For our medical school neuroanatomy labs, we use five specific dissections for demonstration and teaching purposes. These dissections are aimed at demonstrating the gross morphological features of specific pathways and systems.

**Use of the Dissections**

Although each of these dissections shows specific anatomical relationships, we have found that the double service at particular levels during the course. In our first wet lab, students examine the ventral surface of the brain and see many components of the corticospinal pathways. Introducing the internal capsule dissection immediately after the lateral ventricle dissection makes it possible to show the corticospinal pathways and to provide a clear introduction to a functional system. In a similar fashion, the visual pathway dissection is introduced in the second dissection and provides a number of external landmarks into a functional context. We feel that each of the other dissections serves similar purposes. They teach basic anatomical relationships while buttressing functional systems.

**Forebrain / Lateral Ventricle Dissection**

The first part of the lateral ventricle dissection is taken from Heimer's dissection guide. It begins:

1. A coronal cut is made starting at the point where the hemispheres cross the midline.
2. The brain is removed en bloc from coronal section of the cerebrum to the base of the brain. The cerebral cortex is cut with a sharp knife.
3. The thalamus is cut coronally making a plane through the third ventricle and the internal capsule.
4. The cerebral peduncle is cut transversely at the level of the substantia innominata.
5. The fornix is cut coronally making a plane through the anterior commissure.
6. The corpus callosum is cut vertically starting at the posterior commissure.
7. The hippocampus is removed en bloc from the cerebrum.
8. The insula is removed from the lateral sulcus.
9. The superior and middle temporal gyri are removed revealing the lateral surface of the brain.
10. The lateral ventricle is cut coronally making a plane through the head of the caudate.
11. The thalamic radiation is cut coronally making a plane through the optic radiation.
12. The thalamus is removed en bloc from the cerebrum.

**Brainstem Dissection**

The brainstem remains lateral after the posterior commissure is removed in the lateral ventricle dissection (below). The posterior commissure is unroofed, revealing the floor of the fourth ventricle.

**Visual Pathway Dissection**

The visual pathway dissection begins with an incision through the occipital lobe of the cortex. The lateral surface is removed for the visual pathway. The posterior commissure is unroofed, revealing the optic radiation.

**Internal Capsule Dissection**

When completed the student can view difficult temporal lobe structures such as the striatum, thalamus, caudate, and stria terminalis. The fornix is cut in a similar fashion, making a plane through the anterior commissure.

**Final Visual Pathway**

The photos on this poster can be viewed and downloaded from:
http://ect.downstate.edu/courseware/neuroscience/

(Hands to Brain Laboratory at Downstate's Educational Computer and Technology group for the web site and editing the website)