Balance and Fall Risk

BTrackS™ Fall Risk Assessment categorizes an individual's fall risk as either *Low, Moderate* or *High*.

Fall Risk Assessment Table

%ile	50-59	60-64	65-69	70-74	75-79	80+
100%	10	12	10	5	13	16
95%	17	19	19	18	20	22
90%	18	22	21	21	22	25
85%	20	24	23	23	26	27
80%	21	25	24	26	27	30
75%	22	25	26	28	29	33
70%	23	27	27	30	31	35
65%	24	29	29	31	33	38
60%	25	29	30	33	35	40
55%	26	30	33	34	37	44
50%	28	31	34	37	39	46
45%	29	33	35	40	41	50
40%	30	34	37	44	43	54
35%	32	37	40	46	48	59
30%	33	38	43	48	53	65
25%	36	41	45	50	61	72
20%	38	43	49	55	67	79
15%	41	49	56	67	76	88
10%	51	54	65	75	83	97
5%	64	68	81	100	101	108
0%	186	317	249	210	146	233

Based on 20,000 Norms.

Based on an individual's test result and their age they are categorized, in the table, as **Low (green)**, **Moderate (yellow)** or **High (red)**. So, a 72 year old individual with a test result of 55 is in the Red.

Common Conditions Affecting Balance

- TBI / Concussion
- Peripheral Neuropathy
- Vestibular Dysfunction
- Neurological Complications
- Parkinson's Disease
- Vision Deficits
- Physical Weakness
- Vertigo / Dizziness
- Muscular Skeletal Injuries
- Arthritis / Joint Conditions
- Medications

The BTrackS™ Balance Plate and Computer running Assess Balance Software.

How's Your Balance?

Our office uses The BTrackS™ Assess Balance System, an ***Advanced Computerized Posturography System***, to assess your balance and understand your fall risk.

BTrackS™ Assess Balance

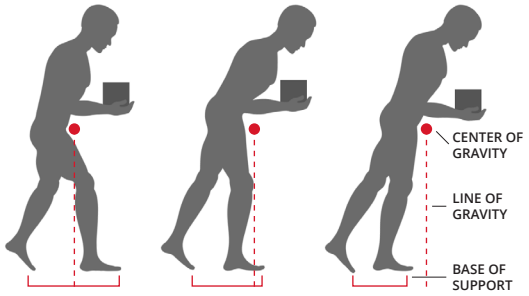
Computerized Balance Assessment and Training

Simple Description of Balance

Balance is the ability to maintain your center of gravity over your base of support. Loss of balance occurs when your body's center of gravity moves outside the base of support – causing you to fall.

Your base of support is the area within and between your contact areas with the ground. Per the picture below, when you are standing on one foot you have a relatively small base of support (A). When standing on two feet you have a larger base of support (B). When standing on two feet and using a cane the base is even larger (C).

Your center of gravity is the point of exact center around which the body may rotate freely in all directions. Per the picture below, when your center of gravity is within your base of support you don't fall. When your center of gravity is outside your base of support – you fall.



To keep you from falling your body is constantly making corrective movements to make sure your center of gravity does not get outside your base of support. These movements are referred to as ***postural sway***. In general, the more you sway, the less balanced you are.

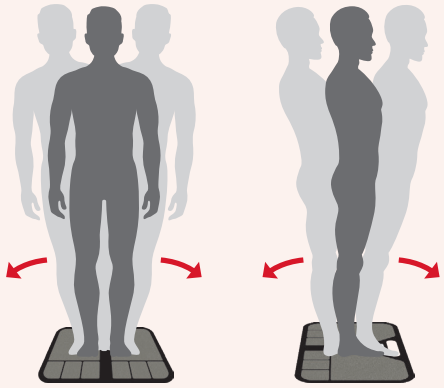
Assessing Balance with BTrackS™

Everyone wants good balance to support an active lifestyle and prevent falls and injuries. But how do you know if you have good balance?

You measure it! Just like you do with body temperature, blood pressure, height and weight.

Measuring an individual's postural sway in a controlled testing environment provides an excellent indication of balance health.

Computerized systems like BTrackS™ are the gold standard for measuring postural sway and balance. Similar in concept to your weight scale, you stand on the BTrackS™ Balance Plate and it measures, in centimeters, how much your body is swaying.

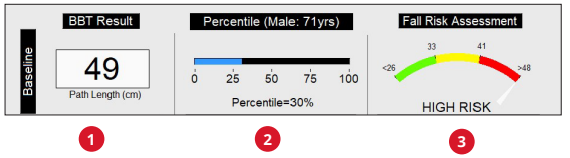


The most common BTrackS™ test is called the Balance and Fall Risk Test. You stand on the BTrackS™ Balance Plate four times, for 20 seconds each, with your eyes closed. Each time you stand as still as you possibly can. During the 20 seconds, BTrackS™ measures, in centimeters, all the corrective movements your body is making. These corrective movements are your postural sway. Simply put – BTrackS™ measures how much you move/sway when you're trying to stand perfectly still.

BALANCE TRACKING SYSTEMS

Understanding Measurements

Here is an example of how to understand the measurements. A 71 year old man completes the Balance and Fall Risk Test. Here are his summary results:



1. The number 49 is the test result and represents the centimeters of postural sway. So, this man swayed 49cm (19 inches) while he was trying to stand as still as possible.
2. How this result compares to other men with the same age. The result (49) puts this man in the 30th percentile. This means that 70% of men had better test results than this man.
3. What is the Fall Risk Assessment assigned to this test result. Any result over 41 corresponds to High Fall Risk so this man's result of 49 puts him in the High Fall Risk Category.

Since this man has tested rather poorly his health-care provider will help determine what needs to change to improve his balance. During the months of treatment there will be regular measurements to document progress. Per the results below, outlined in red, his performance improved and is documented clearly. His most recent test was 17cm which is the 98th percentile and is low fall risk!