

Michigan Hand Outcomes Questionnaire (MHQ)

INTRODUCTION

The Michigan Hand Outcomes Questionnaire (MHQ) is a hand-specific outcomes instrument which measures the health outcomes of patients with chronic hand conditions. The MHQ contains six distinct scales (1) overall hand function, (2) activities of daily living (ADLs), (3) pain, (4) work performance, (5) aesthetics, and (6) patient satisfaction with hand function. There is also a demographic section asking questions about patients' gender, ethnic background, etc.

The MHQ has a total of 72 questions. It takes approximately 15 minutes to complete and is self-administered. The MHQ can assess a patient's general hand function or if administered several times (i.e., pre- and post-operatively), it can be used to assess changes in hand function.

Administer the survey to a minimum of 75 patients per diagnostic group (e.g., mild carpal tunnel) or more if you are expecting a large refusal rate. This sample size will be adequate to estimate the mean MHQ overall score with a 95% confidence interval of +/- 3.4 and will provide adequate power (.80) to detect a medium effect size for performing group comparisons.

The given demographic section contains basic questions that will describe the sample population.

DATA ENTRY

In order to correctly score the MHQ, you must use the variables given in the codebook. When entering the data, select the number corresponding to the patient's chosen response category. For example:

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

If the patient chooses "Strongly Agree", you should enter "1" and so forth.

If two response categories are circled, choose the higher (more severe) of the two responses. For example, if a patient circles his/her pain level as both mild and moderate, you should record the response as moderate.

CODING

Missing Data:

If a patient does not circle a given response category, use one of the following codes:

Not Applicable = 8: Applies to any questions where patient writes “n/a” instead of selecting a given response category or where the skip pattern applies (i.e., if IVA1 = ‘never’ then IVA 2-5 = ‘8’).

Missing/Skipped = 9: Applies to any question where the patient does not circle a response without giving any indication that the question does not apply.

DATA INTEGRITY

A person trained in data management should be responsible for entering the data. To ensure proper data entry, two identical databases should be created. All data should be entered twice—one time each by different personnel. Comparing the two data sets and cleaning them will eliminate errors.

Missing values are imputed according to the scoring algorithm. However, the MHQ must be completely filled out in order to obtain an accurate score from the scoring algorithm.

Appendix II: Scoring Mechanism

The MHQ contains six scales: (1) overall hand function, (2) activities of daily living, (3) work performance, (4) pain, (5) aesthetics, and (6) satisfaction with hand function. In the pain scale, high scores indicate greater pain, while in the other five scales, high scores denote better hand performance.

The raw scale score for each of the six scales is the sum of the responses of each scale item. The raw score is converted to a score ranging from 0-100. The response categories for some of the questions are reversed and re-coded (ex. for the pain score, a higher score indicates more pain. For the other five scales, higher scores indicate better hand performance).

The score for the affected hand is obtained by selecting either the right or the left hand score. If both hands are affected (e.g. rheumatoid arthritis patients), the right and left hand scale scores are averaged to get the score.

Missing values in each scale may affect the validity of the scores. If 50% or more of the items in a scale are missing, then that particular scale cannot be scored. For scales with less than 50% missing, the average of the existing scale items may be imputed for the missing items. An overall MHQ score can be obtained by summing the scores for all six scales after reversing the pain scale (i.e. 100-convereted pain scale) and then dividing by six. All sections of the MHQ must be filled out in order to accurately compare scores between individuals.