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INTRODUCTION

Development of the BBA

The Brunel Balance Assessment (BBA) is designed to assess functional balance for people with a

CASE EXAMPLE USING THE BBA

Patient history

Mrs S is a 79-year-old woman with an eight-week history of right hemiplegia and sensory impairment following a left cerebral infarct.

Motricity index for the right leg was 43/100 indicating that she had movement through part of range but not against gravity in the hip, knee and ankle.

Proprioception in the leg was normal but sensation to light touch was impaired.

She had a Barthel Index was 8/20 indicating severe dependence in activities of daily living (ADL).

Use of the BBA

a) Baseline assessment

Her initial Brunel Balance Assessment Score was 3/12 indicating that she had dynamic sitting balance but was unable to stand (Figure 1). This was tested using the sitting forward reach test, which she passed with a score of 22cm, and this was used as a day-to-day measure of her progress.

b) Assessment at one week

A week later her Brunel Balance Assessment score was still 3 but her dynamic sitting balance had improved as the forward reach score had increased to 42 cm (Figure 2).

c) Assessment at one month

At reassessment a month later the Brunel Balance Assessment score had improved to 5 indicating that she had static standing balance and now the standing arm raise test was used as the day-to-day measure (Figure 3).

Figure 1: Baseline assessment

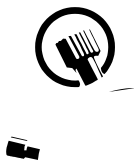
Level	Score		
	Attempt number:		

Figure 2: Assessment at 1 week

Level		Score						Pass (Y/N)	Pass criteria (after up to 3 attempts)
		Attempt number:							
		1		2		3			
1	Supported Sitting - Timed test	50s		N/A		N/A		Y	Sit supported for 30s
2	Static sitting - Sitting arm raise test	11 lifts		N/A		N/A		Y	3 or more arm lifts in 15s
3	Dynamic sitting - Sitting forward reach test	43 cm	47 cm	N/A	N/A	N/A	N/A	Y	Reach forward more than 7cm (average of 2 readings)
		45 cm		N/A		N/A			
4	Supported standing – Timed test	15s		20s		20s		N	Stand supported for 30s
5	Static standing balance - Standing arm raise test								3 or more arm lifts in 15s
6	Dynamic standing - Standing forward reach test								Reach forward more than 5cm (average of 2 readings)
7	Static double stance - Timed step standing test								Static step standing for 30s
8	Supported single stance - walking <u>with</u> an aid								Walk 5m within 1min (average of 2 readings)
9	Dynamic double stance - Weight shift test								3 or more shifts within 15s
10	Changing base of support - walking <u>without</u> an aid								Walk 5m within 1min (average of 2 readings)
11	Dynamic single stance - Tap test								2 or more taps within 15s
12	Changing the base of support - Step-up test								1 or more step-up(s) within 15s

Figure 3: Assessment at 1 month

Level	Score			Pass (Y/N) /
	Attempt number:			
	1	2	3	



SECTION 1: SITTING

Level 2: Static sitting balance - Sitting Arm Raise Test

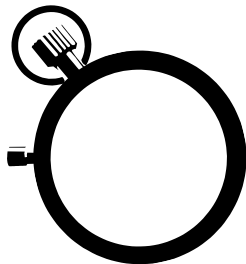
Summary

In this test, the subject is asked to maintain his/her position while raising and lowering his/her **sound** arm (Arm Raise Test) for 15 seconds.

Equipment:	Plinth or suitable seating
	Stop watch

Instructions

1. The subject is seated on a firm, level surface without back support, feet flat on the floor and

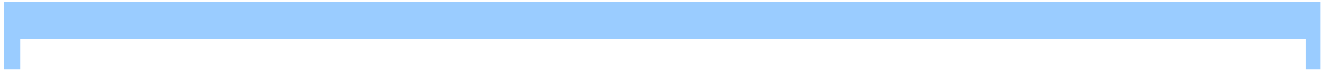


SECTION 1: SITTING

Level 3: Dynacp43603 T6 Tw(Level 3: Dyn)-4x,g bT4 1







SECTION 3: STEPPING**Level 10: Changing the base of support between double and single stance - Walking without an aid****Summary**

In this test, the subject is asked to walk without assistance or a walking aid for 5 metres (5 metres Walk Test).

Equipment	Tape to mark 5m 'walkway' on the floor
	Stop-watch

Instructions

1. A distance of 5 metres is marked on the floor. The subject starts to walk a couple of strides before the 'start line' and does not stop until he/she has crossed the 'finish line'. Stand/walk beside the subject to give support.
2. Explain and demonstrate the test as necessary:
"I am going to time how fast you walk. Walk at your natural pace between these two markers. Do not slow down until you have crossed the finish line. Start when I say GO."
3. Use the stop-watch to time how long it takes to walk this distance. Note the time.
4. Repeat the test and take an average of the two scores. Decide whether to pass or fail:

Pass	Average value is 1 minute or less , <u>without</u> physical support from the tester
Fail	Average value is more than 1 minute , <u>and/or</u> the subject requires physical support from the tester

5. If subject fails, repeat the test once or twice more. If the subject passes the test by the third



SCORE SHEET

Subject details:
(Place sticker here)

Name of Tester: _____

Date of Test: _____

Level		Score Attempt number:			Pass (Y/N)	Pass criteria (after up to 3 attempts)
		1	2	3		
1	Supported Sitting - Timed test					Sit supported for 30s
2	Static sitting - Sitting arm raise test					3 or more arm lifts in 15s
3	Dynamic sitting - Sitting forward reach test					Reach forward more than 7cm (average of 2 readings)
4	Supported standing - Timed test					Stand supported for 30s
5	Static standing balance - Standing arm raise test					3 or more arm lifts in 15s
6	Dynamic standing - Standing forward reach test					Reach forward more than 5cm (average of 2 readings)
7	Static double stance - Timed step standing test					Static step standing for 30s
8	Supported single stance - walking <u>with</u> an aid					Walk 5m within 1min (average of 2 readings)
9	Dynamic double stance - Weight shift test					3 or more shifts within 15s
10	Changing base of support - walking <u>without</u> an aid					Walk 5m within 1min (average of 2 readings)
11	Dynamic single stance - Tap test					2 or more taps within 15s
12	Changing the base of support - Step-up test					1 or more step-up(s) within 15s

Use "S" to denote that support/assistance was required from the tester

APPENDIX 1