

ANNEX 1: Spastic Paraplegia Rating Scale (SPRS)

- (1) **Walking distance without pause**
Due to history, walking aids allowed
 0: Normal, unlimited
 1: Abnormal exhaustion due to spasticity after more than 500m
 2: Walking distance less than 500m
 3: Walking distance less than 10 m
 4: Unable to walk
- (2) **Gait quality**
Patient is asked to walk as fast as possible a 10 meter distance including one turn
 0: Normal
 1: Mild stiffness, running still possible
 2: Clearly spastic gait, interfering with running
 3: Spastic gait requiring use of canes/walker
 4: Unable to walk for a 10 meter distance even with maximal support
- (3) **Maximum gait speed**
Time for a 10 meter distance including one turn, taken by stop watch
Timing:
 0: Normal
 1: Slightly reduced (10m: $\geq 5s$)
 2: Moderately reduced (10m: $\geq 10s$)
 3: Severely reduced (10m: $\geq 20s$)
 4: Unable to walk for a 10m distance or time $\geq 40s$
- _____sec
- (4) **Climbing stairs**
5 steps upstairs - turn - 5 steps downstairs
 0: Normal: needs no support of the banister
 1: Mild impairment: needs intermittent support of the banister
 2: Moderate impairment: needs permanent support of the banister
 3: Severe impairment: needs support of another person or additional walking aid to perform task
 4: Unable to climb stairs
- (5) **Speed of stair climbing**
Time for 5 steps upstairs - turn - 5 steps downstairs, taken by stop-watch
Timing:
 0: Normal
 1: Slightly reduced ($\geq 5s$ to perform task)
 2: Moderately reduced ($\geq 10s$ to perform task)
 3: Severely reduced ($\geq 20s$ to perform task)
 4: Unable to climb stairs
- _____sec
- (6) **Arising from chair**
Patient attempts to arise from a straight-back wood or metal chair with arms folded across chest
 0: Normal
 1: Slow, or may need more than one attempt.
 2: Pushes self up from arms of seat.
 3: Tends to fall back and may have to try more than one time but can get up without help.
 4: Unable to arise without help.
- (7) **Spasticity -hip adductor muscles (Modified Ashworth scale)**
Score more severely affected side
 0: No increase in muscle tone
 1: Slight increase in muscle tone, manifested by a catch and release
 2: More marked increase in muscle tone through most of the range of motion
 3: Considerable increase in muscle tone - passive movement is difficult
 4: Limb stiff in adduction
- (8) **Spasticity -knee flexion (Modified Ashworth scale)**
Score more severely affected side
 0: No increase in muscle tone
 1: Slight increase in muscle tone, manifested by a catch and release
 2: More marked increase in muscle tone through most of the range of motion
 3: Considerable increase in muscle tone - passive movement is difficult
 4: Limb stiff in flexion or extension
- (9) **Weakness -hip abduction (Medical Research Council 1976)**
 0: No weakness
 1: Mild weakness (4/5)
 2: Moderate weakness (3/5)
 3: Severe weakness (1-2/5)
 4: Plegia (0/5)
- (10) **Weakness -foot dorsiflexion (Medical Research Council 1976)**
 0: No weakness
 1: Mild weakness (4/5)
 2: Moderate weakness (3/5)
 3: Severe weakness (1-2/5)
 4: Plegia (0/5)
- (11) **Contractures of lower limbs**
Score in supine position
 - *Hip extension: lumbar spine and thighs touch the underlay. Hip abduction: abduction up to an angle of $>60^\circ$ between the legs possible*
 - *Knee extension: thigh and calf touch the underlay*
 - *Ankle dorsal extension: $> 10^\circ$ possible. Ankle pronation: $> 10^\circ$ possible*
 0: No contracture
 1: Mild, not fixed abnormal position of one joint (unilaterally or bilaterally)
 2: Fixed contracture of one joint (unilaterally or bilaterally)
 3: Fixed contracture of two joints (unilaterally or bilaterally)
 4: Fixed contracture of more than two joints (unilaterally or bilaterally)
- (12) **Pain due to SP related symptoms**
 0: None
 1: $\leq 50\%$ of waking day present AND intensity 0 - 3 points on visual analogue scale
 2: $\leq 50\%$ of waking day present AND intensity 4 - 10 points on visual analogue scale
 3: $> 50\%$ of waking day present AND intensity 0 - 3 on visual analogue scale
 4: $> 50\%$ of waking day present AND intensity 4 - 10 points on visual analogue scale
- (13) **Bladder and bowel function**
 0: Normal bladder and bowel function
 1: Urinary or fecal urgency (difficulties to reach toilet in time)
 2: Rare and mild urge incontinence (no nappy required)
 3: Moderate urge incontinence (requires nappy or catheter when out of the house)
 4: Permanent catheterization or permanent nappy

Total SPRS Score: /52