Evaluation of Neurologic Status

General Aspects

Children younger than 2 years old require special evaluation because they are unable to respond to directions designed to elicit specific neurologic responses. Early neurologic responses in infants are primarily reflexive; these responses are gradually replaced by meaningful movement in the characteristic cephalocaudal direction of development. This evidence of progressive maturation reflects more extensive myelinization and changes in neurochemical and electrophysiologic properties.

Most information about infants and small children is gained by observing their spontaneous and elicited reflex responses. As they develop increasingly complex gross and fine motor skills and communication skills, more sophisticated techniques are used to assess acquisition of developmental milestones. Delay or deviation from expected milestones helps identify high-risk children. Persistence or reappearance of primitive reflexes indicates a pathologic condition. In evaluating an infant or young child, it is also important to obtain the pregnancy and delivery history, respiratory status at birth, and neonatal health to determine the possible impact of intrauterine and extrauterine environmental influences known to affect the orderly maturation of the central nervous system (CNS). These influences include maternal infections, chemicals, medication, illicit drug use, trauma, and metabolic insults.

General aspects of assessment that provide clues to the etiology of dysfunction include:

Family history: Sometimes offers clues regarding possible genetic disorders with neurologic manifestations.

Health history: May provide valuable clues regarding the cause of neurologic dysfunction. Information should include Apgar scores, age of developmental milestones, trauma or injuries, acute and chronic illnesses including diabetes mellitus or sickle cell