



## Appendix 12

### Monofilament Testing in the Diabetic Foot

#### Semmes-Weinstein Monofilament

Sensory examination should be carried out in a quiet and relaxed setting. First apply the monofilament on the patient's hands (or elbow or forehead) so that he or she knows what to expect.

The patient must not be able to see whether or where the examiner applies the filament. The three sites to be tested on both feet are indicated in Figure 1.

Apply the monofilament perpendicular to the skin surface (Figure 2a).

Apply sufficient force to cause the filament to bend or buckle (Figure 2b).

The total duration of the approach – skin contact and removal of the filament – should be approximately 2 seconds.

Apply the filament along the perimeter of, not on, an ulcer site, callus, scar or necrotic tissue.

Do not allow the filament to slide across the skin or make repetitive contact at the test site.

Press the filament to the skin and ask the patient whether they feel the pressure applied ('yes'/'no') and next where they feel the pressure ('left foot'/'right foot').

Repeat this application twice at the same site, but alternate this with at least one 'mock' application in which no filament is applied (total three questions per site).

Protective sensation is present at each site if the patient correctly answers two out of three applications. Protective sensation is absent with two out of three incorrect answers – the patient is then considered to be at risk of ulceration.

Encourage patients during testing by giving positive feedback.

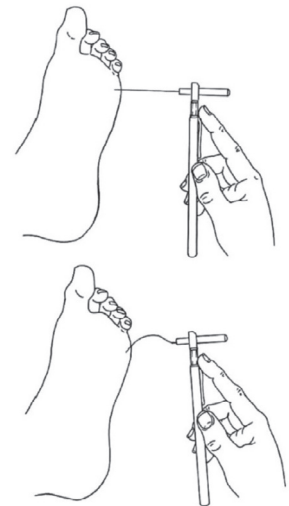
The health-care provider should be aware of the possible loss of buckling force of the monofilament if used for too long a period of time.

Adapted from:

N. C. Schaper NC, Van Netten JJ, Apelqvist J, et al. Prevention and management of foot problems in diabetes: a Summary Guidance for Daily Practice 2015, based on the IWGDF Guidance Documents. *Diabetes Metab Res Rev* 2016; 32(Suppl. 1): 7–15.



**Figure 1. Sites to be tested with the monofilament**



**Figures 2a & 2b. Application of the monofilament**