

Assessing Balance Exercise Intensity: A Guide for PT Clinicians

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Fact Sheet

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Why is Balance Exercise Intensity Important?

Balance exercise training is crucial for patient safety and enhancing rehabilitation effectiveness, especially as individuals age. For adults over 65, current recommendations suggest at least **2 hours per week of balance exercises** at a **moderate to high level of balance challenge**.

This fact sheet provides two distinct approaches focusing on the exerciser's self-perception, and another providing objective observational criteria for the clinician. This personalized assessment allows for appropriate initial prescription and subsequent modulation of balance exercises, leading to safer and more effective training programs.

The Exerciser's Perspective: 2 Methods of Self-Rating Balance Challenge

1. The **Balance Intensity Scale -Exerciser (BIS-E)** by Farlie et al. is a self-rating scale that measures the level of challenge an individual experiences during a balance task. It functions similarly to pain scales or scales for perceived exertion, but instead focusses on the work to maintain balance. This allows for immediate assessment of balance intensity during or after activities.

How to Use the BIS-E: Orient the exerciser to the indicators of balance challenge using the 1-5 scale below (3 being moderate). Then during exercise ask the exerciser: "How hard did you have to work to keep your balance during this task? It was..."

	1	2	3	4	5
It was...	no effort at all	a little effort	some effort	a lot of effort	maximal effort

Choose the number that describes how hard you worked to keep your balance during exercise.



Balance Intensity Scale - Exercisers (BIS-E)
Rate your balance exercise intensity today



2. The **Rate of Perceived Stability (RPS)** in Espy and Lyon is another self-rating scale. This measures the challenge to the balance systems posed by the task to that person by noting how stable or unstable the individual feels doing that task. It is independent of exertion, heart rate, or fatigue.

1	2	3	4	5	6	7
Completely Stable	Steady	Unsteady	Mildly Unbalanced	Moderately Unbalanced	Very Unbalanced	Falling
Standing or sitting undisturbed, on solid ground	Balance does not feel threatened, making some balance motions	Feels like work to keep my balance, do not need to step or reach	Feels like I might need to step or reach for support to maintain balance	Feels like smallest movement or shift could cause a fall	Need to step or grab support to avoid a fall	Am falling even with step or reach for support

How to use: Individuals should be instructed in how to use the scale by being allowed to read the definitions and asking questions, then using the scale during a short balance training practice. To use, the scale can be presented to the individual during balance tasks if the task allows. If the task is too challenging, too fast, or if the dual-task cost is too high, the scale can be presented just after task completion.

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Reference List



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The Therapist's Perspective: Objective Observation

The **Balance Intensity Scale – Therapist (BIS-T)** by Farlie et al. provides observable indicators to guide clinician's assessment of balance challenge.

How to use: For each item, score "Yes" (1) if observed, or "No" (0) if not observed or unsure. Calculate the Total Raw Score: Sum all the "Yes" responses from the 11 scored items. Use the conversion table below to translate the raw score into a Rasch-converted BIS-T score.

 **Balance Intensity Scale – Therapist (BIS-T)** 

STEP 1: For any item 'unsure' or unable to be observed, score NO

0 score 1

PRE-TASK	
Hesitation to Start	
Did the person hesitate, for any reason, before attempting the task?	No ☐ Yes ☐
Did the person hesitate more than 5 seconds before attempting the task?	No ☐ Yes ☐
Starting Position	
Did the person require more than one attempt to get into the starting position?	No ☐ Yes ☐
IN-TASK PERFORMANCE ANALYSIS	
Postural Reactions	
Did you see any postural reaction associated with the task?	No ☐ Yes ☐
Did you see any initiation of leg movement or actual step/s to control postural sway?	No ☐ Yes ☐
Did you see any initiation of arm movement or actual reach or grab to control postural sway?	No ☐ Yes ☐
Bracing and Breathing	
Did the person hold any part of their body stiff or rigid during this task? <i>i.e. holding limb/s stiff or rigid, making fist, clenching jaw, pulling on own clothing or propping limbs e.g. hand on thigh, increased tone and associated reactions, shoulder elevation</i>	No ☐ Yes ☐
Did the person change their breathing pattern during the task? <i>i.e. increased or decreased depth of breathing, sighing, breath holding or faster rate of breathing. More shallow breathing may be characterized by increased upper chest breathing, shoulder girdle elevation or abdominal movement.</i>	No ☐ Yes ☐
OVERALL-TASK ANALYSIS	
Balance Threshold	
Did the person appear unsteady at any time while preparing for or performing tasks?	No ☐ Yes ☐
Did you have to say anything to prevent the person losing balance?	No ☐ Yes ☐
Did you have to provide any physical assistance to prevent the person losing balance?	No ☐ Yes ☐
Did the person fall* during the task? – NOT SCORED	
No ☐ Yes ☐	
Total raw score	0 1 2 3 4 5 6 7 8 9 10 11
Rasch converted BIS-T score	0 10 19 26 32 38 44 51 60 71 84 100

STEP 2: How hard did the person work to maintain their balance?

Global Rating Balance Effort	1	2	3	4	5
	No effort at all	A little effort	Some effort	A lot of effort	Maximal effort

Version: 25/03/2025 Adapted from an Open Access article: Farlie et al., (2019) PTJ, doi:10.1093/ptj/pzz092/5531450. Oxford University Press

BIS versions used with permission: Dr Farlie, Monash University, 2025

By using both the patient's self-report (BIS-E or RPS) and your objective ratings (BIS-T), you can gain a comprehensive understanding of the challenge posed by balance interventions, allowing for more appropriate and effective therapy. This combined approach ensures that therapeutic exercises are prescribed, monitored, and progressed effectively for each individual. It also provides an opportunity to strengthen your therapeutic relationships with patients and give them agency and opportunities to self-monitor the progress of their exercise programs.