

## 1532.1 Lead

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(j) Medical surveillance.

(1) General.

(A) The employer shall make available initial medical surveillance to employees occupationally exposed on any day to lead at or above the action level. Initial medical surveillance consists of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels.

(B) The employer shall institute a medical surveillance program in accordance with subsections (j)(2) and (j)(3) for all employees who are or may be exposed by the employer at or above the action level for more than 30 days in any consecutive 12 months;

(C) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician.

(D) The employer shall make available the required medical surveillance including multiple physician review under subsection (j)(3)(C) without cost to employees and at a reasonable time and place.

(2) Biological monitoring.

(A) Blood lead and ZPP level sampling and analysis. The employer shall make available biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels to each employee covered under subsections (j)(1)(A) and (B) on the following schedule:

1. For each employee covered under subsection (j)(1)(B), at least every month ~~2 months~~ for the first 3 ~~6 months~~ and then every 6 months thereafter;

2. For each employee covered under subsections (j)(1)(A) or (B) whose last blood sampling and analysis indicated a blood lead level at or above 10 ~~40~~ µg/dl but below 20 µg/dl of whole blood, at least every three ~~two~~ months. This frequency shall continue until three ~~two~~ consecutive blood samples and analyses taken at least four weeks apart indicate a blood lead level below 10 ~~40~~ µg/dl; and

3. At least monthly ~~f~~For each employee whose last blood sampling and analysis indicated a blood lead level at or above 20 µg/dL of whole blood and during the removal period of each employee who is removed from exposure to lead due to an elevated blood lead level at least monthly during the removal period. This frequency shall continue until three consecutive blood samples and analysis taken at least a month apart indicate a blood lead level below 10 µg/dL of whole blood.

Note to (j)(2)(A): ZPP testing shall be offered to employees but the physician may advise the employee that such testing is an insensitive biomarker of lead exposures when an employee's blood lead is below 25 µg/dL.

(B) Follow-up blood sampling tests. Whenever the results of a blood lead level test indicate that an employee's blood lead level exceeds the numerical criterion for medical removal under subsection (k)(1)(A), the employer shall provide a second (follow-up) blood sampling test within two weeks after the employer receives the results of the first blood sampling test.

(C) Accuracy of blood lead level sampling and analysis. Blood lead level sampling and analysis provided pursuant to this section shall have an accuracy (to a confidence level of 95 percent) within plus or minus 15 percent or 6 µg/dl, whichever is greater, and shall be conducted by a laboratory approved by OSHA.

(D) Employee notification.

1. Within five working days after the receipt of biological monitoring results, the employer shall notify each employee in writing of his or her blood lead level; and
2. The employer shall notify each employee whose blood lead level exceeds 40 µg/dl that the standard requires temporary medical removal with Medical Removal Protection benefits when an employee's blood lead level exceeds the numerical criterion for medical removal under subsection (k)(1)(A).

(3) Medical examinations and consultations.

(A) Frequency. The employer shall make available medical examinations and consultations to each employee covered under subsection (j)(1)(B) on the following schedule:

1. . At least annually for each employee for whom a blood sampling test conducted at any time during the preceding 12 months indicated a blood lead level at or above 20 ~~40~~ µg/dL ~~100~~ g; and
2. As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, that the employee is pregnant, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use; and
3. As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination.

(B) Content. The content of medical examinations made available pursuant to subsection (j)(3)(A)2. - 3. shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility. Medical examinations made available pursuant to subsection (j)(3)(A)1. shall include the following elements:

1. A detailed work history and a medical history, with particular attention to past lead exposure (occupational and non-occupational), personal habits (smoking, hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems;
2. A thorough physical examination, with particular attention to teeth, gums, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems. Pulmonary status should be evaluated if respiratory protection will be used;
3. A blood pressure measurement;
4. A blood sample and analysis which determines:
  - a. Blood lead level;
  - b. Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;

- c. Zinc protoporphyrin;
- d. Blood urea nitrogen; and,
- e. Serum creatinine;
- 5. A routine urinalysis with microscopic examination; and
- 6. Any laboratory or other test relevant to lead exposure which the examining physician deems necessary by sound medical practice.

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(k) Medical removal protection.

(1) Temporary medical removal and return of an employee.

(A) Temporary removal due to elevated blood lead level. The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a periodic and a follow-up blood sampling test conducted pursuant to this section indicate that the employee's blood lead level is at or above 30 ~~50~~  $\mu\text{g}/\text{dl.}$ ; and,

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