

**LEVEL: MIDBRAIN—
POSTERIOR COMMISSURE**

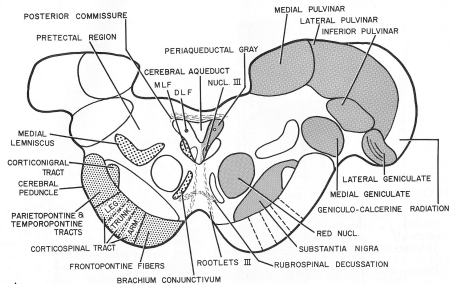
This section contains the posterior horn of the lateral ventricles, the telencephalon (cerebral hemisphere), the diencephalon, and the mesencephalon.

Telencephalon. The splenium of the corpus callosum is seen above the brain stem. The temporal lobe is found lateral to the cerebral peduncles.

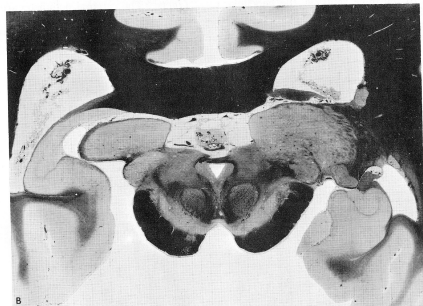
Diencephalon. The pulvinar and the medial and lateral geniculate nuclei are present on the right side. The medial geniculate is the last subcortical station for the auditory system, while the lateral geniculate is the final subcortical synaptic site for the

visual system. The pineal gland of the epithalamus is seen at the midline above the posterior commissure.

Mesencephalon. This level of the midbrain is through the pretectal region, which mediates the light reflex and upward and downward gaze. The posterior commissure connects the pretectal region, the superior colliculus, and other nuclei in the midbrain. The cerebral peduncles are conspicuous on the anterior surface of the midbrain; internal to this tract is the substantia nigra. The red nuclei are seen in the tegmentum of the midbrain; some of the fibers of the superior cerebellar peduncle end here while others continue on to the thalamus (ventral anterior and ventral lateral nuclei). The medial lemniscus is seen lateral to the red nuclei.



A



B