REHABILITATION ASSESSMENT MEASURES IN MS

While the following list is not intended to be comprehensive, it represents many of the tools commonly used in rehabilitation assessment of patients with MS.

- **Ashworth and Modified Ashworth Spasticity Scale**: These are ordinal scales of tone intensity. The Ashworth rates tone on a scale of 0-4, while the Modified Ashworth was developed to further define the lower end of the scale making it more discrete by adding the grade 1+. The scale is provided in your slides. Reference: Lee K.C., Carson L., Kinnin E., and Patterson V. “The Ashworth Scale: A reliable and reproducible method of measuring spasticity.” *J. Neuro Rehab* 1989; 3: 205-209.


- **Box and Block Test of Manual Dexterity (BBT)**: The Box and Block test was originally developed to evaluate the gross manual dexterity of adults with cerebral palsy. The test is made up of a box with a partition directly in the centre creating two equal sides. A number of small wooden blocks are placed in one side of the box. The subject being tested is required to use the dominant hand to grasp one block at a time and transport it over the partition and release it into the opposite side. The subject is given 60 seconds in which to complete the test, and the number of blocks transported to the other side is counted. The test is then repeated with the non-dominant hand. It is suitable for persons with limited cognition and manual dexterity. Reference: Mathiowetz V., Volland G., Kashman N., and Weber K. “Adult norms for the box and block test of manual dexterity.” *Am J Occup Ther* Jun 1985; 39:386-391.

- **Canadian Occupational Performance Measure (COPM)**: An individualized, client-centered measure of three areas: self-care, productivity and leisure. Information about this measure can be found at [www.caot.ca/copm](http://www.caot.ca/copm)

- **The Dallas Pain Questionnaire**: The Dallas Pain Questionnaire was developed to assess the amount of chronic spinal pain that affects daily and work activities, leisure activities, anxiety-depression, and social interest. There is a 16 item self-report that takes about 5 minutes to complete. Each item contains its own visual analog scale. The scales are divided into five to
eight small segments in which the subject is asked to mark an “X” which indicates where his or her pain impact falls on the continuum. The visual scales are anchored at the beginning with words such as “no pain” and 0%, close to the middle “some,” and at the end with “all the time” and 100% impact of pain. Reference: Lawlis G., Cuencas R., Selby D., and McCoy, C.E. “The development of the Dallas pain questionnaire.” *Spine* Vol 14, Num 5: 511-516. [Year?]

- **Functional Independence Measure (FIM):** An ordinal scale of functioning in multiple areas including feeding, grooming, bathing, dressing, toileting, transferring, locomotion, comprehension, expression, social interaction and problem solving. Information about obtaining the FIM may be obtained from Uniform Data for Medical Rehabilitation UB Foundation Activities, Inc. at (716) 817-7800 or www.udsmr.org.

- **Health Status Questionnaire (SF-36):** This is a 36-item patient self-report regarding the patient’s perception of health and physical limitations. It is widely used in the US. It is a component of the MSQLI. It is a registered trademark of the Medical Outcomes Trust, Inc. (20 Park Plaza, Suite 1014, Boston, Massachusetts 02116) Additional references: www.mcw.edu/midas/health/SF-36.html and www.nationalmssociety.org/MUCS_health.asp.

- **Kurtzke Functional System Scores (FSS) and Expanded Disability Status Scale (EDSS):** The FSS and EDSS constitute one of the oldest and probably the most widely utilized assessment instruments in MS. Based on a standard neurological examination, the 7 functional systems (plus "other") are rated. These ratings are then used in conjunction with observations and information concerning gait and use of assistive devices to rate the EDSS. Each of the FSS is an ordinal clinical rating scale ranging from 0 to 5 or 6. The EDSS is an ordinal clinical rating scale ranging from 0 (normal neurologic examination) to 10 (death due to MS) in half-point increments. These may be found at www.nationalmssociety.org/MUCS_FSS.asp.

- **Minimal Assessment of Cognitive Function in MS (MACFIMS):** An expert panel convened by the Consortium of MS Centers in 2001 developed this neuropsychological assessment for patients with MS. This is a 90-minute battery of 7 neuropsychological tests covering processing speed/working memory, learning and memory, executive function, visual-spatial processing and word retrieval. Reference: Benedict R. et al. “Minimal neuropsychological assessment of MS patients: A consensus approach.” *Clin Neuropsychol* Aug 2002; 16(3): 381-397.

- **Modified Fatigue Impact Scale (MFIS):** Consists of 21 items to determine the effects of fatigue in terms of cognitive, physical, and psychosocial functioning. An abbreviated version consists of 5 items. The MFIS is part of the MSQLI and can be downloaded in PDF format from www.nationalmssociety.org/MUCS_fatigue.asp.

- **MS Functional Composite (MSFC):** Includes the Timed 25-foot walk (T25-FW), 9-hole peg test (9HPT), and the Paced Auditory Serial Addition Test (PASAT): The MSFC Administration and Scoring Manual can be downloaded in PDF format from the National MS Society website www.nationalmssociety.org/MUCS_MSFC.asp.

- **MS Quality of Life-54 (MSQOL-54):** A multidimensional health-related quality of life measure that combines the SF-36 and 18 items that are MS-specific including fatigue and
cognitive function. It can be downloaded in PDF format from www.nationalmssociety.org/MUCS_MSQOL-54.asp.

- **MS Quality of Life Inventory (MSQLI):** A structured self-report encompassing the following components: SF-36, Modified Fatigue Impact Scale, Pain Effects Scale (PES), Sexual Satisfaction Scale (SSS), Bladder Control Scale (BLCS), Bowel Control Scale (BWCS), Impact of Visual Impairment Scale (IVIS), Perceived Deficits Questionnaire (PDQ), Mental Health Inventory (MHI), Modified Social Support Survey (MSSS). The MSQLI: A User’s Manual can be downloaded as a PDF file from www.nationalmssociety.org/MUCS_MSQLI.asp.

- **Range of Motion (ROM) and Manual Muscle Test (MMT) and Grasp Dynamometry:** Range of Motion at selected joints is assessed using a goniometer that measures the angle of the joint through its range. Manual Muscle testing uses a 6 point grading system (0=no contractile ability; 5=strength through full ROM with maximum resistance) to assess strength where the patient has selective joint control. Grasp Dynamometer Testing uses a dynamometer to measure grasp and pinch strength in pounds.

- **Tinetti Assessment Tool:** Easily administered test that measures gait and balance. The test is scored on a three-point scale to assess the patient’s ability to perform specific tasks. Scores are combined to form three measures—an overall gait assessment score, an overall balance assessment score, and a gait and balance score. The scores can be interpreted with regard to risk for falls. Reference: Lewis C. “Balance, gait test proves simple yet useful.” *PT Bulletin* 1993; 2/10:9,40. Also, Tinetti M.E. “Performance-oriented assessment of mobility problems in elderly patients.” *JAGS* 1986; 34:119-126.