Modified from Centers for Disease Control and Prevention: Lead poisoning associated with use of traditional ethnic remedies—California, 1991–1992, *MMWR Morb Mortal Wkly Rep* 42(27):521–524, 1993; Centers for Disease Control and Prevention: Lead poisoning associated with imported candy and powdered food coloring—California and Michigan, *MMWR Morb Mortal Wkly Rep* 47(48):1041–1043, 1998; Centers for Disease Control and Prevention: Childhood lead poisoning associated with tamarind candy and folk remedies—California, 1992–2000, *MMWR Morb Mortal Wkly Rep* 51(31):684–686, 2002; Centers for Disease Control and Prevention: Lead poisoning associated with use of litargirio—Rhode Island, *MMWR Morb Mortal Wkly Rep* 54(09):227–229, 2005.

Pathophysiology and Clinical Manifestation

Lead can affect any part of the body, including the renal, hematologic, and neurologic systems (Fig. 13-13). Of most concern for young children is the developing brain and nervous system, which are more vulnerable than those of older children and adults. Lead in the body moves via an equilibration process between the blood, the soft tissues and organs, and the bones and teeth. Lead ultimately settles in the bones and teeth, where it remains inert and in storage. This makes up the largest portion of the body burden, approximately 75% to 90%. At the cellular level, it competes with molecules of calcium, interfering with the regulating action of calcium. In the brain, lead disrupts the biochemical processes and may have a direct effect on the release of neurotransmitters, may cause alterations in the blood-brain barrier, and may interfere with the regulation of synaptic activity (Cunningham, 2012; Jones, 2009).