Nursing Alert

Three key reflexes that demonstrate neurologic health in young infants are the Moro, tonic neck, and withdrawal reflexes.

Special Diagnostic Procedures

Numerous diagnostic procedures are used for the assessment of cerebral function. Laboratory tests that may help determine the cause of unconsciousness include blood glucose, urea nitrogen, and electrolyte (pH, sodium, potassium, chloride, calcium, and bicarbonate) tests; clotting studies, a complete blood count; liver function tests; blood cultures if there is fever; and toxicology screen and blood lead levels if clinically indicated.

An electroencephalogram (EEG) may provide important information. For example, generalized random, slow activity suggests suppressed cortical function, and localized slow activity suggests a space-occupying issue. A flat tracing is one of the criteria used as evidence of brain death. Examination of spinal fluid is performed when toxic encephalopathy or infection is suspected. Lumbar puncture is ordinarily delayed if intracranial hemorrhage is suspected and is contraindicated in the presence of ICP because of the potential for brainstem herniation.

Auditory and visual evoked potentials are sometimes used in neurologic evaluation of very young children. Brainstem auditory evoked potentials are useful for evaluating the continuity of brainstem auditory tracts and are particularly useful for detecting demyelinating disease and neoplasms.

Highly sophisticated tests are carried out with specialized equipment. Two imaging techniques, computed tomography (CT) and magnetic resonance imaging (MRI), assist in diagnosis by scanning both soft tissues and solid matter. Most of these tests are outlined in Table 27-1. Because such tests can be threatening to children, the nurse needs to prepare patients for the tests and provide support and reassurance during the tests (see Preparation for Diagnostic and Therapeutic Procedures, Chapter 20). Children who are old enough to understand require careful explanation of the procedure, reason for the procedure, what they will experience, and how they can help. School-age children usually appreciate a more detailed description of why contrast material is injected.