

CEREBRAL INJURIES AND ABNORMALITIES

The specific symptoms associated with a cerebral injury or abnormality depend upon the areas and extent of damage. A person with damage to the association areas of the frontal lobes may have difficulty concentrating on complex mental tasks, appearing disorganized and easily distracted.

If the general interpretative area of the dominant hemisphere is injured, the person may be unable to interpret sounds as words or to understand written ideas. However, the dominance of one hemisphere usually does not become established until after five or six years of age. Consequently, if the general interpretative area is destroyed in a child, the corresponding region of the other side of the brain may be able to take over the functions, and the child's language abilities may develop normally. If such an injury occurs in an adult, the nondominant hemisphere may develop only limited interpretative functions, producing a severe intellectual disability. Following are three common cerebral abnormalities.

- In a *concussion*, the brain is jarred against the cranium, usually as a result of a blow to the head, causing loss of consciousness. Short-term memory loss, mental cloudiness, difficulty concentrating and remembering, and a fierce headache may occur in the days after a concussion, but recovery is usually complete.
- *Cerebral palsy* (CP) is motor impairment at birth, often stemming from a brain anomaly occurring during prenatal development. In the past, most cases of CP were blamed on "birth trauma," but recently, researchers determined that the most common cause is a blocked cerebral blood vessel, which leads to atrophy of the brain region deprived of its blood supply. Birth trauma and brain infection cause some cases.

CP affects about 1 in every 1,000 births and is especially prevalent

among premature babies. One-half to two-thirds of affected babies improve and can even outgrow the condition by age seven. Sometimes seizures or learning disabilities are present. Clinicians classify CP by the number of limbs and the types of neurons affected.

- In a "stroke," or *cerebrovascular accident* (CVA), a sudden interruption in blood flow in a vessel supplying brain tissues damages the cerebrum. The affected blood vessel may rupture, bleeding into the brain, or be blocked by a clot. In either case, brain tissues downstream from the vascular accident die or permanently lose function. Temporary interruption in cerebral blood flow, perhaps by a clot that quickly breaks apart, produces a much less serious *transient ischemic attack* (TIA). ■