TEST ANSWERS: LEAD

The *BSO Plus Safety Topic* is a review designed from the BSO Plus agenda. This safety topic is your way to stay current on the safety information over the 3 years between BSO Plus and BSR.

1. **Characteristics of lead include: (Circle all that apply)**
   - a. Heavy metal
   - b. Corrodes
   - c. Poor conductor of electricity
   - d. Pale, silvery grey when freshly cut

   RATIONALE: Lead is a heavy metal that is pale, silvery grey when freshly cut but darkens on exposure to air. It is heavy, malleable and a poor conductor of electricity. It may be used in its pure elemental form or combined chemically with other elements to form lead compounds. Inorganic lead compounds are used in pigments, paints, glasses, plastics and rubber compounds. Lead will tarnish quickly forming a thin layer of lead oxide in moist air; however, it has a high resistance to corrosion.

2. **Lead is toxic to almost all of our organs and can affect virtually every system of the body.**
   - a. True
   - b. False

   RATIONALE: The most common route of entry of lead is inhalation and ingestion. It is not readily absorbed through the skin. Once absorbed into the body, 95% of this metal accumulates in the bones and can be released back throughout the body over time, causing damage to the liver, kidneys, brain, bones, and nervous system. Lead can affect virtually every system of the body.

3. **Symptoms of lead exposure include: (Circle all that apply)**
   - a. Irritability
   - b. Fatigue
   - c. Stomach aches and cramps
   - d. Nose bleeds

   RATIONALE: Symptoms of short term exposure include abdominal pain, constipation, fatigue, headache, irritability, loss of appetite. Although there are many possible symptoms, they should not be relied upon to warn of a lead-exposure problem because some changes take a long time to develop and workers may not notice a change in their health.

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4. **Ensuring that you are using lead-free paint is an example of the most effective control to eliminate the hazards associated with lead paint.**

a. True
b. False

RATIONALE: Eliminating the hazard by substituting a safer process or material, where possible, is the most effective control such as a lead-free alternative (for example, using lead-free paint). Making physical modifications to facilities, equipment, and processes such as making enclosures away from lead-generating processes for workers can reduce exposure.
Workers should wear proper personal protective equipment such as gloves, non-permeable clothing and approved respirators if lead exposure is possible.

5. **Exposure to lead can occur when performing which of the following tasks? (Circle all that apply)**

a. Welding
b. Cutting
c. Grinding
d. Sanding

RATIONALE: Lead, especially lead paint, is found on many local plant sites in painted piping or equipment, some galvanized surfaces, and the lining of some vessels or equipment. Exposure to this hazard is most likely to occur during sanding, soldering, welding, torch cutting, grinding, and abrasive blasting. Lead is also used in things like pipe, solders, lead sheets for e-ray protection, etc. The dust from this metal can be transported off the worksite if it becomes lodged in a worker's hair or clothing such as cuffs, collars, and folds.