MOTOR CAPACITIES EVALUATION SHEET FOR THE TETRAPLEGIC PATIENT

MOTOR CAPACITIES correspond to the basic tasks necessary for a tetraplegic patient to be able to perform a total sum of activities.

These basic tasks are defined apart from the daily life activities, but their alteration could impair the patient’s ability to get on with these activities. This evaluation does not take into account various interpersonal aspects of the patient’s life such as culture, work, marital status and living environment.

The motor capacities score is the sum of A+B+C+D scores

Minimal motor capacities score: 55
Maximal motor capacities score: 233

PRACTICAL RECOMMENDATIONS

PRELIMINARY INFORMATION

“You will undergo an evaluation of your basic motor capacities (repositioning, transfers, locomotion, spatial exploration and grasping). We would advise you to be as accurate as possible in reporting your potential ability for these tasks.”

TRANSFERS, REPOSITIONING ON BOBATH’S COUCH, REPOSITIONING ON WHEELCHAIR SEAT AND LOCOMOTION IN A MANUAL AND ELECTRIC WHEELCHAIR.

Recommendations for each item:

⇒ Transfers: « Putting the legs on a level equal to the level of the wheelchair » supposing that the patient is first sitting on Bobath’s couch or in a wheelchair.

⇒ Repositioning on wheelchair seat:
« Putting the feet on the foot rests » means that the feet must be first placed on the floor by the physiotherapist and the foot rests are correctly positioned.
« Rising from a bent position using the upper limbs » must be understood as shoulders on knees, upper limbs dangling.

⇒ Locomotion in a manual wheelchair: the basic evaluation must be done without gloves.

⇒ Locomotion in an electric wheelchair: « Using the commands » means using the push buttons like (on/off), seat incline as well as foot rests.
Recommendations for scoring the items

- **transfers, repositioning on Bobath’s couch, repositioning on wheelchair seat and locomotion in manual wheelchair (items 1 - 15)**,

5 : **no human aid and no technical aid** : the task is done without the help of a third party or technical device.

4 : **only technical aid** : the task can not be completed without technical aid. Third party assistance is not required either to put, use or take out the technical aid as well as completing the task.

3 : **human supervision with or without technical aid** : the person isn’t confident enough to go through the task alone. Needs human supervision without interference.

2 : **partial human aid** : Third party assistance is necessary to help the person in completing the task, to put, use, take out a technical aid and/or to prepare the material environment required to complete this task.

1 : **full human aid** : the task is exclusively completed by someone else.

- **Locomotion in an electric wheelchair (items 16 and 17)**

5 : **possible with standard joystick without wrist orthosis** : meaning the standard joystick without any technical modification.

4 : **possible with standard joystick and wrist orthosis** : this orthosis is compensating the deficient wrist’s dorsal flexion.

or

   **possible with modified joystick and/or wrist orthosis** : In that case the joystick underwent technical modifications.

3 : **possible with modified or standard joystick but with forearm support** : the forearm support being a multidirectional support tool (« feeder », « mag », etc...).

2 : **possible with a head control (regardless of the modality)** : the modality could be occipital, chin, neck etc...

1 : **impossible**.

- **Transfers**: the examiner will ask the person if he usually needs human supervision to complete his transfers. If these transfers do not require human supervision, the scoring will be either 4 or 5.

Trapeze bar will not be considered as a technical aid.

- **Locomotion in a wheelchair**:

  - In case of exclusive use of the manual wheelchair (MW): scoring for MW, to be added up to the maximal EW score, i.e. 10.
  
  - In case of exclusive use of the electric wheelchair (EW): scoring for EW to be added up to the minimal MW score, i.e. 4.
  
  - In case of combined use of both types of wheelchair: score both and add them up.

  NB: push gloves, grip handrims and projection handrims are considered technical aids.
**MOTOR CAPACITIES OR SPATIAL EXPLORATION**

Recommendations for each item

**Target configuration**

The target’s distance is such that the patient is pre-positioned, elbow in passive extension.

![Image](image1)

The determined height is **45° above the shoulder’s horizontal plan**, in a frontal, or fronto-lateral or lateral elevation of the arm depending on the patient’s wish. The patient then does an active extension of the elbow, the forearm being still in pronation.

![Image](image2)

Frontal elevation                Fronto-lateral elevation                Lateral elevation

Recommendations for the quotation itself

2 : **Performed** (this means that the active extension is possible in 1 out of the 3 conditions of elevation described above)

1 : **Not performed**

**Controlateral compensations of the upper limb** (for example the use of a handle) useful for stabilizing the upper body are authorized.
MOTOR CAPACITIES FOR GRASPING AND GRIPPING

Specific recommendations for the different items
⇒ The evaluation must be performed in a **controlled environment**, set up as such: Table height: 75-80 cm. Patient facing the table.

⇒ The « reference » objects were chosen out from objects the patients use in their daily lives and must match the following description:
  - the soda can is full, made of metal, with a diameter of 6.5 cm, placed on the table

![Soda Can]

- the plastic bottle is round and full, with a volume of 1.5 liters and a diameter of 8 to 9 cm, placed on the table.

![Plastic Bottle]

- the play card has a standard format 8.5 X 5.6 cm, handed out vertically by the examiner

![Playing Card]

- the fork has a flat handle and is placed on the table

![Fork]

- the pen is a standard crystal « bic », cap taken off, placed on the table

![Pen]

- the chocolate tablet weighs 200 grams, handed out vertically by the examiner

![Chocolate Tablet]
These reference objects are for the analysis of two basic prehension gestures most often performed by the tetraplegic patient, the key-grip and the grasp.

Recommendations for the quotation

Each type of prehension involves 3 steps: grab, hold and release. Release meaning that the object was first put down on the table. A quotation is available for each of these three steps. The step « hold » is not limited to the only action of « holding », it’s important that

- the soda can is brought up to the mouth

- the bottle be used to pour a drink

- The play card should be placed back in the empty deck packet, placed and stabilized, if necessary by the examiner on the table (deck packet opening facing the patient)

- the fork be stuck in a piece of food or putty

- the pen be used to trace a line

- the chocolate tablet be moved from point A to point B on a distance of 30 cm
If the object can not be grabbed (quotation 1), it means that a third-party assistance is required to grab the object. **In no way should the evaluation be stopped, because further on the patient can hold and/or release the object.**

If the object is held without being lifted up from the table, a quotation of 2 is handed out.

If the object is grabbed with two hands (different from the one-hand grasp assisted from the other hand equivalent to a quotation of 2) the quotation is 1 for the three steps (grab, hold and release)

NB: The «grasp» is a digital-palmar grip associating the thumb folding over the index.