

## Unit 10

# The Nervous System

The nervous system is divided into two parts, the *central nervous system* and the *peripheral nervous system*. The peripheral nervous system is composed of all the nerves and nerve plexuses outside of the cranial cavity and vertebral column.

The central nervous system is composed of the *brain* and the *spinal cord*. In order to expose these structures, remove the skin and muscle from the skull and the back (Fig. 38). Then take bone forceps and, by chipping away small pieces of bone, remove the skullcap. Use care in doing this or you will damage the brain. After removing the skullcap, remove the back of the skull where it joins the vertebral column (Fig. 39). When you have completed this portion, use the bone forceps to remove the dorsal portion of each vertebra. Now return to the head and carefully

separate the brain from the skull. The brain is covered by the *meninges*, three layers of protective membrane. Notice also that the brain has ridges (*gyri*) and grooves (*sulci*).

Remove the brain and spinal cord by gently separating them from the opened skull and spinal column. The brain has two halves or *hemispheres* divided by the *medial fissure* (Fig. 40). You should be able to locate the *cerebrum*, which is divided into two *cerebral hemispheres*. The surface of the cerebrum is the *cerebral cortex*. The cerebrum and the cerebral cortex allow man to develop what we term intelligence. The cerebrum is responsible for thought and memory, control of the voluntary muscles of the body, and response and perception of external stimuli received by the special organs of sense.

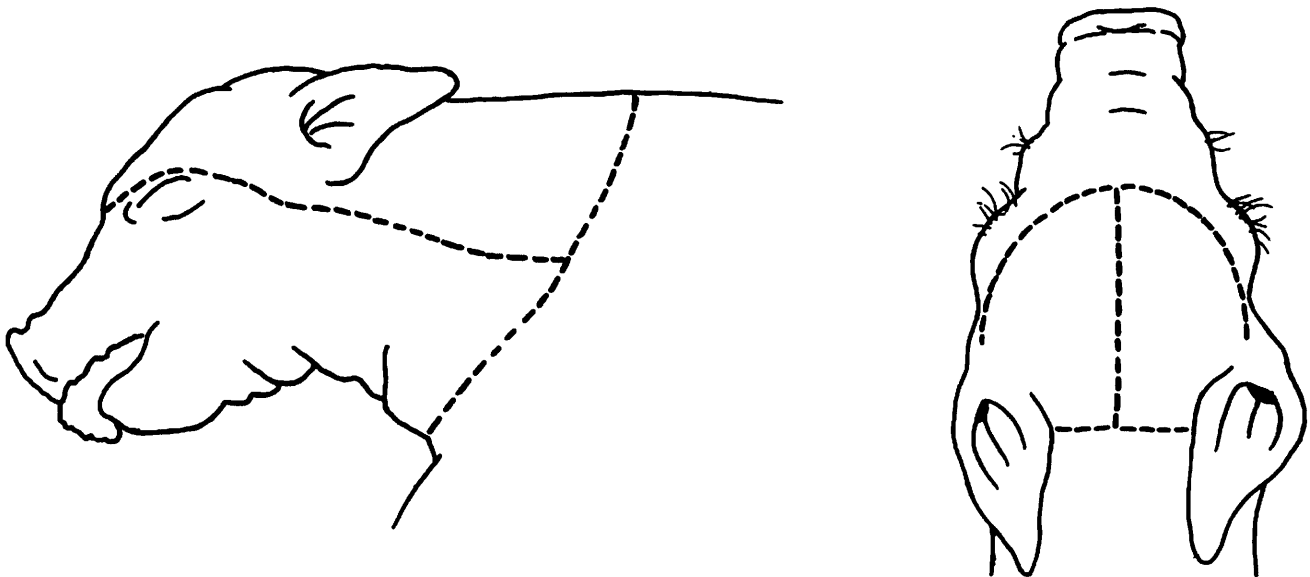


Figure 38. Diagram showing where to make incisions to remove the tissue covering the skullcap and cervical vertebrae.