

REHABILITATION NOTES

REHABILITATION SECTION
BALTIMORE CITY MEDICAL SOCIETY

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FUNCTIONAL EVALUATION: THE BARTHEL INDEX

A simple index of independence useful in scoring improvement in the rehabilitation of the chronically ill

Since 1955, the chronic disease hospitals in Maryland (Montebello State Hospital, Deer's Head Hospital, and Western Maryland Hospital) have been using a simple index of independence to score the ability of a patient with a neuro-muscular or musculoskeletal disorder to care for himself, and by repeating the test periodically, to assess his improvement. The Index (BI) has also been taught to many nurses, who have been helpful in evaluating patients prior to admission to these hospitals and after discharge.

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The values assigned to each item are based on time and amount of actual physical assistance required if a patient is unable to perform the activity. Full credit is not given for an activity if the patient needs even minimal help and/or supervision, ie, if he cannot safely perform the activity without someone present in the room with him. Because of the time required to attend an incontinent patient and since he is not socially acceptable, continence was weighted heavily.

Environmental conditions may affect the patient's score. If he has special requirements (other than the usual home setting), his score will be lower when they are not met. Examples are: doorways wide enough for easy access by wheelchair; all rooms on the same level if he cannot walk; grab bars at the toilet and tub.

To be more valuable, an explanation of special environmental requirements should accompany the BI of each patient when these are indicated.

Each patient's BI is scored at the beginning of treatment in the Rehabilitation Service (PM&R), at intervals during the course of his rehabilitation, and at the time of maximum benefit. In this way, it is possible to determine how well and how rapidly he has progressed toward independence. Sometimes improvement does not show up because the presence of another person may still be required even though he does not actually give physical assistance. Usually lack of improvement in the BI after a reasonable period of treatment indicates poor potential for rehabilitation.

BARTHEL INDEX

	<i>With Help</i>	<i>Independent</i>
1. Feeding (if food needs to be cut up = help)	5	10
2. Moving from wheelchair to bed and return (includes sitting up in bed)	5-10	15
3. Personal toilet (wash face, comb hair, shave, clean teeth)	0	5
4. Getting on and off toilet (handling clothes, wipe, flush)	5	10
5. Bathing self	0	5
6. Walking on level surface (or if unable to walk, propel wheelchair) *score only if unable to walk	0*	5*
7. Ascend and descend stairs	5	10
8. Dressing (includes tying shoes, fastening fasteners)	5	10
9. Controlling bowels	5	10
10. Controlling bladder	5	10

A patient scoring 100 BI is continent, feeds himself, dresses himself, gets up out of bed and chairs, bathes himself, walks at least a block, and can ascend and descend stairs. This does not mean that he is able to live alone: he may not be able to cook, keep house, and meet the public, but he is able to get along without attendant care.

DEFINITION AND DISCUSSION OF SCORING

1. Feeding

10 = Independent. The patient can feed himself a meal from a tray or table when someone puts the food within his reach. He must put on an assistive device if this is needed, cut up the food, use salt and pepper, spread butter, etc. He must accomplish this in a reasonable time.

5 = Some help is necessary (with cutting up food, etc., as listed above).

2. Moving from wheelchair to bed and return

15 = Independent in all phases of this activity. Patient can safely approach the bed in his wheelchair, lock brakes, lift footrests, move safely to bed, lie down, come to a sitting position on the side of the bed, change the position of the wheelchair, if necessary, to transfer back into it safely, and return to the wheelchair.

10 = Either some minimal help is needed in some step of this activity or the patient needs to be reminded or supervised for safety of one or more parts of this activity.

5 = Patient can come to a sitting position without the help of a second person but needs to be lifted out of bed, or if he transfers with a great deal of help.

3. Doing personal toilet

- 5 = Patient can wash hands and face, comb hair, clean teeth, and shave. He may use any kind of razor but must put in blade or plug in razor without help as well as get it from drawer or cabinet. Female patients must put on own makeup, if used, but need not braid or style hair.

4. Getting on and off toilet

- 10 = Patient is able to get on and off toilet, fasten and unfasten clothes, prevent soiling of clothes, and use toilet paper without help. He may use a wall bar or other stable object for support if needed. If it is necessary to use a bed pan instead of a toilet, he must be able to place it on a chair, empty it, and clean it. Patient needs help because of imbalance or in handling clothes or in using toilet paper.

5. Bathing self

- 5 = Patient may use a bath tub, a shower, or take a complete sponge bath. He must be able to do all the steps involved in whichever method is employed without another person being present.

6. Walking on a level surface

- 15 = Patient can walk at least 50 yards without help or supervision. He may wear braces or prostheses and use crutches, canes, or a walkerette but not a rolling walker. He must be able to lock and unlock braces if used, assume the standing position and sit down, get the necessary mechanical aides into position for use, and dispose of them when he sits. (Putting on and taking off braces is scored under dressing.)

- 10 = Patient needs help or supervision in any of the above but can walk at least 50 yards with a little help.

6a. Propelling a wheelchair

- 5 = If a patient cannot ambulate but can propel a wheelchair independently. He must be able to go around corners, turn around, maneuver the chair to a table, bed, toilet, etc. He must be able to push a chair at least 50 yards. Do not score this item if the patient gets score for walking.

7. Ascending and descending stairs

- 10 = Patient is able to go up and down a flight of stairs safely without help or supervision. He may and should use handrails, canes, or crutches when needed. He must be able to carry canes or crutches as he ascends or descends stairs.

- 5 = Patient needs help with or supervision of any one of the above items.

8. Dressing and undressing

- 10 = Patient is able to put on and remove and fasten all clothing, and tie shoe laces (unless it is necessary to use adaptations for this). The activity includes putting on and removing and fastening corset or braces when these are prescribed. Such special clothing as suspenders, loafer shoes, dresses that open down the front may be used when necessary.

- 5 = Patient needs help in putting on and removing or fastening any clothing. He must do at least half the work himself. He must accomplish this in a reasonable time.

Women need not be scored on use of a brassiere or girdle unless these are prescribed garments.

9. Continence of bowels

- 10 = Patient is able to control his bowels and have no accidents. He can use a suppository or take an enema when necessary (as for spinal cord injury patients who have had bowel training).

- 5 = Patient needs help in using a suppository or taking an enema or has occasional accidents.

10. Controlling bladder

- 10 = Patient is able to control his bladder day and night. Spinal cord injury patients who wear an external device and leg bag must put them on independently, clean and empty bag, and stay dry day and night.

- 5 = Patient has occasional accidents or can not wait for the bed pan or get to the toilet in time or needs help with an external device.

A score of 0 is given in all of the above activities when the patient cannot meet the criteria as defined above.

The advantage of the BI is its simplicity. It is useful in evaluating a patient's state of independence before treatment, his progress as he undergoes treatment, and his status when he reaches maximum benefit. It can easily be understood by all who work with a patient and can accurately and quickly be scored by anyone who adheres to the definitions of items listed above. The total score is not as significant or meaningful as the breakdown into individual items, since these indicate where the deficiencies are.

Any applicant to a chronic hospital who scores 100 BI should be evaluated carefully before admission to see whether such hospitalization is indicated. Discharged patients with 100 BI should not require further physical therapy but may benefit from a home visit to see whether any environmental adjustments are indicated. Encouragement by family and others may be necessary for a patient to maintain his degree of independence.