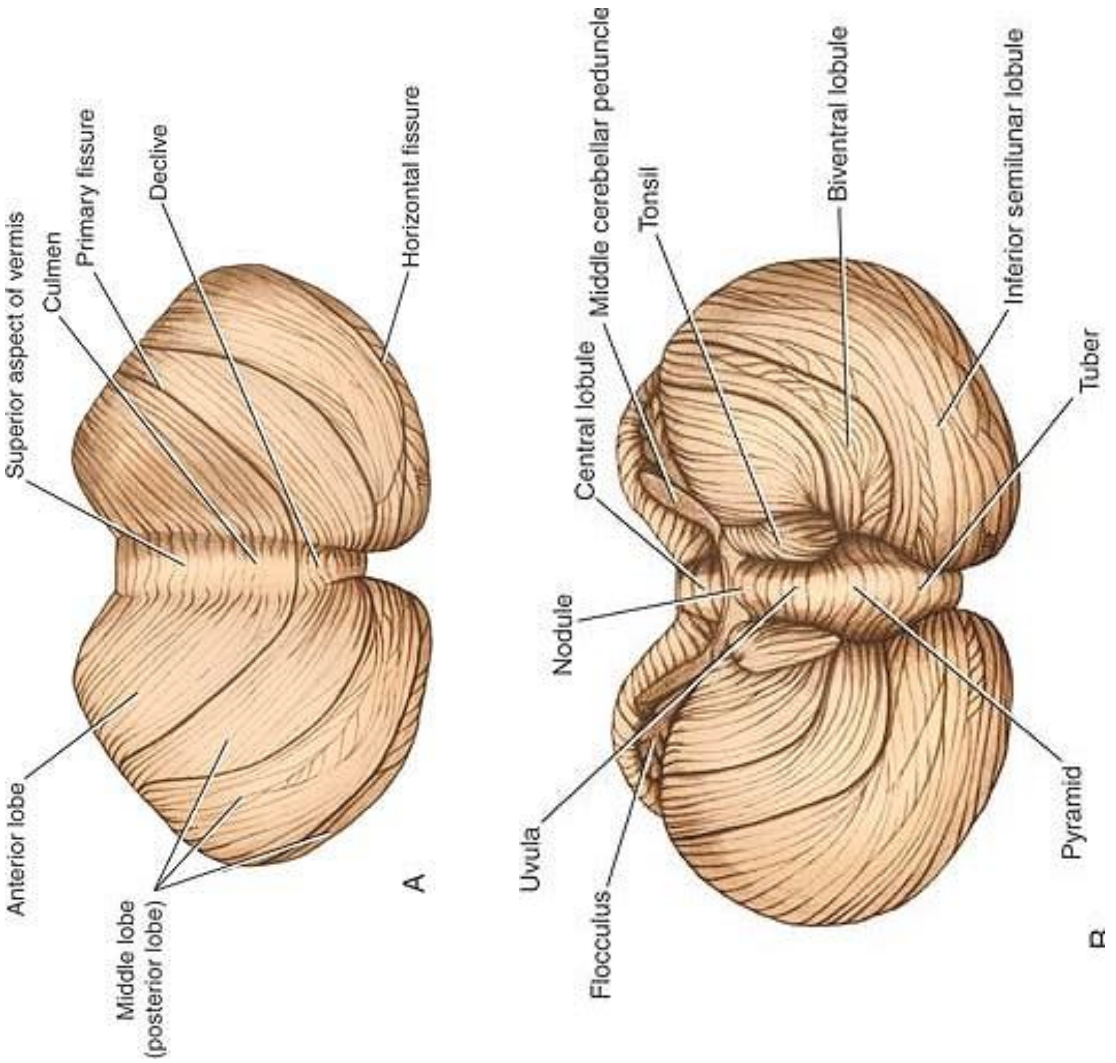


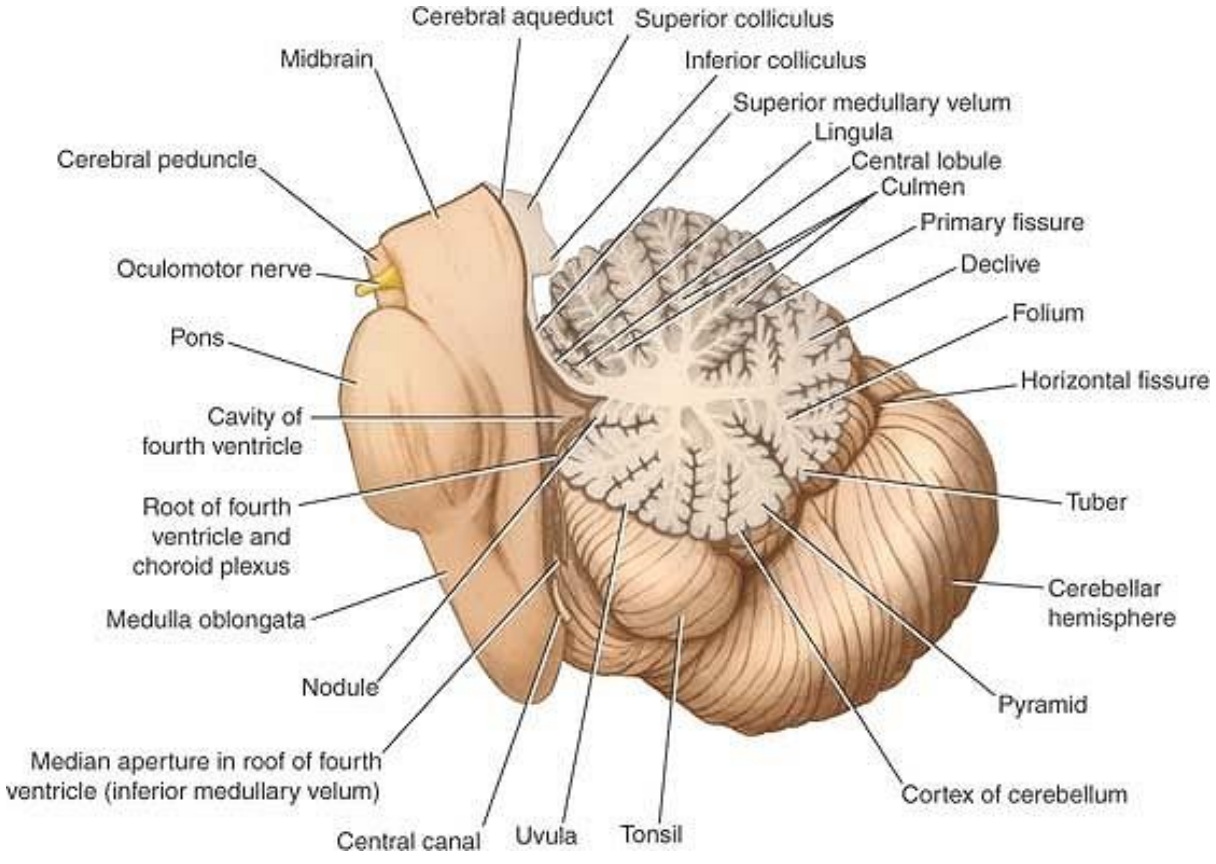




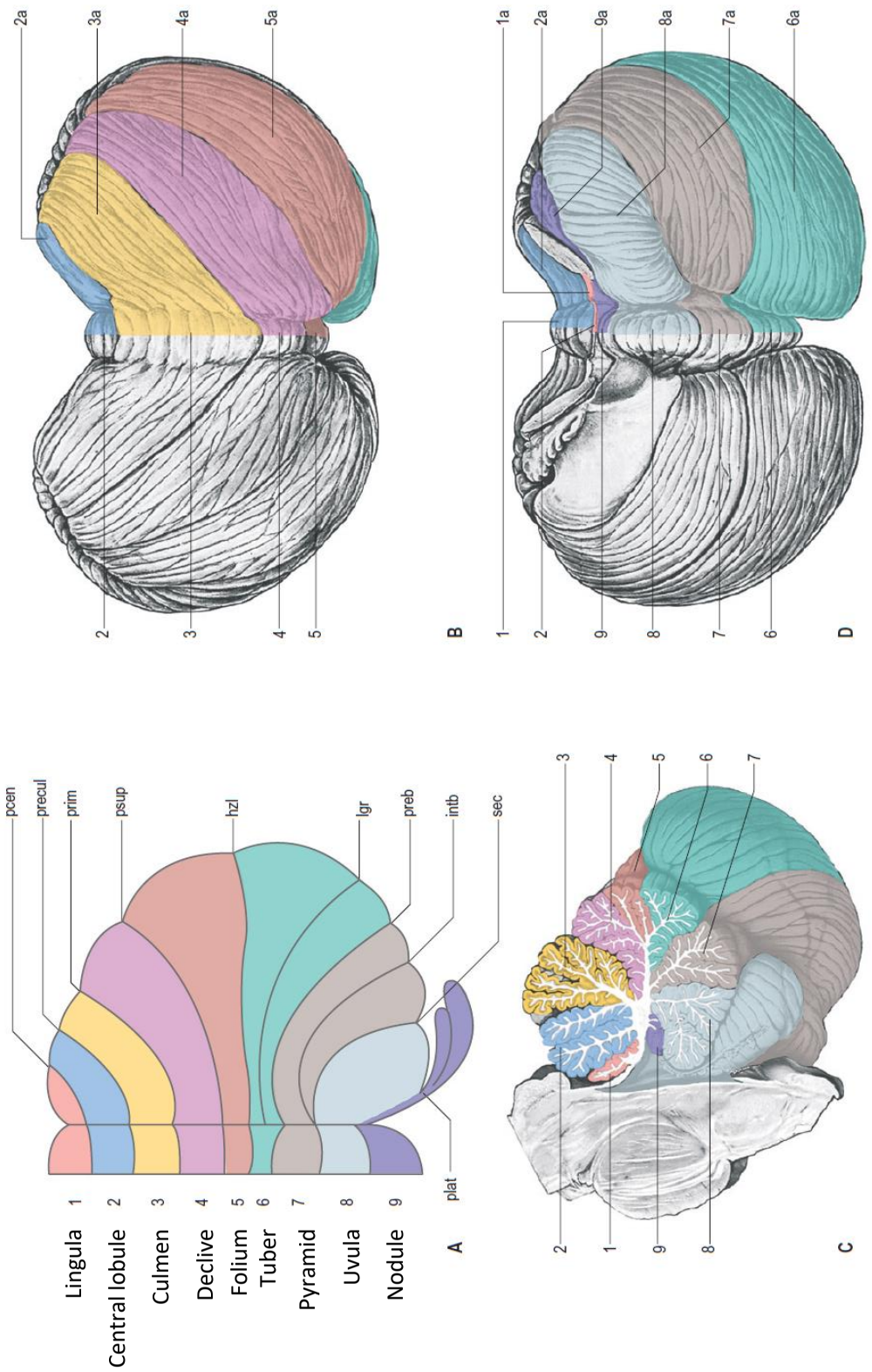



Cerebral aqueduct
Internal cerebral vein
Great cerebral vein
Pineal gland
Third ventricle
Interthalamic adhesion
Ventricular system
Choroid plexuses
Occipital lobe
Arachnoid mater
Primary fissure
Cerebellum
Grey matter
White matter
Midbrain
Posterior cerebello-medullary cistern (cisterna magna)
Tonsil
Central canal
Corpus callosum
Septum pellucidum
Fornix
Arrow traversing opening of interventricular foramen (of Monroe)
Frontal lobe
Pons
Fourth ventricle
Optic chiasma
Anterior commissure
Arrow traversing opening of median aperture (of Magendie)
A. Lateral View
Substantia nigra
Red nucleus
Cerebral aqueduct
Superior colliculus
Anterior lobe
Primary fissure
Posterior lobe
Superior vermis
B. Superior View
Fourth ventricle
Inferior medullary velum
Superior medullary velum
Superior
Middle
Inferior
Cerebellar peduncle
Flocculus*
Nodule*
Tonsil
Inferior vermis
Posterior lobe
Horizontal fissure
C. Inferior View
*Flocculonodular lobe


Superior aspect of vermis
Culmen
Primary fissure
Declive
Horizontal fissure
Anterior lobe
Middle lobe (posterior lobe)
A
Middle cerebellar peduncle
Tonsil
Biventral lobule
Inferior semilunar lobule
Central lobule
Tuber
Nodule
Uvula
Flocculus
Pyramid
B


Cerebral aqueduct
Superior colliculus
Midbrain
Inferior colliculus
Superior medullary velum
Lingula
Cerebral peduncle
Central lobule
Culmen
Primary fissure
Oculomotor nerve
Declive
Folium
Pons
Horizontal fissure
Cavity of fourth ventricle
Tuber
Root of fourth ventricle and choroid plexus
Cerebellar hemisphere
Medulla oblongata
Nodule
Pyramid
Median aperture in roof of fourth ventricle (inferior medullary velum)
Cortex of cerebellum
Central canal
Uvula
Tonsil

Anatomical Divisions of Cerebellum



Anterior lobe
1 Lingula
2 Central
3 Culmen

Posterior lobe
4 Simple
5 Folium
6 Tuber
7 Pyramis
8 Uvula

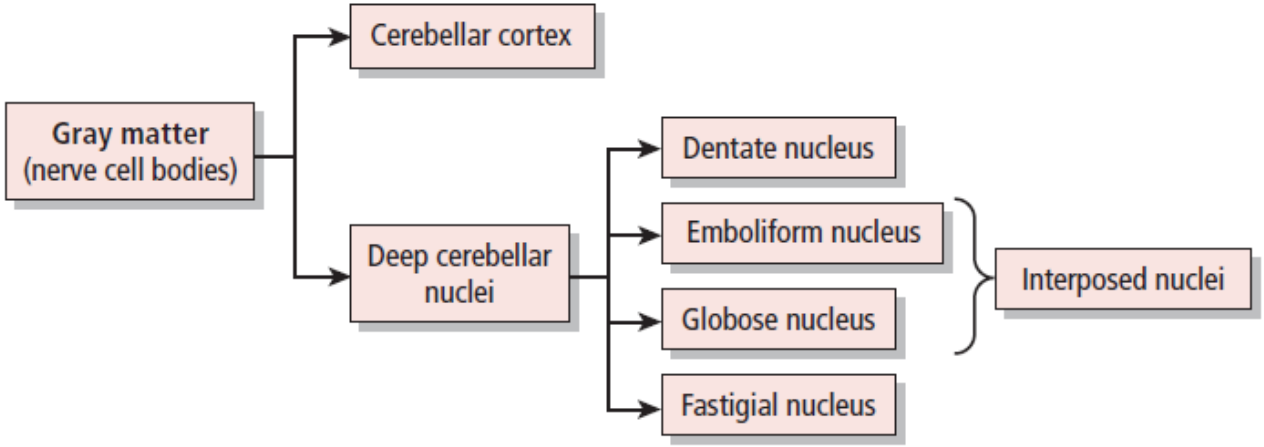
Flocculonodular lobe
9 Nodule

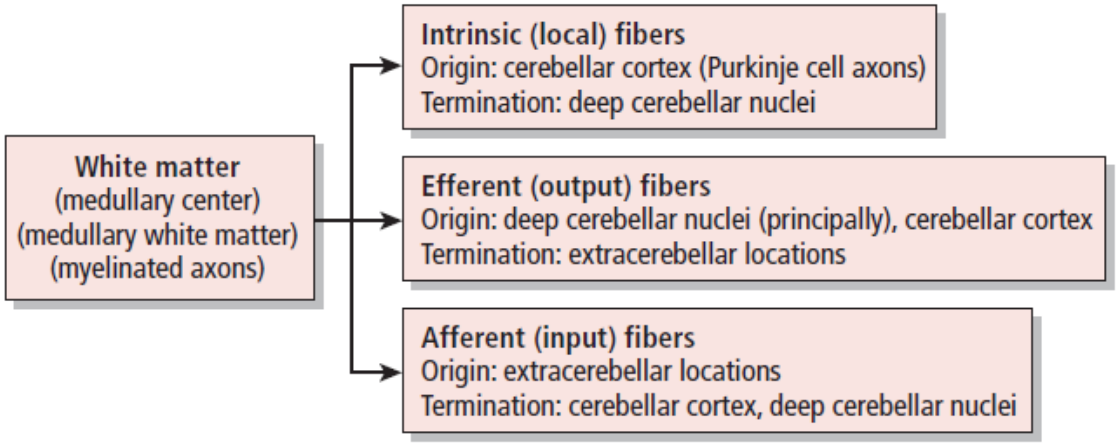
Fissures
pcen precentral
precul preculminate
prim primary
psup posterior superior
hzl horizontal
lgr lunogracile
preb prebiventral
intb intrabiventral
sec secondary
plat posterolateral

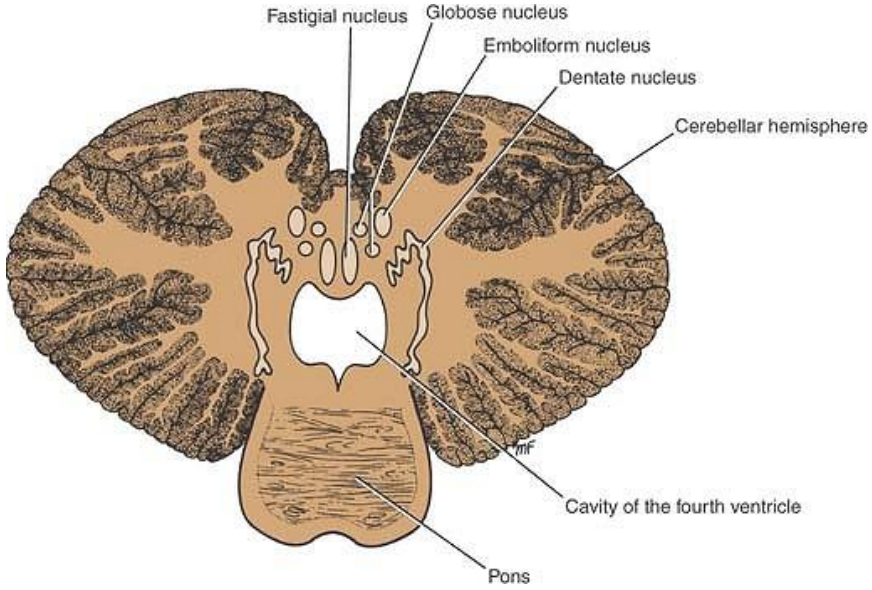
Wings
1a Wing of lingula
2a Wing of central lobule
3a Anterior quadrangular lobule
4a Posterior quadrangular lobule
5a Superior semilunar lobule
6a Inferior semilunar lobule
7a Biventral lobule
8a Tonsil of cerebellum
9a Flocculus

Fig. 13.3 *Terminology of cerebellar lobes and fissures, using a schematic 'unrolled' diagram as a frame of reference. A, Unrolled cerebellar cortex. The lobules are labelled by numbers, and the fissures between the wings are listed. B, Cerebellum viewed from above. C, Median sagittal section of cerebellum. The nodules and wings are numbered and listed. D, Cerebellum viewed from below.*

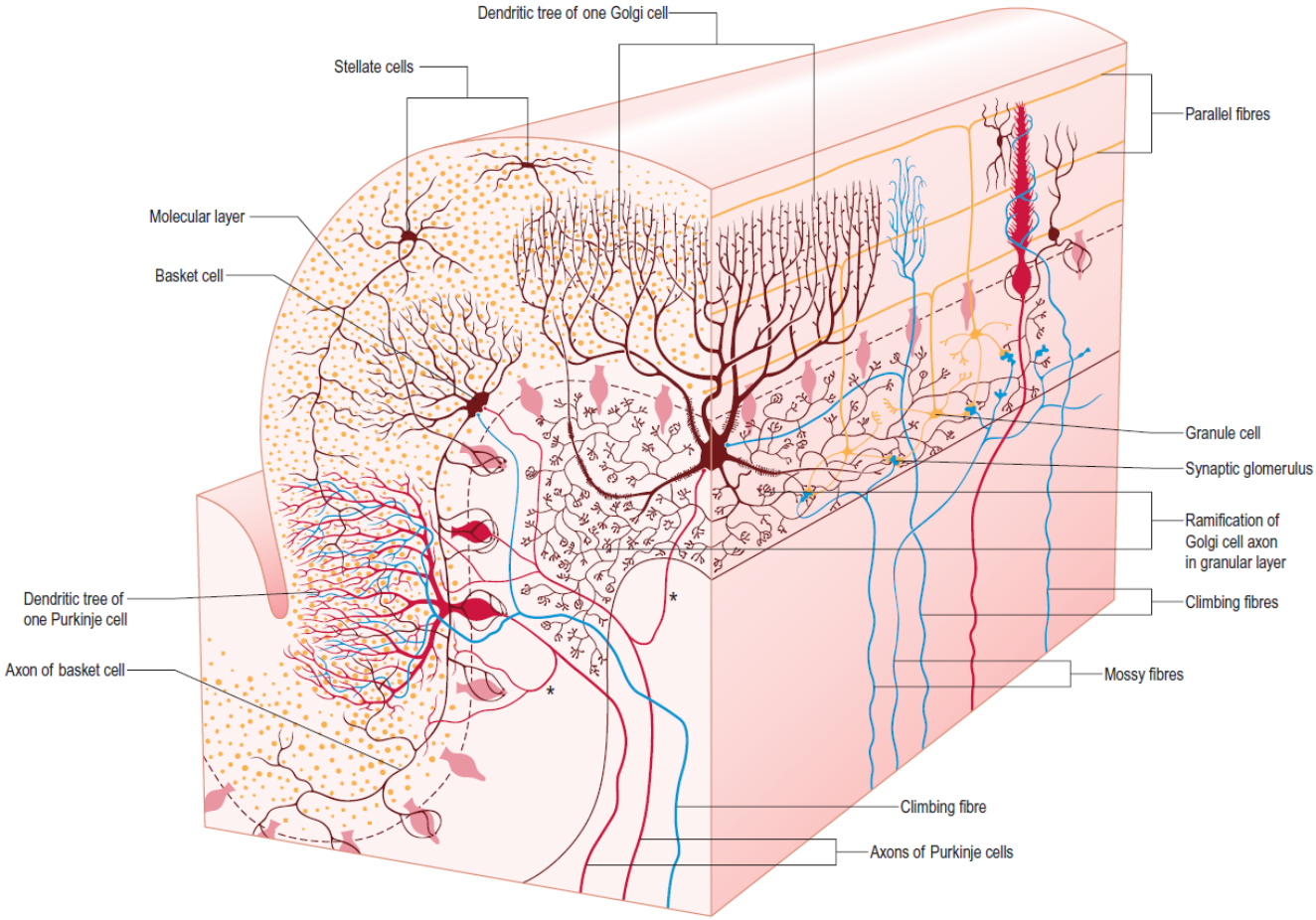
Cerebellar Gray & White Matter

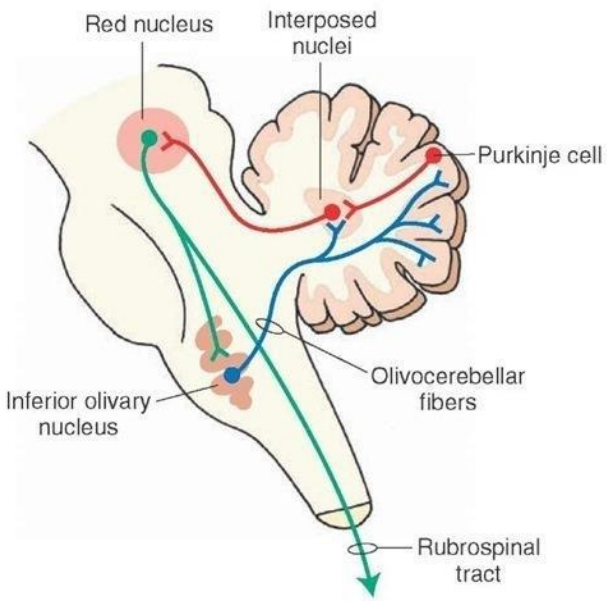


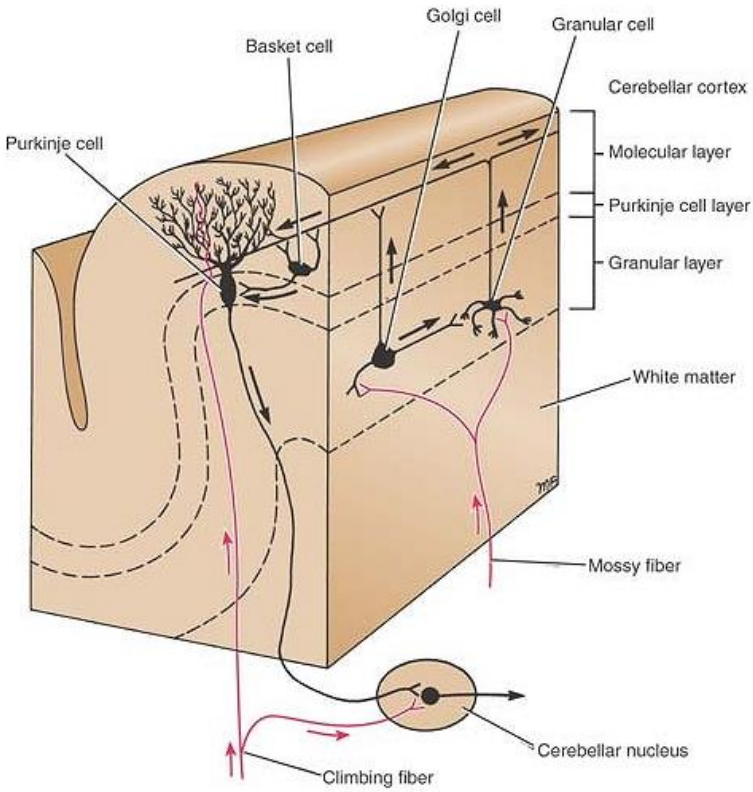




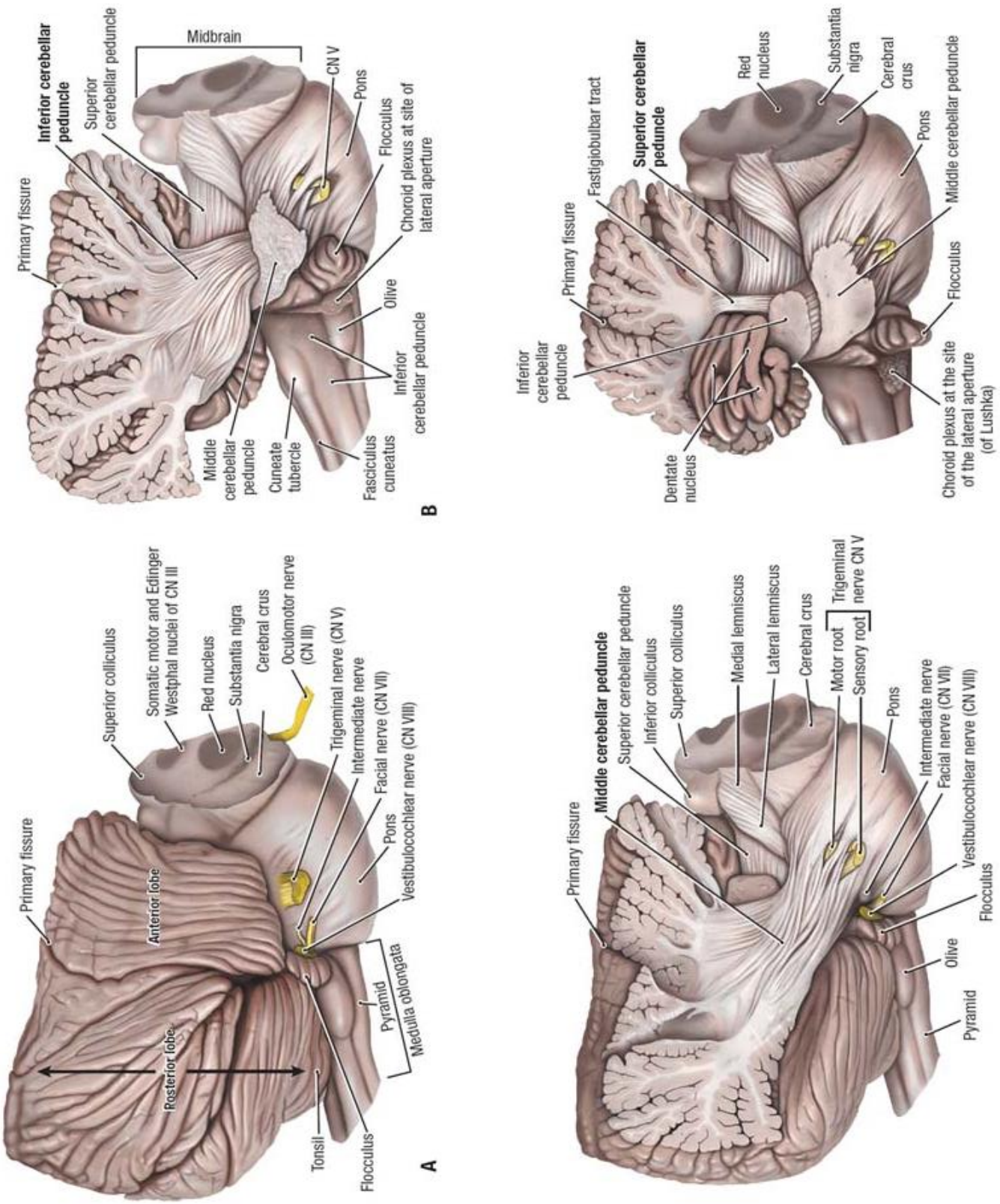
Cerebellar Cortex Histology







Serial dissections of the cerebellum



Functional divisions of the cerebellum

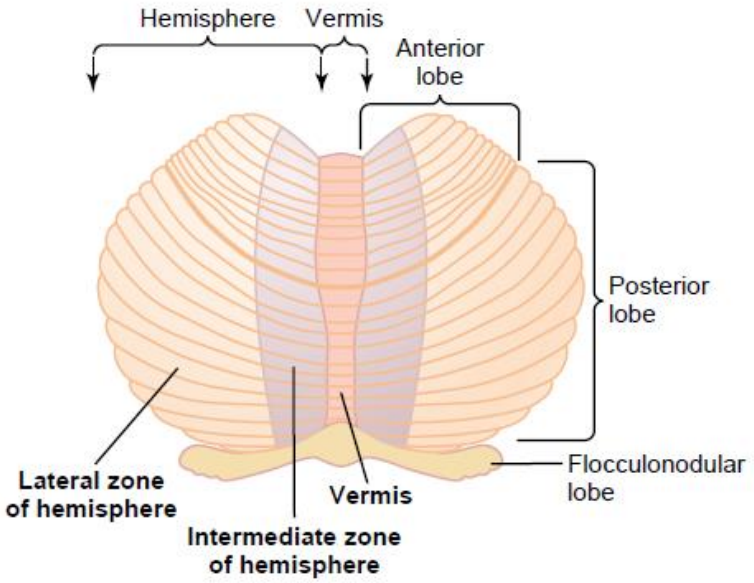


Figure 56–2

Functional parts of the cerebellum as seen from the posteroinferior view, with the inferiormost portion of the cerebellum rolled outward to flatten the surface.

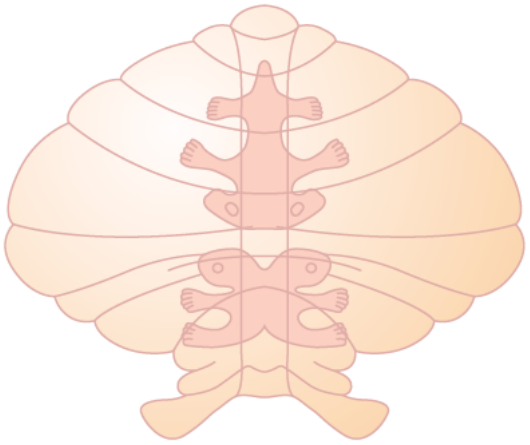


Figure 56–3

Somatosensory projection areas in the cerebellar cortex.

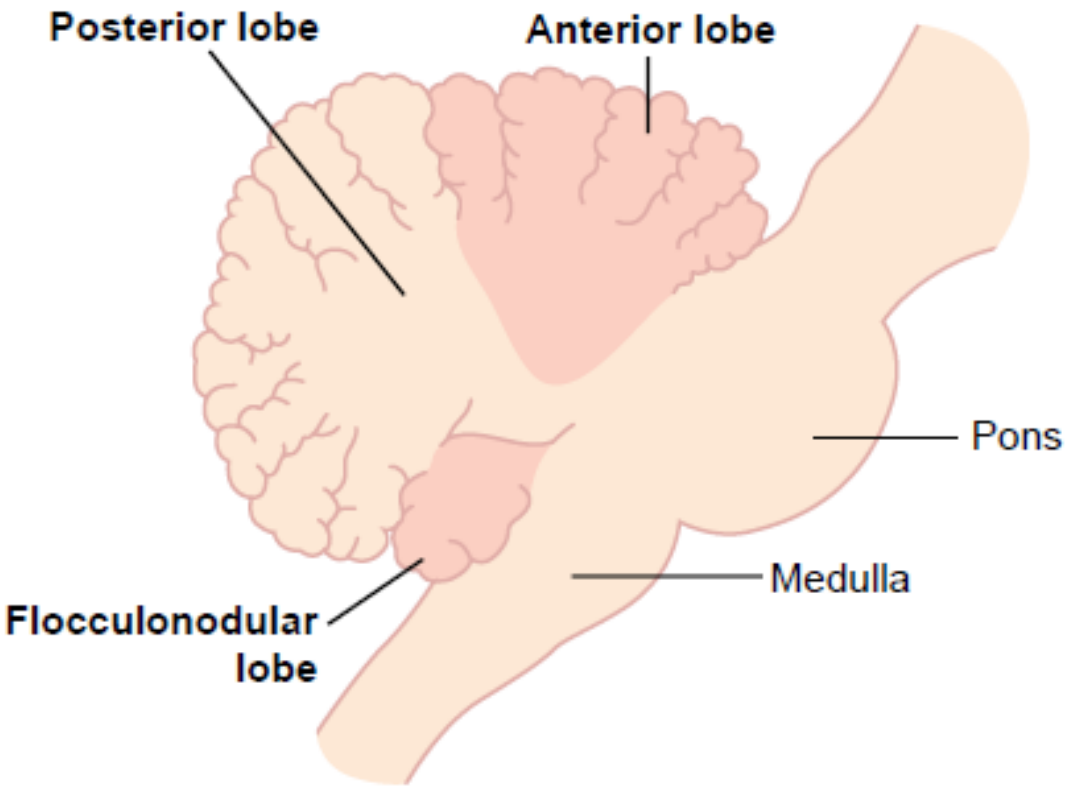
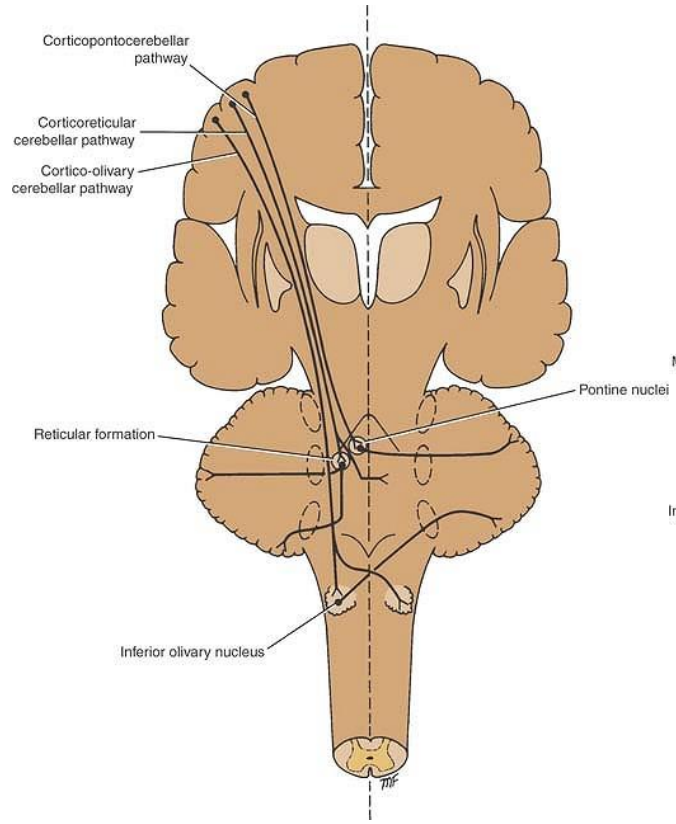
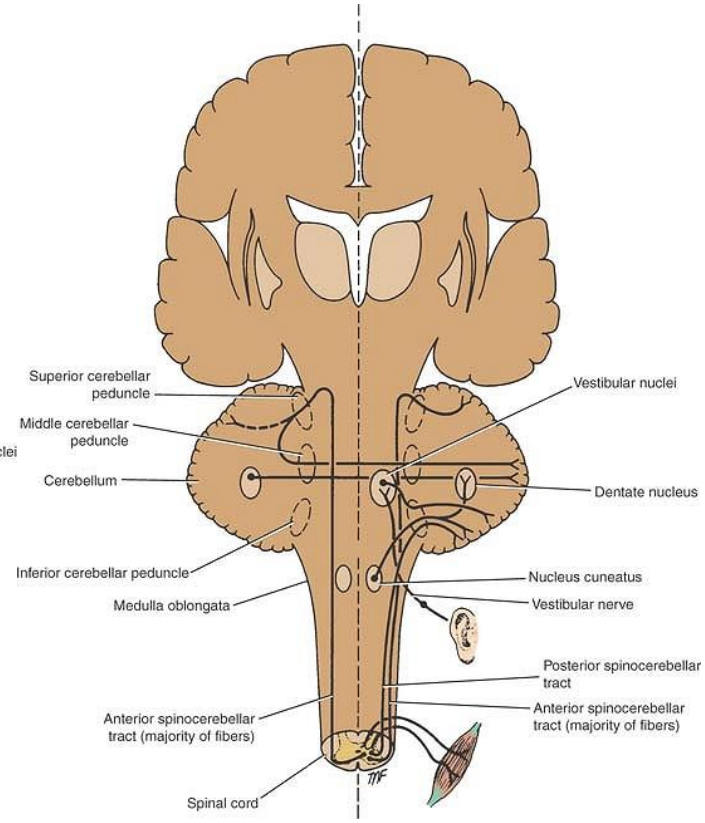


Figure 56–1

Anatomical lobes of the cerebellum as seen from the lateral side.

Cerebellar Afferent Pathways





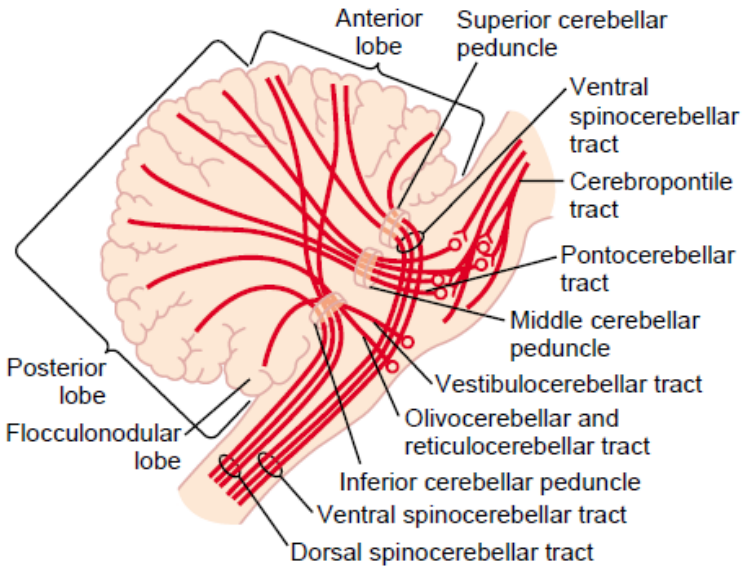


Figure 56–4

Principal *afferent* tracts to the cerebellum.

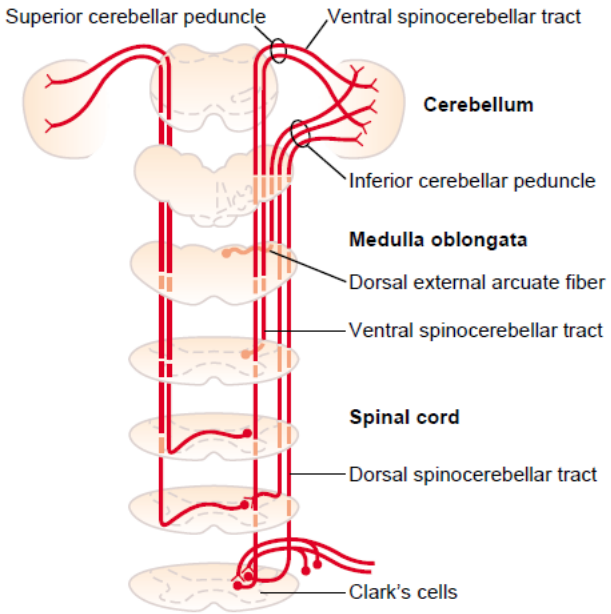
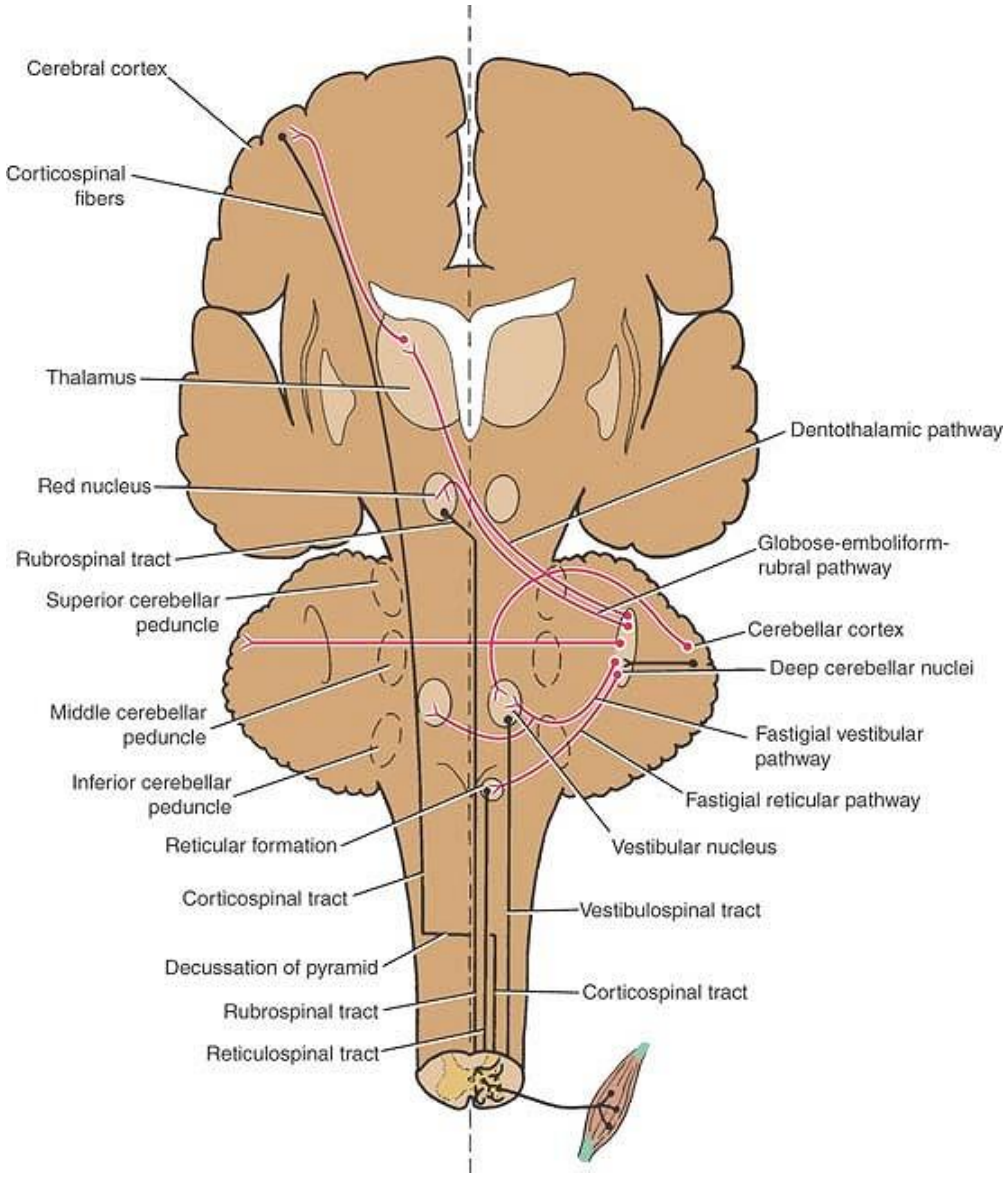


Figure 56–5

Spinocerebellar tracts.

Cerebellar Efferent Pathways



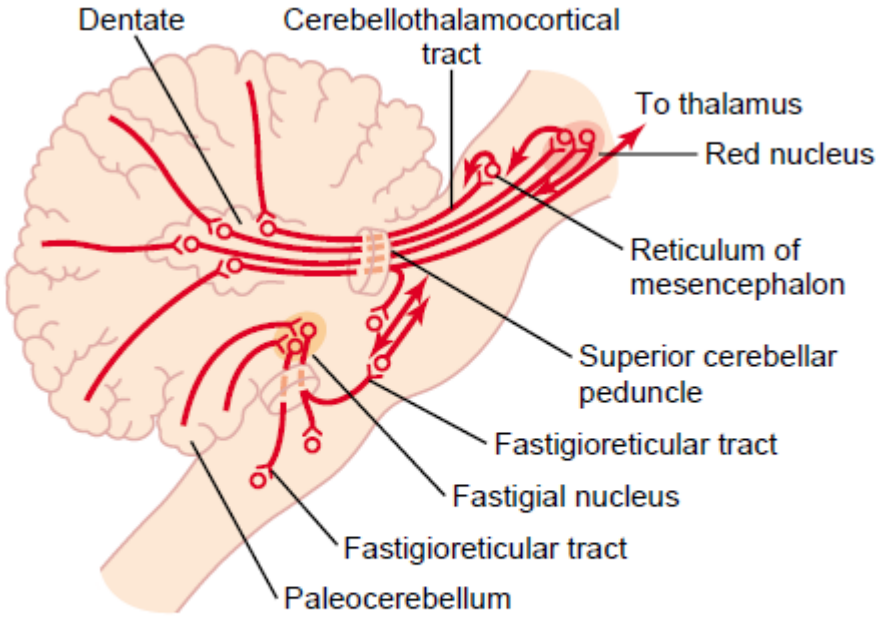
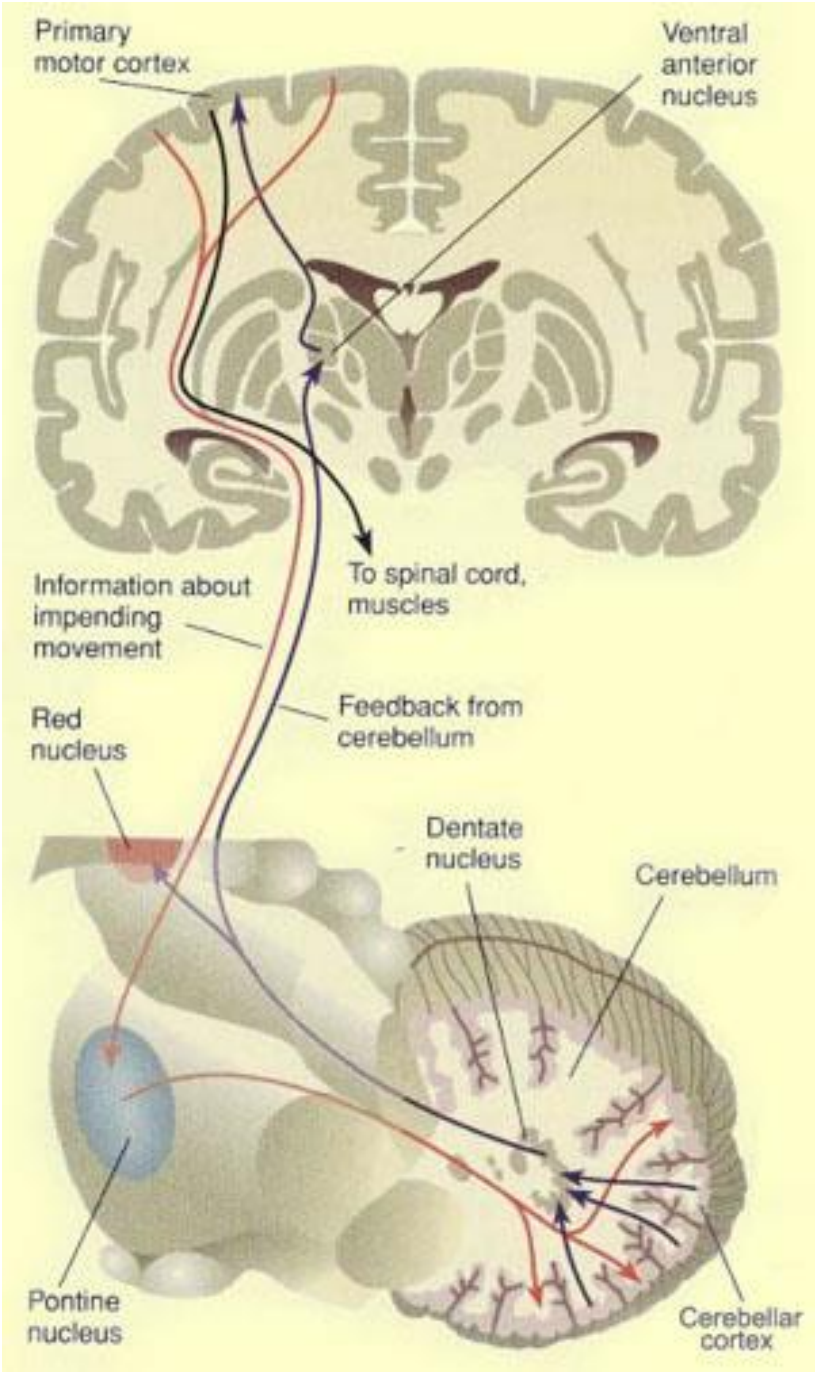


Figure 56–6

Principal *efferent* tracts from the cerebellum.

Cerebellar Main Circuit



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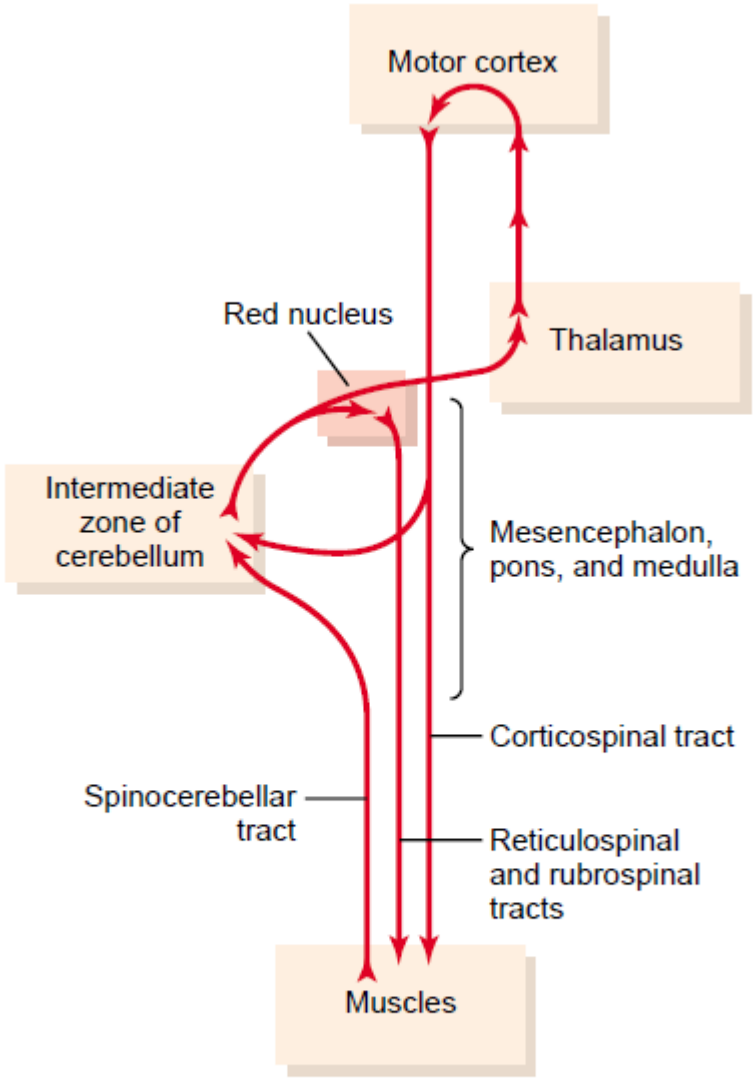

Figure 56–8

Cerebral and cerebellar control of voluntary movements, involving especially the intermediate zone of the cerebellum.