

**Saladin/Nolan
Clinical Applications Manual**

ANSWERS TO END-OF-CHAPTER QUESTIONS

Chapter 1

1. The mental and physiological signs of the disease result from ingestion and inhalation of lead by the children. These children were exposed to lead (and other heavy metals) at the manufacturing plant where they scavenged materials.
2. The children's risk factors for lead poisoning include the presence of lead-based paint, dust containing crushed and pulverized paint chips, and metal-contaminated soil around the factory. The risk factor for the elderly woman is her habit of chewing on the lead foil wrapping from wine bottles.
3. Lead is a poison but not a toxin, because toxins are of animal or plant origin.
4. Idiopathic diseases are those with no known cause. Since there is an identifiable cause in all the cases in this scenario, none of these people has idiopathic lead poisoning.
5. Yes, lead poisoning could be considered a syndrome. The signs, symptoms and changes in physiology are characteristic of lead poisoning.
6. Since blood is a tissue, the diagnostic findings on the blood (traces of lead and reduced RBC count) are histopathological.
7. High morbidity? Yes, among the children but not among adults, because a large percentage of children in the housing project exhibit signs of the disease. High mortality? No, because no deaths were reported. High prevalence? Yes, high morbidity in this case is equivalent to the high prevalence of the disease among the children. High incidence? There is insufficient information to evaluate incidence in this case, because no data were available to document the number of new cases in a given time period.
8. Yes, lead poisoning among the children of this community can be considered an epidemic because it occurs in a far higher percentage of individuals (more than 70 of the 112 children examined) than it does in the general population. Lead poisoning is not an infectious disease, however, because it is not caused by an infectious agent (such as a virus or bacterium) and it is not transmitted from person to person.
9. (a) joint pain = symptom; (b) difficulty walking = sign; (c) excessive salivation = sign; (d) personality changes = sign; (e) low RBC count = sign; (f) subnormal intelligence = sign; (g) dimness of vision = symptom; (h) lead in the urine = sign. (Remember that the criterion for a symptom is something that can only be known by the patient, while a sign is capable of being objectively verified by another observer.)
10. You could advise the daughter to buy wine without lead foil or to dispose of the foil wrappers carefully so that her mother cannot get at them. You might also do a blood test on the mother to check for iron-deficiency anemia and prescribe a multivitamin and mineral supplement if necessary. If the mother insists on chewing on something, you could recommend substituting something nontoxic such as ice or gum.