

**WAC 296-848-60020 Medical guidelines.** (1) You must make this section readily available to employees as required in Training, WAC 296-848-30005.

(2) You must provide this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-848-30030.

**Table 6  
Medical Guidelines  
For Evaluating Employees With Exposure**

<b>Part 1: DOSH's Requirements</b>
<p>In addition to requiring employers to train employees and protect them from inorganic arsenic exposure, this chapter (the Arsenic rule) requires employers to monitor their employees' health with assistance from licensed health care professionals (LHCPs).</p> <ul style="list-style-type: none"> <li>• For employees who will use respirators, the LHCP will also need to provide the employer with a written medical opinion clearing the employee for workplace respirator use.</li> </ul> <p>These guidelines were designed to support an informed partnership between the LHCP and the employer when monitoring the health of employees exposed to inorganic arsenic.</p> <p>The employer initiates this partnership by providing the LHCP with a copy of the chapter and other supporting information about the employee and job conditions. The LHCP can then become familiar with the medical monitoring requirements found in WAC 296-848-30030 and 296-848-30080, which address:</p> <ul style="list-style-type: none"> <li>• Frequency and content for routine (initial and periodic) medical examinations and consultations;</li> <li>• Emergency and other unplanned medical follow-up;</li> <li>• Medical opinions;</li> <li>• Medical records retention and content.</li> </ul>
<b>Part 2: Inorganic Arsenic Toxicology</b>
<p><b>Health information about inorganic arsenic, WAC 296-848-50020</b> provides <b>basic information</b> about the health effects and symptoms associated with inorganic arsenic exposure.</p> <p>In addition, consider the following information:</p> <p><b><u>Acute Poisoning</u></b></p> <p>Exfoliative dermatitis and peripheral neuritis may develop in patients who survive health effects due to acute poisoning (by ingestion).</p> <p>Acute toxic symptoms of trivalent arsenical poisoning are caused by severe inflammation of the mucous membranes and greatly increased permeability of the blood capillaries.</p> <p><b><u>Acute and Chronic Poisoning</u></b></p> <p>In cases of acute and chronic poisoning, toxic effects to the myocardium (the middle layer of the heart) reported on EKG changes are now largely discounted and are attributed to electrolyte disturbances concomitant with arsenicalism.</p> <p>Arsenic has a depressant effect upon bone marrow, with disturbances of both red blood cell production (erythropoiesis) and myelopoiesis.</p>

### **Chronic Poisoning**

Cases of chronic poisoning caused by ingestion are generally linked to patients taking prescribed medications. However, sputum from inhaled inorganic arsenic can be swallowed in addition to other ingested inorganic arsenic due to hand-to-mouth transfer.

Skin lesions are usually melanotic and keratotic and may occasionally take the form of an intradermal cancer of the squamous cell type, but without infiltrative properties.

Chronic hepatitis and cirrhosis have been described. Liver damage is still debated and as yet the question is unanswered.

Polyneuritis may be the prominent feature, but more frequently there are numbness and parasthenias of "glove and stocking" distribution. Horizontal white lines (striations) on the fingernails and toenails are commonly seen and are considered a diagnostic accompaniment of arsenical polyneuritis.

#### **References:**

- Other sources for toxicology information include:
  - ToxFAQs™ and the Toxicological Profile for Arsenic. Both of these free documents are available from the Agency for Toxic Substances and Disease Registry (ATSDR) and can be obtained by:
    - Visiting <http://www.atsdr.cdc.gov/toxprofiles>
    - OR
    - Calling 1-888-422-8737.
  - A variety of technical resources on arsenic, available from the National Institutes for Occupational Safety and Health (NIOSH) by visiting <http://www.cdc.niosh/topics/chemicals.html>

### **Part 3: Clinical Evaluation of Employees Exposed to Inorganic Arsenic**

#### **IMPORTANT:**

- When an employee will use a respirator during work, the LHCP will need to determine whether the employee can safely wear a respirator and what limitations, if any, apply.

#### **Guidance for Physical Examinations**

In addition to its immediate diagnostic usefulness, a patient's initial examination will provide a baseline for comparing future test results.

This chapter establishes the minimum content for medical examinations. Additional tests such as lateral and oblique X-rays or pulmonary function test may be useful.

You should also include palpation of superficial lymph nodes and a complete blood count when employees are exposed to any of the following compounds:

- Copper aceto-arsenite;
- Potassium arsenite;
- Sodium arsenite;
- Other arsenicals associated with lymphatic cancer.

Arsenic trioxide and other inorganic arsenical dusts don't  
give rise to radiological evidence or pneumoconiosis.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and  
49.17.060. WSR 18-22-116, § 296-848-60020, filed 11/6/18, effective  
12/7/18; WSR 07-03-153, § 296-848-60020, filed 1/23/07, effective  
6/1/07.]