BACKGROUND

The International Standards for Neurological Classification of Spinal Cord Injury (ISNCSCI; also known as “The International Standards”) is recognized as an important tool for both research and clinical care, supporting the use of a standardized way to quantify neurological impairment after a spinal cord injury (SCI).

The ISNCSCI has undergone many revisions to improve its accuracy and consistency (most recently in 2011), however, reliability issues with both the assessment and classification components of the International Standards remain. This is due to a variety of reasons including International Standards revisions and inconsistent interpretation and implementation of scoring and classification rules. Misclassification rates in reporting ASIA Impairment Scale (AIS) ranging from 11.9-13%, and in reporting Motor Level ranging from 18-26%\(^1\),\(^2\),\(^3\), highlight the potential benefits of using a computerized algorithm to support standardized classification.

PROJECT PURPOSE

Identifying the need to create a standardized and more accurate tool to measure ISNCSCI, the Rick Hansen Institute, in collaboration with ISCoS and a group of clinical experts created the ISNCSCI ALGORITHM. The purpose of the ISNCSCI Algorithm project is to develop an up-to-date, user-friendly, computerized application to capture ISNCSCI clinical exam information, utilize current ISNCSCI classification rules, and provide an accurate determination of level and severity of injury to support education, research and clinical care. To date, the project has produced a beta test website (see figure) used internationally for clinical and research purposes and was presented at ASIA, ISCoS, and Academy of Spinal Cord Injury Professionals conferences.

PROJECT STATUS

Development to date has highlighted areas of ISNCSCI that require further clarification or modifications. The project team in collaboration with a group of international clinical experts has developed the algorithm logic to address some of these areas (e.g. classification that incorporates not testable scores). Work is also underway to enable the ISNCSCI Algorithm to be used in electronic medical records and on a scientific publication.