Scoring System for CTS, Guidelines for use

The Victoria Infirmary, Glasgow.

The "Victoria questionnaire" is designed to aid in the assessment of patients referred to a Hand Clinic with paraesthesia in the hand (Tingling hands). Although it is orientated to patients with suspected carpal tunnel syndrome, it provides a useful structure for recording the symptoms in patients suspected of having other causes of nerve compression, most commonly ulnar nerve entrapment.

Although there is high correlation of scores with a diagnosis of CTS, clinical judgement should be exercised in the deciding whether to recommend operation or further investigation (usually nerve conduction studies). Some indications for NCS, regardless of the score, are mentioned below.

Page 1 should be completed by the patient without the doctor/ESP present. Once the patient has had sufficient time the completeness should be checked and details discussed with the patients.

Page 2 is for completion by the doctor/ESP. A score for the symptoms and examination findings is recorded.

Page 1

Questions 1, 2 and 4: Record basic background information.
Manual occupation, particularly in men, is regarded as strong indication for requesting NCS.
Scoring: 2 points are given for age<60. The rationale for this is that younger patients usually present with more 'classic' symptoms of CTS.

Question 3: History of diabetes. Currently we arrange NCS in all diabetic patients with suspected CTS. However, experience suggests that those diabetic patients who have typical clinical features of CTS, almost invariably do have CTS, although they may also have diabetic neuropathy. Carpal tunnel release is usually indicated.

Question 5: This is an open question.
If the patient description includes tingling or numbness (or similar words) in the hand then the remainder of the questionnaire is scored.
If different symptoms are recorded then the remainder of the questionnaire should not be scored.

Question 6: Records which side is affected or which is worse.

Question 7: Information on when symptoms are worse and precipitating factors. Patients can tick any number of boxes.
Currently, points are given only for nocturnal exacerbation of symptoms: 2 points for "During the night" or 1 point for "First thing in the morning". It is assumed that patients who wake in the morning with numbness and paraesthesia have nocturnal exacerbation but it is not severe enough to wake them during the night.

Question 8: Distribution of numbness and paraesthesia within the hand.
"Thumb, index and middle fingers" and "Middle and ring fingers" are taken as indicating median nerve distribution and are given 2 points.
"Ring and little fingers" strongly suggests ulnar nerve entrapment, see below.

Question 9: Relief of numbness and paraesthesia at night. This question explores the classic description, given by patients with carpal tunnel syndrome, of shaking the hand out of bed (2 points).

Question 10: Relief by a night splint. Typically symptoms of CTS are improved by a wrist splint usually worn at night (1 point).

Question 11: Many patients with CTS describe, "clumsiness", dropping objects or other examples of reduced manual dexterity (1 point).

Question 12: Records the length of time symptoms have been present. This is usually at least 6 months as a result of NHS waiting lists.

Question 13: Records occupational exposure to vibration. Current or recent exposure to vibration raises the possibility of Hand Arm Vibration Syndrome, which has significant implications on the indications for operation. NCS should always be arranged in such cases.

Page 2

Paraesthesia in the Ulnar Nerve distribution:
(This should probably be changed to, "Clinical features of ulnar nerve entrapment". The examiner should check whether the patient has numbness/paraesthesia in the ring and little fingers and/or clinical signs of ulnar nerve pathology (Tinel's +ve over ulnar nerve at the elbow, altered sensation in the ring and little fingers, or weakness of ulnar nerve innervated intrinsic muscles.
Study results suggest that the presence of any of these features increases the probability that the patient does not have carpal tunnel syndrome and is therefore an indication for NCS.

Evidence of cervical root irritation:
The examiner should assess whether the patient has symptoms or signs which may indicate nerve root irritation. Eg. Neck pain radiating into the arm/hand, Paraesthesia in the arm/hand when moving the neck. This may be an indication for NCS, C-spine X-ray or C-spine MRI.
In general the diagnosis of cervical nerve irritation/compression is not usually confused with CTS, as the symptoms are sufficiently different.

Signs

Tinels sign: For Median nerve at the carpal tunnel. Percussion over the carpal should cause paraesthesia in the median nerve distribution, most commonly strongest in the middle finger (2 points).

Phalen's test: The patient places their elbows on a desk/bench with the forearms upright. The wrists are flexed for 30 to 60 seconds. The test is +ve if paraesthesia in the fingers is precipitated (1 point).

Alteration in sensation in distribution of median nerve:
Points are only given if sensation in distribution of the median nerve is altered in comparison with the ulnar nerve area. Sensory changes are commonly most marked in the middle finger.
Usually a simple subjective assessment can be made by touching the middle and little fingers and asking the patient if one is abnormal.
A more objective quick assessment can be made using 2-point discrimination. However, 2pd is only impaired in patients with very advanced CTS.
If sensory thresholds can be tested with Semmes Weinstein filaments, this may be a better assessment, but does take longer to perform.

Wasting Thenar eminence:
This is sign of very advanced CTS which is now rarely seen.

Current results of use of the "Victoria questionnaire" suggest the following model for management of suspected CTS.

MODEL FOR MANAGEMENT OF SUSPECTED CTS