Supplemental Appendix 1. Search Strategy

Our search strategy in MEDLINE was built up with the following components:

#1 Tibial Neuropathy[MeSH] OR Alcoholic Neuropathy[MeSH] OR Sciatic Neuropathy[MeSH] OR Peroneal Neuropathies[MeSH] OR Diabetic Neuropathies[MeSH] OR Hereditary Sensory and Autonomic Neuropathies[MeSH] OR Tangier Disease[MeSH] OR Amyloid Neuropathies, Familial[MeSH] OR Paraneoplastic Polyneuropathy[MeSH] OR Amyloid Neuropathies[MeSH] OR Hereditary Motor and Sensory Neuropathies[MeSH] OR Tarsal Tunnel Syndrome[MeSH] OR Lyme Neuroborreliosis[MeSH] OR Peripheral Nervous System Diseases[MeSH] OR Vitamin B 6 Deficiency[MeSH] OR Thiamine Deficiency[MeSH]

#2 semmes weinstein[tw] OR semmes-weinstein[tw] OR monofilament test[tw] OR (monofilament AND diagnostic test)[tw] OR monofilament pressure sensation[tw] OR pin prick sensation[tw]

#3 Search animal[mh] NOT human[mh]

#4 Search #1 AND #2

#5 Search #4 NOT #3

Our search strategy in EMBASE was built up with the following components:

#1 Tarsal Tunnel Syndrome/ or Alcoholism/ or Sciatic Neuropathy/ or Peroneal Neuropathy/ or Diabetic Neuropathy/ or (Hereditary Sensory and Autonomic Neuropathies).mp. or Hereditary Motor Sensory Neuropathy/ or Tangier Disease/ or Familial Amyloid Polyneuropathy/ or Lyme Disease/ or Peripheral Neuropathy/ or Pyridoxine Deficiency/ or Thiamine Deficiency/ or Sciatic Neuropathy/ or Peroneal Neuropathy/ or Paraneoplastic Neuropathy/

#2 semmes weinstein.mp. or semmes weinstein monofilament.mp. or semmes-weinstein.mp. or monofilament test.mp. or (monofilament.mp. and Diagnostic Test/) or pin prick sensation.mp.

#3 Search #1 and #2

#4 Animal/

#5 Human/

#6 Search #4 not #5

#7 Search #3 not #6

Supplemental Appendix 2. Quality Assessment of Diagnostic Accuracy Studies (QUADAS)

The QUADAS tool was developed in 2003 by Whiting et al. They combined empirical evidence and expert opinion using a formal consensus method to develop a tool to be used in systematic reviews to assess the quality of primary studies of diagnostic accuracy. Diagnostic accuracy studies aim to determine how good a particular test, the index test, is at detecting the target condition. Patients receive the index test as well as a reference standard test. In our systematic review the test of interest is monofilament testing with the 5.07/10-g monofilament, and peripheral neuropathy of the feet is the target condition. The reference standard is the nerve conduction study, the best available method to determine whether the patient has peripheral neuropathy.

Diagnostic accuracy studies provide an indication of test performance by the calculation of various statistics including sensitivity, specificity, positive and negative predictive values, positive and negative likelihood ratios, diagnostic odds ratios, and receiver operating characteristic curves.

Whiting et al used the results of 2 previously conducted reviews of the diagnostic literature to generate a list of 28 potential items for inclusion in the tool and to provide an evidence base upon which to develop the tool. They conducted a Delphi procedure of 4 rounds where 9 experts in the area of diagnostic research refined the initial list of items into the final QUADAS tool.
The tool can be used in the following ways:

- As criteria for including/excluding studies in a review
- As criteria for including/excluding studies in primary analysis
- To conduct sensitivity/subgroup analysis stratified according to quality
- As individual items in metaregression analyses
- To make recommendations for future research

The tool does not incorporate a quality score. Instead, it is structured as a list of 14 questions that should each be answered yes, no, or unclear. The 14 items cover patient spectrum, reference standard, disease progression bias, verification bias, review bias, clinical review bias, incorporation bias, test execution, study withdrawals, and indeterminate results. By using the 14-item QUADAS tool, the appropriate conclusions can be drawn in light of the potential bias.

Reference

1. Whiting P, Rutjes AW, Dinnes J, Reitsma J, Bossuyt PM, Kleijnen J. Development and validation of methods for assessing the quality of diagnostic accuracy studies. *Health Technol Assess.* 2004;8(25:iii):59-65.

No.	Item	Yes	No	Unclear
	The QUADAS Tool			
1.	Was the spectrum of patients representative of the patients who will receive the test in practice?	( )	( )	( )
2.	Were selection criteria clearly described?	( )	( )	( )
3.	Is the reference standard likely to correctly classify the target condition?	( )	( )	( )
4.	Is the time period between reference standard and index test short enough to be reasonably sure that the target condition did not change between the two tests?	( )	( )	( )
5.	Did the whole sample or a random selection of the sample, receive verification using a reference standard of diagnosis?	( )	( )	( )
6.	Did patients receive the same reference standard regardless of the index test result?	( )	( )	( )
7.	Was the reference standard independent of the index test (i.e. the index test did not form part of the reference standard)?	( )	( )	( )
8.	Was the execution of the index test described in sufficient detail to permit replication of the test?	( )	( )	( )
9.	Was the execution of the reference standard described in sufficient detail to permit its replication?	( )	( )	( )
10.	Were the index test results interpreted without knowledge of the results of the reference standard?	( )	( )	( )
11.	Were the reference standard results interpreted without knowledge of the results of the index test?	( )	( )	( )
12.	Were the same clinical data available when test results were interpreted as would be available when the test is used in practice?	( )	( )	( )
13.	Were uninterpretable/intermediate test results reported?	( )	( )	( )
14.	Were withdrawals from the study explained?	( )	( )	( )

Adapted with permission. Whiting P, Rutjes AWS, Dinnes J, Reitsma JB, Bossuyt PMM Kleijnen J. Development and validation of methods for assessing the quality of diagnostic accuracy studies. *Health Technol Assess.* June 2004;8(25).