

Electroencephalography (EEG) may help identify subtle seizures but is less helpful in establishing a diagnosis. Other diagnostic procedures, such as CT, MRI, and cerebral ultrasonography, may be indicated. A video EEG may be used to identify seizure activity in some newborns. More extensive metabolic testing may be needed when initial test results do not provide a diagnosis or the history is suggestive of an inherited metabolic disorder.

Therapeutic Management

Treatment is directed toward prevention of neurologic damage and involves correction of metabolic derangements, respiratory and cardiovascular support, and suppression of the seizure activity. The underlying cause is treated (e.g., glucose infusion for hypoglycemia, calcium for hypocalcemia, antibiotics for infection). If needed, respiratory support is provided for hypoxia, and anticonvulsants may be administered, especially when the other measures fail to control the seizures. Phenobarbital, given intravenously or orally, has been the drug of choice and is used if seizures are severe and persistent. Other drugs that may be used are phenytoin (Dilantin) and lorazepam.

Fosphenytoin sodium is a water-soluble prodrug and may also be used for seizures. Fosphenytoin metabolizes to form phenytoin in the body yet can easily be diluted or mixed in dextrose and normal saline and may be given via IV or intramuscular routes. In addition, fosphenytoin does not cause pain during IV administration.

Recent research has shown that **therapeutic hypothermia** provided by cooling either the infant's head or the whole body reduces the severity of the neurologic damage in hypoxic ischemic encephalopathy when it is applied in the early stages of injury (first 6 hours after delivery) in infants with a gestational age of 35 to 36 weeks or more ([Azzopardi, Strohm, Marlow, et al, 2014](#); [Edwards, Brocklehurst, Gunn, et al, 2010](#); [Shankaran, 2012](#)).

Nursing Care Management

The major nursing responsibilities in the care of infants with seizures are to recognize when the infant is having a seizure so that therapy can be instituted, to carry out the therapeutic regimen, and to observe the response to the therapy and any further evidence of