

# The utility of thermal threshold tests in the management of patients with suspected small fibre neuropathy

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## Aims

Small fibre neuropathy (SFN) presents typically with a 'burning' or 'cold' sensation in the distal limbs. Thermal threshold tests (TTT) are done with the intention of diagnostic benefit in current practice.

This study aims to analyse sensory symptoms in patients referred for TTT and of those with a positive result, with the intention of determining the utility of TTT as a test to confirm or refute a diagnosis of SFN. Furthermore the study aims to explore the appropriateness of referral for TTT and the impact the test has on further management.

## Methods

This is a retrospective cohort study of 78 patients referred for TTT in the Royal Hallamshire Hospital, Sheffield. Data was collected from patient notes and analysed using Microsoft Excel.

## Results

The total number of patients referred for TTT with a complete dataset within this study was 52, of which only 31 (59.6%) were referred with symptoms suggestive of SFN (a 'burning' and/or 'cold' sensation in either upper or lower limb). The rest reported symptoms of tingling, numbness and 'pins and needles'.

Of 30 patients presenting with typical symptoms of SFN (ie lower limb symptoms), only 13 (43.3%) had a positive TTT.

On the other hand, out of a total of 15 patients with a positive upper limb TTT, only 4 (26.7%) had typical upper limb SFN symptoms. Of 22 with positive lower limb TTT, 13 (59.1%) had SFN symptoms.

A total of 26 patients had a positive TTT (15, upper limb; 22, lower limb). The test enabled the confirmation of a SFN diagnosis in eight cases and helped refute it in 18 cases. The rest (25) remained unclear. Where TTT influenced the diagnosis (confirmed or refuted), only 30.8% were referred for further care or were under follow up. Of the rest, where TTT didn't influence the diagnosis, 32.0% were referred or under follow-up, while 48.0% were discharged and 20.0% had an unclear management plan.

## Conclusion

The majority of patients referred for TTT had typical SFN symptoms. However the majority of patients with a positive TTT did not present with typical SFN symptoms. TTT did not impact the diagnosis in 25 of 52 cases. In both instances where TTT did and did not impact the diagnosis, only a small proportion of patients were referred for further care, demonstrating TTT to be an investigation of little value. ■

## Conflict of interest statement

The authors have no conflicts of interest to declare.

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