

female offspring when they reach adolescence and early adulthood.

## Congenital Hypothyroidism

Congenital hypothyroidism (CH) may have a number of causes and can be either permanent or transient. Transient CH is frequently associated with maternal Graves disease that was treated with antithyroid drugs. The majority of cases are sporadic (nonhereditary), but approximately 15% of all cases are transmitted as an autosomal dominant trait. The most common pathogenesis is thyroid dysgenesis, mostly with unknown causes. Worldwide, the most common cause of CH resulting in hypothyroidism is iodine deficiency. However, no matter what the cause, the manifestations and management are similar. In some conditions, the thyroid deficiency is severe, and manifestations develop early; in others, the symptoms may be delayed for months or years. Early detection and prompt initiation of treatment are essential because their delay will result in various degrees of cognitive impairment, in which the IQ loss has a direct relationship to the time treatment is initiated. If treatment is implemented from 0 to 3 months of age, the mean IQ attained is 89 (range, 64 to 107); if treatment begins at 3 to 6 months, mean IQ will reach 71 (range, 36 to 96); treatment initiated after 6 months of age will result in a mean IQ of 54 (range, 25 to 80).

Results of screening tests indicate that CH occurs in approximately 1 in 4000 to 1 in 3000 newborns ([Langham, Hindmarsh, Krywawych, et al, 2013](#)). It affects all races and ethnicities, but it is more prevalent among Hispanic and American Indian or Alaskan Native people (1 in 2000 to 1 in 700 newborns) and less prevalent among African Americans (1 in 3200 to 1 in 17,000 newborns). Also, a higher incidence of other congenital abnormalities has been observed in infants with CH. Many preterm infants have transient hypothyroidism (hypothyroxinemia) at birth as a result of hypothalamic and pituitary immaturity. Infants born before 28 weeks of gestation may require temporary thyroid hormone replacement. Some screening programs target both primary (thyroid-based) and secondary (pituitary-based) hypothyroidism.