

Developed by the British Columbia Provincial Nursing Skin & Wound Committee in collaboration with NSWOCs/WCs from:

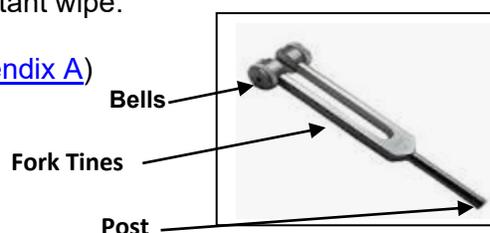


## Tuning Fork Vibration Screening for Foot Neuropathy: Procedure

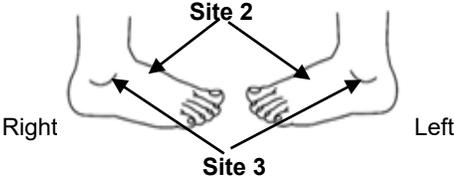
<b>Endorsement British Columbia &amp; Yukon</b>	<ul style="list-style-type: none"> <li>• Endorsement done: N/A</li> <li>• Endorsement pending: FNHA, FHA, IHA, ISLH, NHA, PHSa, VCH/PHC, Yukon; until endorsement has been granted by your health authority, please follow your <a href="#">HA</a>'s current document.</li> </ul>
<b>DST Indications for Use</b>	<p>This decision support tool (DST) is to be used by health care professionals (HCPs) when testing a <a href="#">client's</a> (adult or child) foot for neuropathy using a vibration tuning fork.</p> <p>This DST does not address the use of a tuning fork for testing for neuropathy in other areas of the body.</p>
<b>Practice Level British Columbia &amp; Yukon</b>	<p><b>British Columbia:</b> a Nurse Practitioner, Registered Nurse, Registered Psychiatric Nurse, Licenced Practical Nurse, in accordance with their Health Authority/agency policy, may perform a tuning fork vibration screening test for foot neuropathy.</p> <p><b>Yukon:</b> Registered Nurses, Registered Psychiatric Nurses and Licensed Practical Nurses refer to organizational policy and practice in accordance with regulatory bodies.</p>
<b>Education Requirements/ Competency</b>	See <i>Tuning Fork Vibration Screening for Foot Neuropathy Education Requirements &amp; Competencies</i> <a href="#">document</a> .
<b>Need to Know</b>	<ul style="list-style-type: none"> <li>• The use of a tuning fork can assist in screening for loss of vibration sensation, a sensation that is lost in the early onset of diabetic neuropathy. This loss of sensation is not detected with other loss of protective sensation testing such as monofilament testing.</li> <li>• Tuning fork screening can be used to rule out the presence of neuropathy, but threshold scores do not exist to indicate the risk of future onset of neuropathy.</li> </ul>
<b>Bookmarks</b>	<p><a href="#">Equipment &amp; Supplies</a></p> <p><a href="#">Procedure</a></p> <p><a href="#">Interpretation of Results</a></p> <p><a href="#">Frequency of Testing</a></p> <p><a href="#">Documentation</a></p> <p><a href="#">Definitions</a></p> <p><a href="#">Bibliography/References</a></p> <p><a href="#">Date of Creation/Review</a></p> <p><a href="#">Appendix A: Worksheet for Tuning Fork Screening Test</a></p>
<b>Related Documents</b>	<p><a href="#">Education Requirements &amp; Competencies: Tuning Fork Vibration Screening for Foot Neuropathy</a></p> <p><a href="#">Procedure: Monofilament Testing</a></p> <p><a href="#">Guideline: Assessment &amp; Treatment of Diabetic and Neuropathic Ulcers</a></p> <p><a href="#">Assessment: High Risk Foot &amp; Nail</a></p>

### Equipment & Supplies

- PPE as per Point of Care Risk Assessment, (e.g., clean gloves, gown, apron).
- 128-Hz vibration tuning fork with bells.
- HA approved disinfectant wipe.
- Ear plugs if needed.
- Worksheet (see [Appendix A](#))



**Note:** This is a **controlled** document. A printed copy may not reflect the current, electronic version on the CLWK Intranet ([www.clwk.ca](http://www.clwk.ca)). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia; however, it is not a substitute for education, experience & the use of clinical judgment

Tuning Fork Vibration Screening for Foot Neuropathy: Procedure	
Steps	Rationale/Key Points
<p>1. Set up for the procedure:</p> <ul style="list-style-type: none"> <li>Remove client's shoes and socks/stockings.</li> <li>Ensure a quiet/relaxed environment.</li> <li>Perform hand hygiene; put on PPE as needed.</li> </ul>	<p>Tuning fork vibration testing must be carried out in a quiet/relaxed setting to allow the client to fully participate in the test.</p>
<p>2. Test the tuning fork:</p> <ul style="list-style-type: none"> <li>Hold the post of the fork between thumb and first finger of one hand.</li> <li>Strike the tuning fork on the palm of the other hand hard enough to have tuning fork ring for a period of time (minimum of at least 40 seconds).</li> <li>Count the seconds.</li> <li>If needed, repeat test again using a slightly stronger strike.</li> </ul> <p>Note: the vibration may be stopped by placing hand over the tines of the fork.</p>	<p>Ensure to hold the fork by its post as touching the tines will dampen the vibration and the client's ability to detect the vibration.</p> <p>Ensuring the tuning fork vibrates for a period of time provides the client with time to note the vibration.</p>
<p>3. Prepare the client for the test:</p> <ul style="list-style-type: none"> <li>Explain the procedure to client/family keeping in mind the concepts of Trauma Informed Practice and, when appropriate for the client, Indigenous Cultural Safety. Obtain verbal consent (if possible).</li> <li>Demonstrate the test on a bony prominence where normal sensation is expected, (e.g., wrist, elbow).</li> <li>Instruct client to say "start" when they first feel the vibration and "stop" when they no longer feel it.</li> </ul>	<p>Testing must be done over a bony prominence for the vibration to be felt. Any edema at the test site will mute the vibration.</p> <p>Using the client's wrist or elbow allows them to see how the test is done and to experience the feeling before the test is done on their feet with their eyes closed.</p>
<p>4. Perform the test twice on each foot:</p> <ul style="list-style-type: none"> <li>Have client close their eyes and do not give advance warning of when the test is started.</li> <li>Hold the post of the tuning fork between the thumb and first finger on one hand then strike the tuning fork on the palm of the other hand.</li> <li>Place the bottom of the post on the bony prominence on the dorsum of the great toe, just proximal to the nail (Site 1). The tuning fork must be positioned at 90 degrees to the test site to ensure the base of fork in full contact with site.</li> <li>Note the following: <ul style="list-style-type: none"> <li>If the client says 'start' (feels the vibration) when the tuning fork is placed into position.</li> <li>When the client says "stop" (no longer feels the vibration) and if the fork's vibration stopped at the same time as noted by the HCP tester.</li> </ul> </li> <li>Repeat test at the same site, again do not give client advance warning of the test.</li> </ul>	<p>It is important that the client does not see or have advanced warning that that test has started. This prevents them from anticipating or guessing the test. May need to provide ear plugs if they have very good hearing.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>If great toe amputated, do test on second toe.</p> <p>If ulcer, callus, corn, or scar present on the bony prominence, apply tuning fork to an area adjacent to the concern.</p> </div> </div> <p><b>Site 1</b></p> <p>Use the <a href="#">Appendix A</a> worksheet to record the results as the testing is being done.</p>
<p>5. If the client cannot feel the vibration with the test on the great toe; then repeat the test on a bony prominence on the dorsum of the foot (Site 2), and if still not felt, on the lateral malleolus (Site 3).</p> <p>Indicate the alternate test site(s) on the worksheet.</p>	

Steps	Rationale/Key Points
6. Repeat the procedure on the other foot.	
7. Clean up work area: <ul style="list-style-type: none"> <li>• Remove PPE if used; perform hand hygiene.</li> <li>• Cleanse and disinfect tuning fork; allow to air dry.</li> </ul>	

### **Scoring**

For each foot and for each test:

- A score of 1 point is given when the client has correctly perceived when the vibration started ('on')
- A score of 1 point is given when their perception of when the vibration stopped ('off') matched what was noted by the HCP.
- The total score is determined by adding together the scores of the first and second tests out of the maximum score of 4.

For example:

- Right foot, first test: 1 point for Start/On and 1 point for Stop/Off for a score of 2/2.
- Right foot, second test: 1 point for Start/On and 0 points for Stop/Off for a score of 1/2.
- The total score is 3/4.

### **Documentation**

1. Document, as per Health Authority/agency process, (e.g., [High Risk Foot & Nail Assessment](#)), the location on the foot where the testing was done, (e.g., great toe first joint, dorsum, lateral or medial malleolus), the sub-score for both feet as well as the total score.
2. If the client could not feel the vibration either 'on' or 'off', communicate this loss of sensation to the client's care team.

### **Frequency of Testing**

Repeat tuning fork testing as part of a high-risk foot & nail assessment at least once a year and whenever the client indicates a change in sensation and/or a new foot ulcer occurs.

### **Definitions**

**Client:** generic term used to describe a recipient of care regardless of care setting; patient in the hospital, client in community; resident in long-term care.

### **References/Bibliography**

1. Diabetes Canada. (2018). [Appendix 11B: Rapid Screening for Diabetic Neuropathy Using the 128 Hz Vibration Tuning Fork \(the "On-Off" Method\)](#).
2. Elsevier Performance Manager Clinical Skills. (2026). Sensory Testing Vibration (Rehabilitation Therapy)

Image created by Rams Interactive Inc.

### **Document Creation/Review**

This procedure is based on the best evidence-based information available at the time it was published and avoids opinion-based statements where possible. It was developed by the Provincial Nursing Skin & Wound Committee and has undergone provincial stakeholder review.

<b>Created By</b>	British Columbia Provincial Nursing Skin & Wound Committee in collaboration with the NSWOCs/WCs from all Health Authorities.
-------------------	--

Tuning Fork Vibration Screening for Foot Neuropathy: Procedure

<b>Publication Date</b>	2026 March
<b>Review Date(s)</b>	
<b>Revision Date(s)</b>	
<b>Endorsement Dates</b>	

**Appendix A: Tuning Fork Testing Worksheet**

<b>Tuning Fork Screening Test Worksheet</b>	Client Information
---	--------------------

**Note:** This is a **controlled** document. A printed copy may not reflect the current, electronic version on the CLWK Intranet ([www.clwk.ca](http://www.clwk.ca)). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia; however, it is not a substitute for education, experience & the use of clinical judgment

Tuning Fork Vibration Screening for Foot Neuropathy: Procedure

Date of Testing:			
	Location: Great Toe*	Location: Dorsum of Foot*	Location: Lateral Malleolus*
<b>Right Foot</b>	<b>1<sup>st</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>1<sup>st</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>1<sup>st</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2
	<b>2<sup>nd</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>2<sup>nd</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>2<sup>nd</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2
	<b>Total Score ___/4</b>	<b>Total Score ___/4</b>	<b>Total Score ___/4</b>
<b>Left Foot</b>	<b>1<sup>st</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>1<sup>st</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>1<sup>st</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2
	<b>2<sup>nd</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>2<sup>nd</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2	<b>2<sup>nd</sup> Test:</b> On/Start ___ Off/Stop___ Total___/2
	<b>Total Score ___/4</b>	<b>Total Score ___/4</b>	<b>Total Score ___/4</b>

\* Testing is done on the great toe first, if client unable to feel the vibration then move to the dorsum of the foot and then to the lateral malleolus.

**For each foot:**

- 1<sup>st</sup> Test:
  - The score of 1 point is given when the client has correctly perceived when the vibration started ('on')
  - The score of 1 point is given when the client's perception of when the vibration stopped ('off') matches what was noted by the HCP.
  - The points are added for a total out of 2.
- The test is then repeated (2<sup>nd</sup> Test).
- The Total Score is determined by adding together the scores of the first and second tests; with a maximum score of 4.

**Total Scores documentation to be done as per HA/agency process, such as a on specific assessment form (e.g., High Risk Foot & Nail Assessment)**