

## Elderly Mobility Scale (EMS)

### Summary:

**Measures:** Scale of assessment of mobility.

**Description:** The EMS is a 20 point validated assessment tool for the assessment of frail elderly subjects (Smith 1994). The EMS is measured on an ordinal scale.

**Who's it for:** Older people in a hospital setting either on a ward or in a day hospital.

<b>Properties:</b>	<u>Reliability:</u>	Inter-rater	YES
	<u>Validity:</u>	Predictive	YES
		Concurrent	YES
	<u>Responsive to change:</u>	Not established	
	<u>Sensitivity:</u>	Not established	
	<u>Specificity:</u>	Not established	

**Training:** Minimal

**Equipment:** Metre rule, stop watch, access to a bed and chair, and usual walking aid.

**Space needed:** Space for bed, chair, wall, space for 6m walk.

**Time to complete:** 15 minutes

**Good things about it:** Functional, clinically significant, minimal training needed, can be used as an assessment tool and an outcome measure.

**Limitations:** Difficult to use in community environments, ceiling effect for more able patients, not sensitive for patients with issues of poor confidence.

*Version 2  
Updated June 2012*

## ELDERLY MOBILITY SCALE SCORE

Patient details.....

TASK	Date			
<b>Lying to Sitting</b>	2 Independent 1 Needs help of 1 person 0 Needs help of 2+ people			
<b>Sitting to Lying</b>	2 Independent 1 Needs help of 1 person 0 Needs help of 2+ people			
<b>Sitting to Standing</b>	3 Independent in under 3 seconds 2 Independent in over 3 seconds 1 Needs help of 1 person 0 Needs help of 2+ people			
<b>Standing</b>	3 Stands without support and able to reach 2 Stands without support but needs support to reach 1 Stands but needs support 0 Stands only with physical support of another person			
<b>Gait</b>	3 Independent (+ / - stick) 2 Independent with frame 1 Mobile with walking aid but erratic / unsafe 0 Needs physical help to walk or constant supervision			
<b>Timed Walk (6 metres)</b>	3 Under 15 seconds 2 16 - 30 seconds 1 Over 30 seconds 0 Unable to cover 6 metres <i>Recorded time in seconds.</i>			
<b>Functional Reach</b>	4 Over 20 cm. 2 10 - 20 cm. 0 Under 10 cm.  <i>Actual reach</i>			
<b>SCORES</b>		/ 20	/ 20	/ 20
<b>Staff Initials</b>				

**Scores under 10** - generally these patients are **dependent** in mobility manoeuvres; require help with basic ADL, such as transfers, toileting and dressing.

**Scores between 10 - 13** - generally these patients are **borderline** in terms of safe mobility and independence in ADL i.e. they require some help with some mobility manoeuvres.

**Scores over 14** - Generally these patients are able to perform mobility manoeuvres alone and safely and are **independent** in basic ADL.

## SHORT PHYSICAL PERFORMANCE BATTERY PROTOCOL AND SCORE SHEET

*All of the tests should be performed in the same order as they are presented in this protocol. Instructions to the participants are shown in bold italic and should be given exactly as they are written in this script.*

### 1. BALANCE TESTS

The participant must be able to stand unassisted without the use of a cane or walker. You may help the participant to get up.

*Now let's begin the evaluation. I would now like you to try to move your body in different movements. I will first describe and show each movement to you. Then I'd like you to try to do it. If you cannot do a particular movement, or if you feel it would be unsafe to try to do it, tell me and we'll move on to the next one. Let me emphasize that I do not want you to try to do any exercise that you feel might be unsafe.*

*Do you have any questions before we begin?*

#### A. Side-by-Side Stand

1. *Now I will show you the first movement.*
2. (Demonstrate) *I want you to try to stand with your feet together, side-by-side, for about 10 seconds.*
3. *You may use your arms, bend your knees, or move your body to maintain your balance, but try not to move your feet. Try to hold this position until I tell you to stop.*
4. Stand next to the participant to help him/her into the side-by-side position.
5. Supply just enough support to the participant's arm to prevent loss of balance.
6. When the participant has his/her feet together, ask *"Are you ready?"*
7. Then let go and begin timing as you say, *"Ready, begin."*
8. Stop the stopwatch and say *"Stop"* after 10 seconds or when the participant steps out of position or grabs your arm.
9. If participant is unable to hold the position for 10 seconds, record result and go to the gait speed test.

### **B. Semi-Tandem Stand**

1. ***Now I will show you the second movement.***
2. (Demonstrate) ***Now I want you to try to stand with the side of the heel of one foot touching the big toe of the other foot for about 10 seconds. You may put either foot in front, whichever is more comfortable for you.***
3. ***You may use your arms, bend your knees, or move your body to maintain your balance, but try not to move your feet. Try to hold this position until I tell you to stop.***
4. Stand next to the participant to help him/her into the semi-tandem position
5. Supply just enough support to the participant's arm to prevent loss of balance.
6. When the participant has his/her feet together, ask ***"Are you ready?"***
7. Then let go and begin timing as you say ***"Ready, begin."***
8. Stop the stopwatch and say ***"Stop"*** after 10 seconds or when the participant steps out of position or grabs your arm.
9. If participant is unable to hold the position for 10 seconds, record result and go to the gait speed test.

### **C. Tandem Stand**

1. ***Now I will show you the third movement.***
2. (Demonstrate) ***Now I want you to try to stand with the heel of one foot in front of and touching the toes of the other foot for about 10 seconds. You may put either foot in front, whichever is more comfortable for you.***
3. ***You may use your arms, bend your knees, or move your body to maintain your balance, but try not to move your feet. Try to hold this position until I tell you to stop.***
4. Stand next to the participant to help him/her into the tandem position.
5. Supply just enough support to the participant's arm to prevent loss of balance.
6. When the participant has his/her feet together, ask ***"Are you ready?"***
7. Then let go and begin timing as you say, ***"Ready, begin."***
8. Stop the stopwatch and say ***"Stop"*** after 10 seconds or when the participant steps out of position or grabs your arm.

**SCORING:**

**A. Side-by-side-stand**

- Held for 10 sec  1 point
- Not held for 10 sec  0 points
- Not attempted  0 points

**If 0 points, end Balance Tests**

Number of seconds held if less than 10 sec: \_\_\_\_ . \_\_\_\_ \_sec

**B. Semi-Tandem Stand**

- Held for 10 sec  1 point
- Not held for 10 sec  0 points
- Not attempted  0 points (*circle reason above*)

**If 0 points, end Balance Tests**

Number of seconds held if less than 10 sec: \_\_\_\_ . \_\_\_\_ \_sec

**C. Tandem Stand**

- Held for 10 sec  2 points
- Held for 3 to 9.99 sec  1 point
- Held for < than 3 sec  0 points
- Not attempted  0 points (*circle reason above*)

Number of seconds held if less than 10 sec: \_\_\_\_ . \_\_\_\_ \_sec

**D. Total Balance Tests score \_\_\_\_\_ (sum points)**

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<i>If participant did not attempt test or failed, circle why:</i>	
Tried but unable	1
Participant could not hold position unassisted	2
Not attempted, you felt unsafe	3
Not attempted, participant felt unsafe	4
Participant unable to understand instructions	5
Other (specify) _____	6
Participant refused	7

## 2. GAIT SPEED TEST

***Now I am going to observe how you normally walk. If you use a cane or other walking aid and you feel you need it to walk a short distance, then you may use it.***

### A. First Gait Speed Test

1. ***This is our walking course. I want you to walk to the other end of the course at your usual speed, just as if you were walking down the street to go to the store.***
2. Demonstrate the walk for the participant.
3. ***Walk all the way past the other end of the tape before you stop. I will walk with you. Do you feel this would be safe?***
4. Have the participant stand with both feet touching the starting line.
5. ***When I want you to start, I will say: "Ready, begin."*** When the participant acknowledges this instruction say: ***"Ready, begin."***
6. Press the start/stop button to start the stopwatch as the participant begins walking.
7. Walk behind and to the side of the participant.
8. Stop timing when one of the participant's feet is completely across the end line.

### B. Second Gait Speed Test

1. ***Now I want you to repeat the walk. Remember to walk at your usual pace, and go all the way past the other end of the course.***
2. Have the participant stand with both feet touching the starting line.
3. ***When I want you to start, I will say: "Ready, begin."*** When the participant acknowledges this instruction say: ***"Ready, begin."***
4. Press the start/stop button to start the stopwatch as the participant begins walking.
5. Walk behind and to the side of the participant.
6. Stop timing when one of the participant's feet is completely across the end line.

**GAIT SPEED TEST SCORING:**

Length of walk test course: Four meters  Three meters

**A. Time for First Gait Speed Test (sec)**

- 1. Time for 3 or 4 meters \_\_ \_\_. \_\_ \_\_ sec
  - 2. If participant did not attempt test or failed, circle why:
    - Tried but unable 1
    - Participant could not walk unassisted 2
    - Not attempted, you felt unsafe 3
    - Not attempted, participant felt unsafe 4
    - Participant unable to understand instructions 5
    - Other (Specify) \_\_\_\_\_ 6
    - Participant refused 7
- Complete score sheet and go to chair stand test

3. Aids for first walk.....None  Cane  Other

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**B. Time for Second Gait Speed Test (sec)**

- 1. Time for 3 or 4 meters \_\_ \_\_. \_\_ \_\_ sec
- 2. If participant did not attempt test or failed, circle why:
  - Tried but unable 1
  - Participant could not walk unassisted 2
  - Not attempted, you felt unsafe 3
  - Not attempted, participant felt unsafe 4
  - Participant unable to understand instructions 5
  - Other (Specify) 6
  - Participant refused 7

3. Aids for second walk..... None  Cane  Other

What is the time for the faster of the two walks?  
Record the shorter of the two times \_\_ \_\_. \_\_ \_\_ sec  
[If only 1 walk done, record that time] \_\_ \_\_. \_\_ \_\_ sec

If the participant was unable to do the walk:  **0 points**

**For 4-Meter Walk:**

- If time is more than 8.70 sec:  **1 point**
- If time is 6.21 to 8.70 sec:  **2 points**
- If time is 4.82 to 6.20 sec:  **3 points**
- If time is less than 4.82 sec:  **4 points**

**For 3-Meter Walk:**

- If time is more than 6.52 sec:  **1 point**
- If time is 4.66 to 6.52 sec:  **2 points**
- If time is 3.62 to 4.65 sec:  **3 points**
- If time is less than 3.62 sec:  **4 points**

### 3. CHAIR STAND TEST

#### Single Chair Stand

1. ***Let's do the last movement test. Do you think it would be safe for you to try to stand up from a chair without using your arms?***
2. ***The next test measures the strength in your legs.***
3. (Demonstrate and explain the procedure.) ***First, fold your arms across your chest and sit so that your feet are on the floor; then stand up keeping your arms folded across your chest.***
4. ***Please stand up keeping your arms folded across your chest.*** (Record result).
5. If participant cannot rise without using arms, say ***"Okay, try to stand up using your arms."*** This is the end of their test. Record result and go to the scoring page.

#### Repeated Chair Stands

1. ***Do you think it would be safe for you to try to stand up from a chair five times without using your arms?***
2. (Demonstrate and explain the procedure): ***Please stand up straight as QUICKLY as you can five times, without stopping in between. After standing up each time, sit down and then stand up again. Keep your arms folded across your chest. I'll be timing you with a stopwatch.***
3. When the participant is properly seated, say: ***"Ready? Stand"*** and begin timing.
4. Count out loud as the participant arises each time, up to five times.
5. Stop if participant becomes tired or short of breath during repeated chair stands.
6. Stop the stopwatch when he/she has straightened up completely for the fifth time.
7. Also stop:
  - If participant uses his/her arms
  - After 1 minute, if participant has not completed rises
  - At your discretion, if concerned for participant's safety
8. If the participant stops and appears to be fatigued before completing the five stands, confirm this by asking ***"Can you continue?"***
9. If participant says "Yes," continue timing. If participant says "No," stop and reset the stopwatch.

**SCORING**

**Single Chair Stand Test**

- |   | <b>YES</b>               | <b>NO</b>                         |
|---|--------------------------|-----------------------------------|
| A. Safe to stand without help                                 | <input type="checkbox"/> | <input type="checkbox"/>          |
| B. Results:   |                          |                                   |
| Participant stood without using arms                          | <input type="checkbox"/> | → Go to Repeated Chair Stand Test |
| Participant used arms to stand                                | <input type="checkbox"/> | → End test; score as 0 points     |
| Test not completed  | <input type="checkbox"/> | → End test; score as 0 points     |
| C. If participant did not attempt test or failed, circle why: |                          |                                   |
| Tried but unable  | 1                        |                                   |
| Participant could not stand unassisted                        | 2                        |                                   |
| Not attempted, you felt unsafe                                | 3                        |                                   |
| Not attempted, participant felt unsafe                        | 4                        |                                   |
| Participant unable to understand instructions                 | 5                        |                                   |
| Other (Specify) _____   | 6                        |                                   |
| Participant refused   | 7                        |                                   |

**Repeated Chair Stand Test**

- |   | <b>YES</b>               | <b>NO</b>                |
|---|--------------------------|--------------------------|
| A. Safe to stand five times                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| B. If five stands done successfully, record time in seconds.  |                          |                          |
| Time to complete five stands __ __. __ __ sec                 |                          |                          |
| C. If participant did not attempt test or failed, circle why: |                          |                          |
| Tried but unable  | 1                        |                          |
| Participant could not stand unassisted                        | 2                        |                          |
| Not attempted, you felt unsafe                                | 3                        |                          |
| Not attempted, participant felt unsafe                        | 4                        |                          |
| Participant unable to understand instructions                 | 5                        |                          |
| Other (Specify)   | 6                        |                          |
| Participant refused   | 7                        |                          |

**Scoring the Repeated Chair Test**

- |   |                                   |
|---|-----------------------------------|
| Participant unable to complete 5 chair stands or completes stands in >60 sec: | <input type="checkbox"/> 0 points |
| If chair stand time is 16.70 sec or more:                                     | <input type="checkbox"/> 1 points |
| If chair stand time is 13.70 to 16.69 sec:                                    | <input type="checkbox"/> 2 points |
| If chair stand time is 11.20 to 13.69 sec:                                    | <input type="checkbox"/> 3 points |
| If chair stand time is 11.19 sec or less:                                     | <input type="checkbox"/> 4 points |

Study ID \_\_\_\_\_ Date \_\_\_\_\_ Tester Initials \_\_\_\_\_

**Scoring for Complete Short Physical Performance Battery**

**Test Scores**

**Total Balance Test score** \_\_\_\_\_ **points**

**Gait Speed Test score** \_\_\_\_\_ **points**

**Chair Stand Test score** \_\_\_\_\_ **points**

**Total Score** \_\_\_\_\_ **points (sum of points above)**

## SITTING BALANCE SCALE

Note: all sitting items are performed with the patient sitting unsupported on a surface with both feet in weight bearing unless otherwise indicated.

Equipment needed: Score sheet, 12-inch ruler, pen, slipper, PDR or other item 3-3.5 inches thick, stopwatch, 2 lb cuff weight, clipboard, 1"5 x 15" x 5" piece of foam

### 1. SITTING UNSUPPORTED (eyes open)

INSTRUCTIONS: Please sit with your arms folded for 60 seconds. (Examiner must make sure the patient's feet are in weight bearing.)

- ( ) 4 able to sit safely and securely 60 seconds
- ( ) 3 able to sit 60 seconds under supervision
- ( ) 2 able to sit 30 seconds
- ( ) 1 able to sit 10 seconds
- ( ) 0 unable to sit without support 10 seconds

### 2. SITTING UNSUPPORTED (eyes closed)

INSTRUCTIONS: Please sit with your eyes closed for 30 seconds. (Examiner must make sure the patient's feet are in weight bearing.)

- ( ) 4 able to sit safely and securely 30 seconds
- ( ) 3 able to sit 30 seconds under supervision
- ( ) 2 able to sit 10 seconds
- ( ) 1 able to sit 3 seconds
- ( ) 0 unable to sit without support 3 seconds

### 3. SITTING UNSUPPORTED WITH ARMS AS LEVERS

INSTRUCTIONS: Please lift this cuff weight out in front of you with your arm straight. (Starting position for all scores is with patient's hands in their lap. Examiner must ensure that the arm moves to at least 90 degrees of shoulder flexion for a score of 4 or 3. If the patient has hemiplegia, test using the unaffected arm.)

- ( ) 4 able to sit while lifting a 2-lb cuff weight at 90 deg. shoulder flexion
- ( ) 3 able to sit while lifting one arm to 90 deg. flexion
- ( ) 2 able to sit with hands folded across chest
- ( ) 1 able to sit with hands in lap
- ( ) 0 able to sit with hands at side on the mat

### 4. REACHING FORWARD WITH OUTSTRETCHED ARM WHILE SITTING

INSTRUCTIONS: Reach forward and touch this pen. (Ask the patient to make a fist and extend arm forward to shoulder height (approximately 90 degrees). Place a 12 inch ruler touching patient's fist in line with patient's arm. Hold up a pen 12 inches from patient's fist. Ask the patient to try to touch the pen with knuckles without losing balance. Note distance reached.)

- ( ) 4 can reach forward confidently > 10 inches
- ( ) 3 can reach forward > 5 inches
- ( ) 2 can reach forward > 2 inches
- ( ) 1 reaches forward but needs supervision
- ( ) 0 loses balance while trying/requires external support

### 5. PICK UP AN OBJECT FROM THE FLOOR WHILE SITTING UNSUPPORTED

INSTRUCTIONS: Pick up the slipper. (Examiner should place the slipper on the floor 3 inches in front of the patient's toes.)

- ( ) 4 able to pick up slipper without losing balance
- ( ) 3 able to pick up slipper but needs supervision for balance
- ( ) 2 unable to pick up slipper but reaches 1-2 inches (2-5 cm) from slipper and keeps balance independently
- ( ) 1 unable to pick up and needs supervision while trying
- ( ) 0 unable to try/needs assist to keep from losing balance or falling

### 6. PLACE ALTERNATE FOOT ON LARGE BOOK (PDR) WHILE SITTING UNSUPPORTED

INSTRUCTIONS: Place each foot alternately on this book four times. (Place a *Physician's Desk Reference* (PDR) or other item that is 3-3½ inches high, 6 inches in front of the toes. Have patient alternately touch feet to the top of the PDR. Patient should continue until each foot has touched the PDR four times. Patients with hemiplegia or unilateral amputation may perform the task with their uninvolved leg.)

- ( ) 4 able to sit independently and safely complete 8 steps in 20 seconds
- ( ) 3 able to sit independently and complete 8 steps in > 20 seconds
- ( ) 2 able to complete 4 steps without aid with supervision
- ( ) 1 able to complete > 2 steps needs minimal assist
- ( ) 0 needs assistance to keep from falling/unable to try

**7. REACHING UNILATERALLY WITH OUTSTRETCHED ARM WHILE SITTING UNSUPPORTED**

INSTRUCTIONS: Reach to the side and touch this pen. (Ask patient to make a fist and extend arm out to the side, laterally, to shoulder height (approximately 90 degrees). Place a 12 inch ruler touching the patient's fist in line with patient's arm. Hold up a pen 12 inches from patient's fist. Ask patient to try to touch the pen with knuckles without losing balance. Note distance reached. If the patient is in a wheelchair, remove the arms of the chair.)

- ( ) 4 can reach laterally confidently > 10 inches
- ( ) 3 can reach laterally > 5 inches
- ( ) 2 can reach laterally > 2 inches
- ( ) 1 reaches laterally but needs supervision
- ( ) 0 loses balance while trying/requires external support

**8. TURNING TO LOOK BEHIND OVER LEFT AND RIGHT SHOULDERS WHILE SITTING**

INSTRUCTIONS: Turn to look directly behind you over toward your left shoulder. Repeat to the right. (Patient is seated with hands in lap. Examiner may identify an object directly behind the patient to encourage a complete turn of the trunk.)

- ( ) 4 looks behind from both sides while shifting weight appropriately
- ( ) 3 looks behind one side only other side shows less weight shift
- ( ) 2 turns sideways only but maintains balance
- ( ) 1 needs supervision when turning
- ( ) 0 needs assist to keep from losing balance

**9. LATERAL BEND TO ELBOW IN SITTING**

INSTRUCTIONS: While facing forward, bend sideways to your left until your forearm touches the clipboard and return to an upright position. Repeat to the right. (Place a clipboard level with the sitting surface. Patients with hemiplegia should perform this task to both sides.)

- ( ) 4 able to smoothly perform the motion bilaterally and return to midline
- ( ) 3 able to perform 2/3 of the motion or difficulty returning to midline on one or both sides
- ( ) 2 able to perform 1/3 of the motion or only performs unilaterally
- ( ) 1 initiates motion, but requires assistance to go further
- ( ) 0 unable to complete motion

**10. SIT TO STAND TRANSFERS**

INSTRUCTIONS: Please stand up. Try not to use your hands for support.

- ( ) 4 able to transfer safely with the minor use of hands
- ( ) 3 able to transfer safely with verbal cuing and/or supervision
- ( ) 2 able to transfer with assistance x 1
- ( ) 1 able to transfer with assistance x 2
- ( ) 0 unable to transfer or needs a lift

Note: On the following item have the patient sit unsupported on a 15" x 15"x5" piece of foam to further evaluate sitting balance. Density should be such that when the patient sits on the foam, their balance is challenged but the foam should not be compressed all the way to the chair seat. The patient's feet should remain in weight bearing.

**11. PICK UP AN OBJECT FROM THE FLOOR WHILE SITTING UNSUPPORTED ON FOAM**

INSTRUCTIONS: Pick up the slipper that is placed 3 inches in front of your toes. (Examiner should place the slipper on the floor 3 inches in front of the patient's toes.)

- ( ) 4 able to pick up slipper safely and easily
- ( ) 3 able to pick up slipper but needs supervision
- ( ) 2 unable to pick up slipper but reaches 1-2 inches (2-5 cm) from slipper and keeps balance independently
- ( ) 1 unable to pick up and needs supervision while trying
- ( ) 0 unable to try/needs assist to keep from losing balance or falling

\_\_\_\_\_ **TOTAL SCORE (Maximum = 44)**

**THE  
BARTHEL  
INDEX**

**Patient Name:** \_\_\_\_\_

**Rater Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Activity** \_\_\_\_\_ **Score** \_\_\_\_\_

**FEEDING**

0 = unable

5 = needs help cutting, spreading butter, etc., or requires modified diet

10 = independent

\_\_\_\_\_

**BATHING**

0 = dependent

5 = independent (or in shower)

\_\_\_\_\_

**GROOMING**

0 = needs to help with personal care

5 = independent face/hair/teeth/shaving (implements provided)

\_\_\_\_\_

**DRESSING**

0 = dependent

5 = needs help but can do about half unaided

10 = independent (including buttons, zips, laces, etc.)

\_\_\_\_\_

**BOWELS**

0 = incontinent (or needs to be given enemas)

5 = occasional accident

10 = continent

\_\_\_\_\_

**BLADDER**

0 = incontinent, or catheterized and unable to manage alone

5 = occasional accident

10 = continent

\_\_\_\_\_

**TOILET USE**

0 = dependent

5 = needs some help, but can do something alone

10 = independent (on and off, dressing, wiping)

\_\_\_\_\_

**TRANSFERS (BED TO CHAIR AND BACK)**

0 = unable, no sitting balance

5 = major help (one or two people, physical), can sit

10 = minor help (verbal or physical)

15 = independent

\_\_\_\_\_

**MOBILITY (ON LEVEL SURFACES)**

0 = immobile or < 50 yards

5 = wheelchair independent, including corners, > 50 yards

10 = walks with help of one person (verbal or physical) > 50 yards

15 = independent (but may use any aid; for example, stick) > 50 yards

\_\_\_\_\_

**STAIRS**

0 = unable

5 = needs help (verbal, physical, carrying aid)

10 = independent

\_\_\_\_\_

**TOTAL (0-100):** \_\_\_\_\_

## The Barthel ADL Index: Guidelines

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1. The index should be used as a record of what a patient does, not as a record of what a patient could do.
2. The main aim is to establish degree of independence from any help, physical or verbal, however minor and for whatever reason.
3. The need for supervision renders the patient not independent.
4. A patient's performance should be established using the best available evidence. Asking the patient, friends/relatives and nurses are the usual sources, but direct observation and common sense are also important. However direct testing is not needed.
5. Usually the patient's performance over the preceding 24-48 hours is important, but occasionally longer periods will be relevant.
6. Middle categories imply that the patient supplies over 50 per cent of the effort.
7. Use of aids to be independent is allowed.

## References

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Mahoney FI, Barthel D. "Functional evaluation: the Barthel Index."  
*Maryland State Medical Journal* 1965;14:56-61. Used with permission.

Loewen SC, Anderson BA. "Predictors of stroke outcome using objective measurement scales."  
*Stroke*. 1990;21:78-81.

Gresham GE, Phillips TF, Labi ML. "ADL status in stroke: relative merits of three standard indexes."  
*Arch Phys Med Rehabil*. 1980;61:355-358.

Collin C, Wade DT, Davies S, Horne V. "The Barthel ADL Index: a reliability study."  
*Int Disability Study*.1988;10:61-63.

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## Exercise Program Components – Beginners

The table below lists exercises for machines, free weights, and resistive bands. A beginner program should consist of one exercise for each main muscle group. You can mix and match from the three columns, depending on what equipment you and your patient have available.

Additional reminders:

- Start with a 2-4 exercises, and have the person complete 1 set of 15 reps, then add additional exercises to get a complete program. When they can complete a full program 2 workouts in a row with good form, then you can add a second set.
- Use proper progression (5% Rule) to advance resistance amounts.
- Remember any special considerations or modifications that may be needed when selecting exercises.

<b>Main Muscle Groups</b>	<b>Machine Workout</b>	<b>Free Weight Workout</b>	<b>Resistive Band Workout</b>
<b>Chest</b>	Chest Press	Supine Dumbbell Chest Press	Seated Band Chest Press
<b>Back</b>	Seated Row	Bent Over Dumbbell Row	Seated or Standing Band Row
<b>Legs</b>	Leg Press or Knee Extensions & Hamstring Curls	Sit to Stands, Lunges or Step Ups with Dumbbells	Band Leg Press, Hip Abduction and Hamstring Curls
<b>Shoulders</b>	Shoulder Press	Dumbbell Military Press or Front Raise	Band Front Raise, Band Military Press
<b>Biceps</b>	Bicep Curls	Dumbbell Bicep Curls	Seated or Standing Band Bicep Curls
<b>Triceps</b>	Triceps Extension	Overhead Dumbbell Triceps Extension or Kick Backs	Triceps Band Push Downs
<b>Abdominals</b>	Abdominal Curl	Supine Curl Ups with Dumbbell	Seated Band Abdominal Curls
<b>Low Back</b>	Back Extension	Bridges with Dumbbell on Torso	Seated Band Back Extension

