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Expanded Disability Status Scale (EDSS)

Availability	**This instrument is freely available in the public domain:** [National Multiple Sclerosis Society - Expanded Disability Status Scale (EDSS)]
Classification:	**Supplemental – Highly Recommended** : Multiple Sclerosis (MS) • Highly recommended to categorize severity of neurological disability in MS.
Short Description of Instrument:	**Construct measured:** Global neurological impairment **Generic vs. disease specific**: Generic **Means of administration:** Trained examiner, usually a neurologist (can also be a trained nurse practitioner) **Intended respondent:** Patient **# of items:** 21 **# of subscales and names of sub-scales:** Functional System Status (FSS) **# of items per sub-scale:** 7
Comments/Special instructions:	**Scoring:** 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. The EDSS is an ordinal clinical rating scale ranging from 0 (normal neurologic examination) to 10 (death due to MS) in half-point increments. There is no composite or summed score. The FSS sub-scale is an ordinal clinical rating scale ranging from 0 to 5 or 6. The FSS is rated on the basis of the judgment of the examiner. The values in the 7 FSS are used to define EDSS steps through out the scale (starting at 4.5 the EDSS is also defined by walking distance and required walking aids, above 8 is defined by arm function). In most studies, the distribution of scores on the EDSS forms a bimodal distribution with peaks in the lower and upper ranges and a trough in the middle. (Hohol et al, 1995) Scores on the lower end of the EDSS are more dependent upon nuances in the neurological examination and reflect impairment; those in the middle range are more dependent upon gait and reflect both impairment and disability, while those in the upper (more impaired) range are also dependent upon assistance by others required for activities of daily living. **Background:** The EDSS is one of the oldest and probably the most widely utilized assessment instruments in MS (Kurtzke, 1983). It has been used in virtually every major clinical trial that has been conducted in MS during the last five decades and in numerous other clinical studies. The EDSS was developed in the 1950's and refined in the 1980's to provide a standardized measure of global neurological impairment in MS. Although clinicians use these measures in daily practice they are utilized primarily in clinical studies, especially clinical trials. Since the EDSS represents a familiar and widely used albeit imperfect standard, it will probably remain an important part of clinical assessment in MS for the foreseeable future. Under certain circumstances one might focus on selected FSS, but generally this is thought of as part of the EDSS.

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References:	Goodkin et al. Inter- and intrarater scoring agreement using grades 1.0 to 3.5 of the Kurtzke Expanded Disability Status Scale (EDSS). Multiple Sclerosis Collaborative Research Group. Neurology 1992 Apr;42(4):859-63. Kurtzke JF. Rating neurologic impairment in multiple sclerosis: an expanded disability status scale (EDSS). Neurology. 1983 Nov;33(11):1444-52.
Rationale/ Justification:	**Strengths/Weaknesses:** The EDSS has frequently been used as a primary or secondary outcome in clinical trials. Since the EDSS is an ordinal rating scale, a 1-point difference in one part of the scale does not represent the same interval as a 1-point difference in another part of the scale, thus making change or group differences difficult to interpret. Most importantly, there is evidence that the EDSS lacks adequate sensitivity to fluctuations in MS-related impairment. The FSS is one of the oldest and probably the most widely utilized assessment instruments in MS (Kurtzke, 1983). **Psychometric Properties:** Both test-retest reliability and inter-rater agreement have varied considerably from study to study with some studies finding high values and other studies unacceptably low figures (Coulthard-Morris, 2000). However, dissatisfaction with the psychometric characteristics of the FSS have led investigators to develop other measures for clinical studies in MS, for example, the MSFC. Many investigators have attempted to correct some of the problems by making changes in the FSS. See for example Goodkin et al (1992). **Availability:** There have been several different versions of the EDSS, many of which have been used in clinical trials but not published. The version presented here is the one originally published by Kurtzke (1983) with some explanatory material added when the EDSS was incorporated in the Minimal Record of Disability by the World Health Organization. **Administration:** Will vary depending upon the condition of the patient and the skill of the examiner. Although the EDSS itself can be rated in a few minutes, the neurological examination and assessment of walking distance that is needed to make the ratings can take anywhere from 15-45 minutes. A version that can be administered by phone is also available (Lechner-Scott J et al, MSJ 2003; 9: 154-159)