of a limb in utero from constriction of an amniotic band (**amniotic band syndrome**). Neonates with congenital limb deficiencies often have associated malformations and should be thoroughly assessed for cardiovascular, central nervous system, renal, and digestive abnormalities (Stoll, Alembik, Dott, et al, 2010).

Pathophysiology

Limb deficiencies can be attributed to both heredity and environment and can originate at any stage of limb development. Formation of limbs may be suppressed at the time of limb bud formation, or there may be interference in later stages of differentiation and growth. Heredity appears to play a prominent role, and prenatal environmental insults have been implicated in a number of cases, such as the well-publicized **thalidomide** tragedy of the 1950s and early 1960s, which demonstrated a clear relationship between the time of exposure of the pregnant woman to the antiemetic drug and the presence and type of limb deformity in the newborn. There are still drugs that may have similar **teratogenic** effects in the first trimester of pregnancy. Therefore, medication administration during this period should be carefully evaluated by the provider.

Therapeutic Management

The child with a limb deficiency should be fitted with prosthetic devices, and the devices should be applied at the earliest possible stage of development in an attempt to match the infant's motor readiness. This favors natural progression of prosthetic use. For example, an infant with an upper extremity deficiency is fitted with a simple passive device between 3 to 6 months old to encourage limb exploration, sitting (with the extremities needed for support), and bilateral hand activities. Lower limb prostheses are applied when the infant is ready to pull to a standing position.

In preparation for prosthetic devices, surgical modification of the residual limb may be necessary to ensure the most effective use of the device or prosthetic. Phocomelic digits are preserved for controlling switches of externally powered appliances in the upper extremities. Digits (in both the upper and lower extremities) provide the child with surfaces for tactile exploration and