

*British Columbia Provincial Nursing Skin and Wound Committee  
 Procedure: Monofilament Testing for Loss of Protective Sensation of Diabetic/Neuropathic Feet  
 for Adults & Children*

Developed in collaboration with the Wound Care Clinicians from:	
<b><u>TITLE</u></b>	<b>Procedure: Monofilament Testing for Loss of Protective Sensation of Diabetic/Neuropathic Feet for Adults &amp; Children</b>
<b><u>Practice Level</u></b>	<ul style="list-style-type: none"> <li>Health care professionals in accordance with health authority / agency policy</li> <li>Clients with impaired sensation require an interprofessional approach to provide comprehensive, evidence-based assessment and treatment. This clinical procedure focuses solely on the role on the nurse, as one member of the interprofessional team providing care to these clients.</li> </ul>
<b><u>Background</u></b>	<ul style="list-style-type: none"> <li>Loss of protective sensation (LOPS) is a major risk factor for developing diabetic / neuropathic foot ulcers; these ulcers can lead to amputation.</li> <li>Lower limb assessment and monofilament testing for LOPS are two inexpensive assessments which are sensitive in identifying clients at risk for developing a foot ulcer; early detection of reduced sensation can help lower the incidence of these diabetic and neuropathic ulcers.</li> <li>The Semmes – Weinstein 5.07 monofilament is calibrated such that it takes 10 grams of force to bend it when touched on the skin of the foot. An inability to detect this degree of force indicates that the client has a loss of protective sensation in the foot.</li> </ul>
<b><u>Indications / Contraindications</u></b>	<ul style="list-style-type: none"> <li>Monofilament testing of both feet should be conducted with clients who have one or both of the following:             <ul style="list-style-type: none"> <li>a diagnosis of diabetes and / or a diabetic ulcer.</li> <li>numbness, tingling, burning or a “crawling” sensation in one or both feet.</li> </ul> </li> <li>Monofilament testing should be done at least once a year as part of an overall foot assessment.</li> <li>This procedure should be used in conjunction with the Guideline for Diabetic and Neuropathic Ulcers if the client has a wound.</li> </ul>
<b><u>Definitions</u></b>	<b>Neuropathy</b> – Causes a loss of protective sensation in the feet, increasing the risk of skin breakdown over the weight bearing surfaces.
<b><u>Related Documents</u></b>	Guideline: Assessment and Treatment of Diabetic and Neuropathic Ulcers.

**Equipment and Supplies**

Semmes – Weinstein 5.07 (10 gram) monofilament  
 Clean gloves, if needed

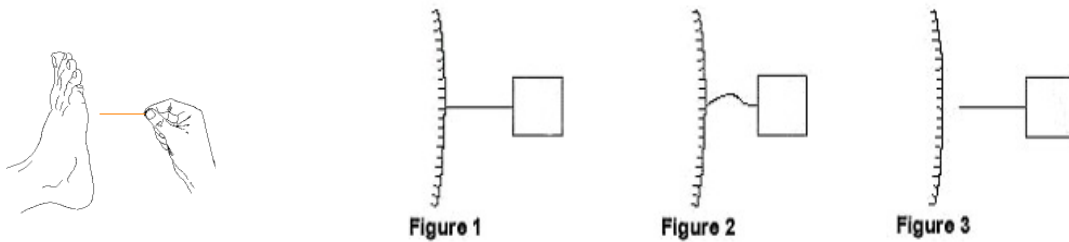
**Procedure**

Steps	Key Points
1. Wash hands and put on clean gloves if indicated.	Clean gloves are to be worn if there is an open area, discharge or a rash on the foot / ankle area.
2. Have client remove socks / stocking and shoes from both feet.	
3. Explain the procedure to the client & show them the monofilament.	

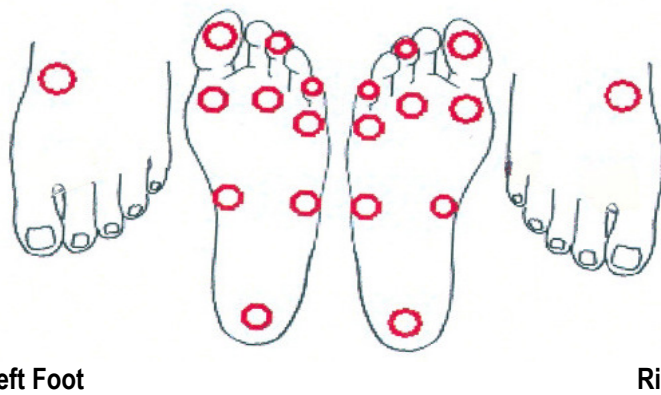
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Steps	Key Points
4. Touch the monofilament to the clients arm / hand so they understand what to expect when monofilament testing is done on the foot.	
5. Have the client close their eyes and indicate when he/ she feel the monofilament touch the foot by responding "yes".	
6. Hold the monofilament perpendicular to the foot and with a smooth, steady motion, touch the skin until the monofilament bends approximately 1 cm (see Diagram A). Hold it against the skin for approximately 2 seconds.	
7. Using the monofilament , randomly test 10 sites on each foot as indicated in Diagram B.	<p>Random selection of the test sites will prevent the client from guessing/anticipating the next test area.</p> <p>If there is an ulcer, callus or scar on the foot, apply the monofilament on an area adjacent to these rather than directly over them.</p> <p>If the client has had toes amputated, test as many of the remaining sites as possible.</p>

**Diagram A: Use of the Monofilament**



**Diagram B: Monofilament Placement over the Left and Right Feet**



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 May 2012

Steps	Key Points
8. Repeat the test up to 3 times on an area when the client does not indicate they feel the monofilament.	
9. Wash your hands when testing is complete.	
10. If reusing the monofilament, label the monofilament with the client's name and the date.	Monofilaments can be used for repeat testing as single patient use only.

### **Interpretation of Results**

1. If all sites are tested and the client feels the monofilament in each of the areas; then the score is 10/10.
2. If the monofilament is not felt in an area on the foot, this indicates loss of protective sensation (LOPS) in that area and requires referral to a physician / NP.

### **Frequency of Testing**

1. Repeat testing should be done at least once a year or when a new foot ulcer occurs as part of an overall foot assessment.

### **Documentation**

1. Record the number of positive results out of the number of sites tested, e.g. 6 / 9 indicates that the client felt the monofilament in six areas and only nine areas were tested as the client's left great toe had been amputated.

### **Bibliography**

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### **Document Creation/Review**

<b>Created By</b>	British Columbia Provincial Nursing Skin and Wound Committee in collaboration with the Wound Care Clinicians from across all Health Authorities
<b>Publication Date</b>	May 2011
<b>Revision Date(s)</b>	May 2012
<b>Review Date(s)</b>	May 2014

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