Use of 10gram monofilament in screening the diabetic foot.

With as many as 30% of people with diabetes suggested having peripheral neuropathy reliable, reproducible methods should be used for screening.

The 10g monofilament is an objective, simple instrument used in screening the diabetic foot for loss of protective sensation.

It is important that a properly calibrated device is used to ensure that 10g of linear pressure are being applied so a true measurement is being assessed. Two devices reach this standard:

A. Bailey’s 10g monofilament (Bailey’s Instruments, 527 Wilbraham Road, Chorlton-cum-Hardy, Manchester M21 0UF)
B. Owen Mumford’s ‘Neuropen’ (Owen Mumford Ltd., Brook Hill, Woodstock, Oxford, OX20 1TU).

It is equally as important that the device used is ‘rested’ for 24 hours following patient screening sessions to allow maximum recovery. More than 1 10g monofilament should be available in clinics where more than 10 patients are being screened per day.

A. B.

Using the Monofilament

- Sensory examination should be done in a quiet and relaxed setting. First apply the monofilament on the patient’s inner wrist so the patient knows what to expect.
- The patient must not be able to see if and where the examiner applies the filament. The five sites to be tested on both feet are the pulp of the hallux and 3rd digit, and MPJs 1, 3 and 5 (see SCI-DC foot screen).
- Apply the monofilament perpendicular to the skin surface.
- Apply sufficient force to cause the filament to bend or buckle.
- 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 and 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 IF they feel the pressure applied (yes/no) and next WHERE they feel the pressure applied (left/right foot).
- Loss of Protective Sensation = No Feeling in less than 8 sites
- Encourage the patients during testing.

The monofilament should be replaced regularly.

Where the device is in use daily for foot screening it should be replaced when it:
- Looks bent
- After 6 months use

When the device is used less frequently it should be replaced when it:
- Looks bent
- After 12 months use

References:
