

**WAC 296-849-12030 Medical evaluations.**

**IMPORTANT:**

Medical evaluations conducted under this section will satisfy the medical evaluation requirement found in Respirators, chapter 296-842 WAC.

(1) You must provide the relevant medical follow-up specified in Tables 4 and 5 to any employee exposed to benzene during an emergency.

(2) You must make medical evaluations available to current employees who meet the following criteria:

(a) Potential or actual exposure to benzene at or above the action level (AL) for at least thirty days in any twelve-month period.

(b) Potential or actual exposure to benzene at or above either permissible exposure limit (PEL) for at least ten days in a twelve-month period.

(c) Past exposure to concentrations above 10 ppm benzene for at least thirty days in a twelve-month period before November 11, 1988.

(d) Current or past work as a tire building machine operator using solvents containing more than 0.1% benzene during tire building operations.

(3) You must make medical evaluations available at no cost to employees; paying all costs, including travel costs and wages associated with any time spent outside of the employee's normal work hours;

(4) You must make medical evaluations available at reasonable times and places;

(5) You must make medical evaluations available by completing Steps 1 through 6 of the medical evaluation process for each employee covered.

**Note:**

- Employees who wear respirators need to be medically evaluated to make sure the respirator will not harm them, before they are assigned work in areas requiring respirators. Employees who decline to receive medical examination and testing to monitor for health effects caused by benzene are not excluded from receiving a separate medical evaluation for a respirator use.
- If employers discourage participation in medical monitoring for health effects caused by benzene, or in any way interfere with an employee's decision to continue with this program, this interference may represent unlawful discrimination under RCW 49.17.160, Discrimination against employee filing, instituting proceeding, or testifying prohibited—Procedure—Remedy.

**Helpful tool:**

**Declination form for nonemergency related medical evaluations.**

• You may use this optional form to document employee decisions to decline participation in the medical evaluation process for exposure to benzene.

**Medical evaluation process:**

**Step 1:** Identify employees who qualify, as stated above, for medical evaluations.

**Step 2:** Make medical evaluations available for employees identified in Step 1 at the following times:

• Initially, before the employee starts a job or task assignment where benzene exposure will occur.

• Every twelve months from the initial medical evaluation.

• Whenever the employee develops signs or symptoms commonly associated with toxic benzene exposure.

• After benzene exposure from an emergency.

**Step 3:** Select a licensed health care professional (LHCP) who will conduct or supervise medical evaluations and make sure:

• Individuals who conduct pulmonary function tests have completed a training course in spirometry sponsored by an appropriate governmental, academic, or professional institution, if they are not licensed physicians;

**AND**

- Your LHCP uses an accredited laboratory, such as one accredited by a nationally or state-recognized organization, to conduct laboratory tests.

**Step 4:** Make sure the LHCP receives all of the following before the medical evaluation is performed:

- A copy of this chapter.
- A description of the duties of the employee being evaluated and how these duties relate to benzene exposure.
- The anticipated or representative exposure monitoring results for the employee being evaluated.
- A description of the personal protective equipment (PPE) each employee being evaluated uses or will use.
- Information from previous employment-related examinations when this information is not available to the examining LHCP.
- Instructions that the written opinions the LHCP provides, be **limited to** the following information:
  - Specific records, findings, or diagnosis relevant to the employee's ability to work around benzene.
  - The occupationally relevant results from examinations and tests.
  - A statement about whether or not medical conditions were found that would increase the employee's risk for impairment from exposure to benzene.
  - Any recommended limitations for benzene exposure.
  - Whether or not the employee can use respirators and any recommended limitations for respirator or other PPE use.
  - A statement that the employee has been informed of medical results and medical conditions caused by benzene exposure requiring further explanation or treatment.

**Step 5:** Provide the medical evaluation to the employee. Make sure it includes the content listed in Table 4, Content of medical evaluations, and Table 5, Medical follow-up requirements.

**Step 6:** Obtain the LHCP's written opinion for each employee's medical evaluation and give a copy to the employee within fifteen days of the evaluation date.

- Make sure the written opinion is limited to the information specified for written opinions in Step 4.

**Note:** If the written opinion contains specific findings or diagnoses unrelated to occupational exposure, send it back and obtain a revised version without the additional information.

**IMPORTANT:**

These tables apply when conducting medical evaluations, including medical follow-up for employees exposed to benzene during emergencies.

**Table 4  
Content of Medical Evaluations**

<b>When conducting</b>	<b>Include</b>
An initial evaluation	<ul style="list-style-type: none"> <li>• A detailed history including:               <ul style="list-style-type: none"> <li>- Past work exposure to benzene or other hematological toxins;</li> <li>- Exposure to marrow toxins outside of current employment;</li> <li>- Exposure to ionizing radiation;</li> </ul> </li> </ul>

When conducting	Include
	<ul style="list-style-type: none"> <li>- Family history of blood dyscrasias including hematological neoplasms;</li> <li>- History of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities, and abnormal function of formed blood elements;</li> <li>- History of renal or liver dysfunction;</li> <li>- History of medications routinely taken.</li> <li>• A complete physical examination: <ul style="list-style-type: none"> <li>- Include a pulmonary function test and specific evaluation of the cardiopulmonary system <b>if</b> the employee is required to use a respirator for at least thirty days a year.</li> </ul> </li> <li>• A complete blood count including a: <ul style="list-style-type: none"> <li>- Leukocyte count with differential;</li> <li>- Quantitative thrombocyte count;</li> <li>- Hematocrit;</li> <li>- Hemoglobin;</li> <li>- Erythrocyte count and indices (MCV, MCH, MCHC).</li> </ul> </li> <li>• Additional tests the examining LHCP determines are necessary based on alterations in the components of the blood or other signs that may be related to benzene exposure.</li> <li>• <b>Medical follow-up as required in Table 5.</b></li> </ul>
Annual evaluations	<ul style="list-style-type: none"> <li>• An updated medical history covering: <ul style="list-style-type: none"> <li>- Any new exposure to potential marrow toxins;</li> <li>- Changes in medication use;</li> <li>- Any physical signs associated with blood disorders.</li> </ul> </li> <li>• A complete blood count including a: <ul style="list-style-type: none"> <li>- Leukocyte count with differential;</li> </ul> </li> </ul>

When conducting	Include
	<ul style="list-style-type: none"> <li>- Quantitative thrombocyte count;</li> <li>- Hematocrit;</li> <li>- Hemoglobin;</li> <li>- Erythrocyte count and indices (MCV, MCH, MCHC).</li> <li>• Additional tests that the examining LHCP determines necessary, based on alterations in the components of the blood or other signs that may be related to benzene exposure.</li> <li>• A pulmonary function test and specific evaluation of the cardiopulmonary system every three years if the employee is required to use a respirator for at least thirty days a year.</li> <li>• <b>Medical follow-up as required in Table 5.</b></li> </ul>
Evaluations triggered by employee signs and symptoms commonly associated with the toxic effects of benzene exposure	<ul style="list-style-type: none"> <li>• An additional medical examination that addresses elements the examining LHCP considers appropriate.</li> </ul>
Evaluations triggered by employee exposure during an emergency	<ul style="list-style-type: none"> <li>• A urinary phenol test performed on the exposed employee's urine sample within seventy-two hours of sample collection.</li> <li>- The urine sample must be collected at the end of the work shift associated with the emergency;</li> <li>- The urine specific gravity must be corrected to 1.024.</li> <li>• <b>Medical follow-up as required in Table 5.</b></li> </ul> <p><b>Reference:</b> Employees who are not covered by medical evaluation requirements in this chapter may be covered by medical evaluation requirements in other chapters such as Emergency response, chapter 296-824 WAC.</p>

**Table 5  
Medical Follow-up Requirements**

<b>If</b>	<b>Then</b>
<ul style="list-style-type: none"> <li>• The <b>complete blood count test</b> result is normal.</li> </ul>	<ul style="list-style-type: none"> <li>• No further evaluation is required.</li> </ul>
<ul style="list-style-type: none"> <li>• The <b>complete blood count test</b> shows any of the following abnormal conditions: <ul style="list-style-type: none"> <li>– A leukocyte count less than 4,000 per mm<sup>3</sup> or an abnormal differential count;</li> </ul> <p style="text-align: center;"><b>OR</b></p> <li>– A thrombocyte (platelet) count that is either: <ul style="list-style-type: none"> <li>■ More than 20% below the employee's most recent values;</li> </ul> <p style="text-align: center;"><b>OR</b></p> <li>■ Outside the normal limit (95% C.I.) according to the laboratory;</li> <p style="text-align: center;"><b>OR</b></p> <li>– The hematocrit or hemoglobin level is either of the following, and can not be explained by other medical reasons: <ul style="list-style-type: none"> <li>■ Below the normal limit (outside the 95% C.I.), as determined by the laboratory for the particular geographical area;</li> </ul> <p style="text-align: center;"><b>OR</b></p> <li>■ Persistently decreasing compared to the employee's preexposure levels.</li> </li></li></li></ul>	<ul style="list-style-type: none"> <li>• Repeat the complete blood count within two weeks: <ul style="list-style-type: none"> <li>– If the abnormal condition persists, refer the employee to a hematologist or an internist for follow-up medical examination and evaluation, unless the LHCP has good reason to believe it is unnecessary;</li> <li>– The hematologist or internist will determine what follow-up tests are necessary; and</li> </ul> </li> <li>• Follow the requirements found in Medical removal, WAC 296-849-12050.</li> </ul>
<p>Results from the <b>urinary phenol test</b> conducted during an emergency evaluation show phenol levels less than 75 mg/L.</p>	<ul style="list-style-type: none"> <li>• No further evaluation is required.</li> </ul>

<b>If</b>	<b>Then</b>
<p>Results from the <b>urinary phenol test</b> conducted during an emergency evaluation show phenol levels equal or more than 75 mg/L.</p>	<ul style="list-style-type: none"> <li>• Provide a complete blood count monthly for three months. Include a: <ul style="list-style-type: none"> <li>– Leukocyte count with differential;</li> <li>– Thrombocyte count;</li> <li>– Erythrocyte count; and</li> </ul> </li>   <li>• If any of the abnormal conditions previously listed in this table for complete blood count results are found: <ul style="list-style-type: none"> <li>– Provide the employee with periodic examinations, if directed by the LHCP; and</li> <li>– <b>Refer the employee</b> to a hematologist or an internist for follow-up medical examination and evaluation unless the LHCP has good reason to believe a referral is unnecessary; and</li> <li>– Follow the requirements found in Medical removal, WAC 296-849-12050; and</li> <li>– The hematologist or internist will determine what follow-up tests are necessary.</li> </ul> </li> </ul>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-849-12030, filed 11/6/18, effective 12/7/18; WSR 07-03-153, § 296-849-12030, filed 1/23/07, effective 6/1/07; WSR 05-13-152, § 296-849-12030, filed 6/21/05, effective 8/1/05; WSR 05-01-172, § 296-849-12030, filed 12/21/04, effective 3/1/05.]