

European myelopathy score

In 1975 the [Japanese Orthopaedic Association \(JOA\)](#) introduced a [score](#) for the clinical neurological judgment of [cervical myelopathy](#). In [Japan](#) and other Oriental countries this so-called [JOA](#) score is especially popular for judging the clinical progression of a disease known as [ossification of the posterior longitudinal ligament \(OPLL\)](#), which is very common in Japan.

Attempts to apply the JOA score to European, i.e. Western, patients have been disappointing because of cultural differences between Orientals and Westerners: the first criterion on the JOA score rates the ability to eat with chopsticks, which would leave most Westerners with a distinct impairment of upper limb function as a sign of [cervical myelopathy](#). In particular, the JOA score does not take into account the four major neural systems, the impairment of which contributes to the clinical picture of cervical myelopathy:

- 1.- the upper motor neuron with signs of spasticity as well as bladder and bowel malfunction
- 2.- the lower motor neuron with impairment of hand function
- 3.- the posterior roots with upper limb radicular deficits and paresthesias
- 4.- the posterior columns with proprioceptive sensory loss, disturbed coordination, and ataxia. In order to close this gap a European Myelopathy Score was developed which rates these systems in a simple and concise manner.

Criterion Points

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Unable to walk, wheelchair 1

Walking on a flat ground only with cane or aid 2

Climbing stairs only with aid 3

Gait clumsy, but no aid necessary 4

Normal walking and climbing stairs 5

Retention, no control over bladder and/or bowel function 1

Bladder and bowel function Inadequate micturition and urinary frequency 2

Normal bladder and bowel function 3

Handwriting and eating with knife and fork impossible 1

Handwriting and eating with knife and fork impaired 2

Handwriting, tying shoe laces or a tie clumsy 3

Normal handwriting 4

Getting dressed only with aid 1

Getting dressed clumsily and slowly 2

Getting dressed normally 3

Invalidity due to pain 1

Endurable paraesthesia and pain 2

No paraesthesia and pain 3

Total score 5-18

The lower the score the more severe the deficits. Normal function: 17 + 18, grade 1: 13-16, grade 2: 9-12, grade 3: 5-8. Weight of the criterion in percentage of 18 points: upper extremity 27.8%, lower extremity 22.2%, coordination 16.7%, paraesthesia/pain 16.0%, bladder and bowel function 16.7%

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