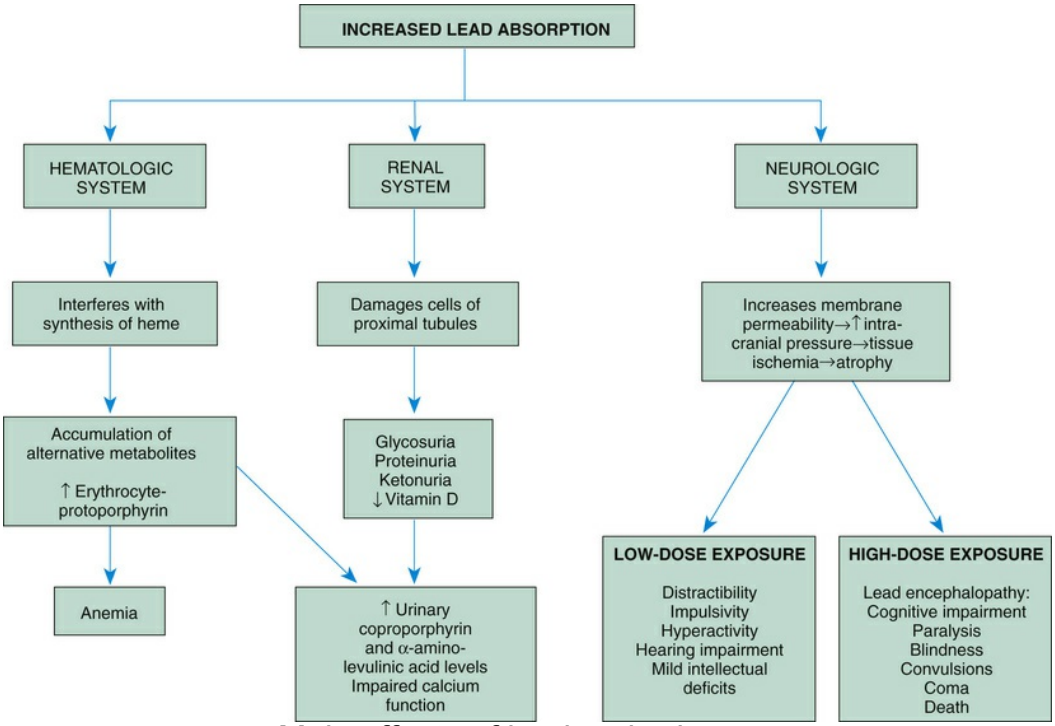

FIG 13-13 Main effects of lead on body systems.

There is a relationship between anemia and lead poisoning. Children who are iron deficient absorb lead more readily than those with sufficient iron stores. Lead can interfere with the binding of iron onto the heme molecule. This sometimes creates a picture of anemia even though the child is not iron deficient. Lead toxicity to the erythrocytes leads to the release of the enzyme erythrocyte protoporphyrin (EP). Because EP is not sensitive to BLLs of less than about 16 to 25 mcg/dl, it is no longer used as a screening test. Therefore the BLL test is currently used for screening and diagnosis. However, elevation of the EP level (>35 mcg/dl of whole blood) is a good indicator of toxicity from lead and reflects the length of exposure and body burden of lead in an individual child.

Although adults have been shown to experience adverse renal effects from occupational lead exposure, few studies document renal effects in children except at extremely high lead levels. One can hypothesize that lead can affect the renal integrity of children as well as adults. Therefore the renal system of a child is still considered a potential target for the harmful effects of lead.

The lead levels identified in children have declined since the initiation of screening for children at risk for lead poisoning. With earlier intervention, the most prevalent effects have changed. Since