

BTracks™ Assess Balance

A Computerized Balance Assessment and Training System

- OBJECTIVE
- ACCURATE
- COMPUTERIZED
- AFFORDABLE
- PORTABLE



BTracks™ Balance Plate
is lightweight and portable.

BTrackS™ Assess Balance

Balance and Posture are important indicators of health and well-being.

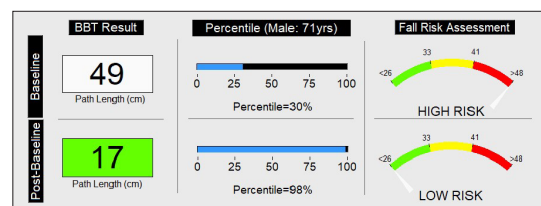
The BTrackS Assess Balance System gives health professionals an all-in-one solution to assess and train balance by administering computerized protocols with gold-standard force plate technology. **BTrackS is used for balance assessment, fall risk analysis, balance improvement programs, concussion management, Medicare wellness, chiropractic care, physical therapy, vision therapy and balance research.** Protocols are easy to administer and results include comparisons to normative data where possible. Since being introduced in 2014, BTrackS has set a new standard for accurate, reliable and affordable balance testing and training. The Assess Balance System is lightweight and portable and does not require AC Power or Internet Connectivity to operate.

Balance Assessment

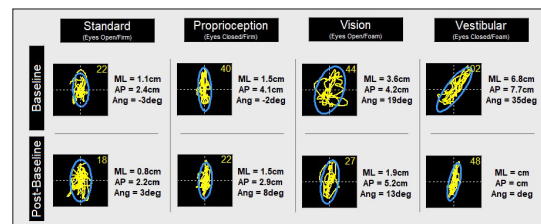
BTrackS Assess Balance Software provides protocols for balance assessment and protocols for balance training and rehabilitation. The protocols for assessment include:

- Balance and Fall Risk Assessment** – The BTrackS Balance Test (BBT) is a general balance assessment providing detailed postural sway analysis. After each trial, the centimeters of postural sway are calculated and compared to over 20,000 norms to calculate percentile rankings. In addition, a fall risk assessment of Low, Moderate or High is provided with each test result.
- Weight Distribution** – Accurately determine weight distribution percentages in the left/right and front/back directions as well as the location of body center of pressure as it relates to global postural alignment.
- CTSIB** – The Clinical Test of Sensory Integration and Balance is used to assess how the main three sensory feedback systems for balance (i.e. proprioception, vision, vestibular) function relative to one another. Integrated normative data provides percentile rankings for each of the four trials.
- Limits of Stability** – Measure the functional base of support using this biofeedback assessment. Patients stand with feet flat on the plate and lean as far as possible in all directions. The total area, and the area in each quadrant of the plate is calculated in real time.
- Cervical Challenge** – Measure postural sway with the patient's head in 11 different positions. The different positions expose specific vestibular configurations and performance on each trial can be interpreted and utilized by a trained neurologist.

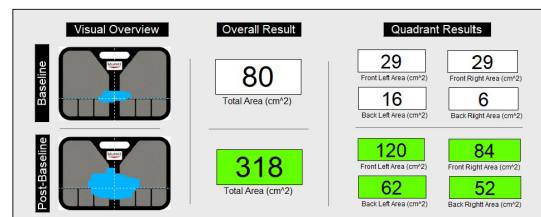
Balance & Fall Risk (Main Results)



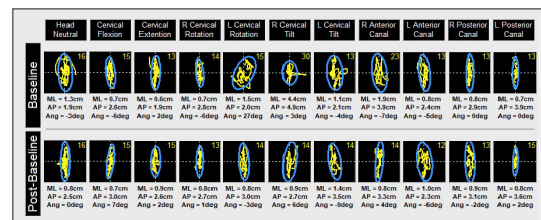
Modified CTSIB (COP Details)



Limits of Stability



Cervical Challenge (COP Details)





BTrackS™ has set a new standard for accurate, reliable and affordable balance assessment and training.

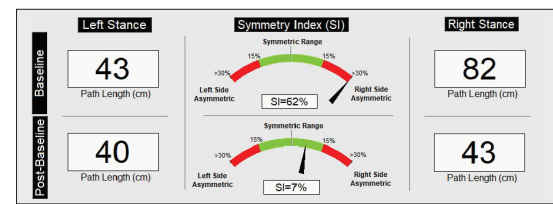
BTrackS™ provides **Objective Computerized** Balance Assessments and Training at a very reasonable price.

- **Single Leg Stance** – The Single Leg Stance Test compares the postural sway of an individual when they stand on their left foot versus when they stand on their right foot. When completed, the left-versus-right results are compared and a Symmetry Index is calculated. A person is considered within the Symmetric Range if they show less than 15% difference between right and left.
- **Custom Design** – Custom Design provides the capability to build a unique testing protocol and assess postural sway during that protocol. Build a test that includes a cognitive task or includes various head movements or includes noise canceling headphones – choose anything relevant to your practice. The custom test can have up to 12 trials and each trial can be up to five minutes long. Detailed metrics are provided for each trial.

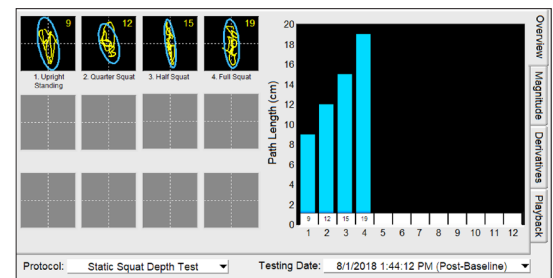
Fall Risk Assessment

The BTrackS Balance Test objectively measures postural sway, a known risk factor for falls in older adults. One-third to one-half of older adults fall each year in the United States, equating to millions of individuals being affected. BTrackS Fall Risk Assessment (FRA) categorizes an individual's fall risk as either Low, Moderate or High. While this assessment is calculated for each individual – it is recommended that it only be applied for adults aged 60 and above. A Fall Risk Assessment of LOW is provided when the BBT is lower than one standard deviation above the average. These BBT's are represented in **GREEN** in the tables. A Fall Risk Assessment of MODERATE is provided when the BBT is between one and two standard deviations above the average. These BBT's are represented in **YELLOW** in the tables. A Fall Risk Assessment of HIGH is provided when the BBT is greater than 2 standard deviations above the average and is colored **RED** in the tables. These assessments are in line with population statistics documenting about 25% of individuals aged 65 have high fall risk and about 50% of individuals aged 80 and above have high fall risk.

Single Leg Stance (Main Results)



Custom Design (Main Results)



Male Fall Risk Assessment Chart

%ile	20-29	30-39	40-49	50-59	60-64	65-69	70-74	75-79	80+
100%	8	9	11	10	12	10	5	13	16
95%	14	13	14	17	19	19	18	20	22
90%	16	15	16	18	22	21	21	22	25
85%	17	16	17	20	24	23	23	26	27
80%	18	17	18	21	25	24	26	27	30
75%	19	18	20	22	25	26	28	29	33
70%	19	19	21	23	27	27	30	31	35
65%	20	21	22	24	29	29	31	33	38
60%	21	21	23	25	29	30	33	35	40
55%	22	23	24	26	30	33	34	37	44
50%	23	23	25	28	31	34	37	39	46
45%	24	24	26	29	33	35	40	41	50
40%	25	25	27	30	34	37	44	43	54
35%	26	26	28	32	37	40	46	48	59
30%	27	27	30	33	38	43	48	53	65
25%	28	29	31	36	41	45	50	61	72
20%	29	30	32	38	43	49	55	67	79
15%	31	32	34	41	49	56	67	76	88
10%	33	34	40	51	54	65	75	83	97
5%	38	37	47	64	68	81	100	101	108
0%	94	112	113	186	317	249	210	146	233

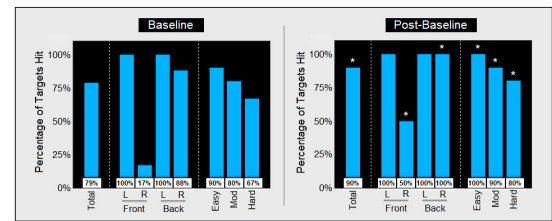
The x-axis is the age. The y-axis is the percentile. The values in the chart are the BBT results.

Balance Training and Rehabilitation

BTrackS Assess Balance comes with multiple training protocols that allow focused training of postural control. This includes Left/Right, Front/Back, Diagonal and Random Target acquisition protocols, as well as a Target Tracking protocol. BTrackS Balance Training helps individuals learn to control postural sway using biofeedback. During training, the real-time location of a person's center of pressure is represented on an image of the BTrackS Balance Plate. The individual must move their center of pressure into targets of varying difficulty.

Each of the five training programs run for default of three minutes but can be longer or shorter as desired. Left/Right and Front/Back deliver uniaxial targets in various sizes and locations. Diagonal delivers biaxial targets in various sizes and locations. Random delivers multiaxial targets that appear randomly in various sizes while target tracking delivers a circular target that is moving around the screen and center of pressure should reside inside the circle as much as possible.

Diagonal Targets



Reporting and Tracking

One of the most important features of Assess Balance is the tracking and reporting of results. Each time an individual is tested, the results are stored and available to compare against prior results. A concise and detailed report is always available to share with the individual, their family and their health providers. These same reports can be used for billing and if needed, for personal injury validation. All the reports are stored locally on the computer and can also be stored in local or cloud based servers.

BALANCE TRACKING SYSTEMS Balance & Fall Risk (Main Results) Name: Sample Profile ID#: XXXXXX Facility: _____

Balance and Fall Risk are determined using the BTrackS Balance Test. This test obtains a result equal to the average Center of Pressure (COP) Path Length, displayed in centimeters, from three 20-second testing trials. Percentile ratings for age and sex are derived from the BTrackS Normative Database which includes 20,000+ results from individuals aged 5-100 years. Fall Risk Assessment (FRA) is based on the number of standard deviations a result is from an average adult aged 20-30 years.

Average Result 49 Path Length (cm)
Percentile (Male 72yrs) 30%
Fall Risk Assessment HIGH RISK

Post-Baseline 17 Path Length (cm)
Percentile (Male 72yrs) 98%
Fall Risk Assessment LOW RISK

The most recent Post-Baseline result has a Center of Pressure (COP) Path Length of 17cm. Compared to the Baseline result of 49cm, this is an improvement of 65%.

The most recent Post-Baseline result corresponds to the 98th percentile, meaning this result is better than 98% of similarly aged people of the same sex. This represents an increase of 68 percent from the Baseline result that was in the 30th percentile (based on the Post-Baseline result being within one standard deviation or better of a typical adult, the Fall Risk Assessment is considered LOW RISK).

Baseline Results					
DATE	TT	TZ	BB	FR	NOTE
2/12/2018 3:47:02 PM	48	44	59	30	Initial Visit

Post-Baseline Results					
DATE	TT	TZ	BB	FR	NOTE
2/8/2018 3:20:10 PM	39	44	44	44	HIGH
3/2/2018 4:24:24 PM	40	38	39	48	MOD
4/1/2018 2:27:15 PM	33	34	35	34	MOD
4/28/2018 3:37:54 PM	24	30	31	29	LOW
6/2/2018 3:41:18 PM	23	23	22	28	LOW
8/1/2018 1:44:12 PM	19	17	15	17	LOW

Notes: _____

BALANCE TRACKING SYSTEMS Modified CTSIB (Main Results) Name: Sample Profile ID#: XXXXXX Facility: _____

The modified Clinical Test of Sensory Integration and Balance (mCTSIB) evaluates sensory contributions to postural control based on Center of Pressure (COP) Path Length. The first trial is the "Standard" condition where balance is tested with eyes open and feet on the BTrackS Balance Plate's firm surface. The second (i.e. eyes closed on a firm surface), third (i.e. eyes open on a "perturbed" foam surface), and fourth (i.e. eyes closed on a foam surface) trials give information on how proprioception, vision and vestibular information are respectively used for balance.

Standard	Proprioception	Vision	Vestibular
32 Path Length (cm)	48 Path Length (cm)	55 Path Length (cm)	164 Path Length (cm)
Percentile=2%	Percentile=4%	Percentile=1%	Percentile=1%
18 Path Length (cm)	30 Path Length (cm)	34 Path Length (cm)	89 Path Length (cm)
Percentile=41%	Percentile=33%	Percentile=36%	Percentile=27%

When compared to healthy adults of the same sex, the most recent Baseline mCTSIB results showed bottom quartile performance in four conditions (Standard, Proprioception, Vision, Vestibular). The most recent Post-Baseline mCTSIB test results show bottom quartile performance in zero conditions.

The composite mCTSIB results were 29% at Baseline and 17% at Post-Baseline. This is an improvement of 120%.

Baseline Results						
DATE	STD	PRO	VIS	VES	COMB	NOTE
2/12/2018 15:47 PM	32	48	55	164	104	Initial Visit

Post-Baseline Results											
DATE	STD	PRO	VIS	VES	COMB	NOTE					
2/8/2018 15:29 PM	29	17	14	9	51	17	158	2	282	1	Wk 1 Follow-up
3/2/2018 15:24 PM	28	14	13	9	50	11	130	1	251	1	Wk 4 Follow-up
4/1/2018 14:27 PM	26	11	10	14	44	14	130	10	228	9	Wk 8 Follow-up
4/28/2018 15:38 PM	22	10	10	17	41	11	118	10	158	11	Wk 12 Follow-up
6/2/2018 15:41 PM	20	10	10	19	40	20	106	15	200	18	Wk 18 Follow-up
8/1/2018 13:44 PM	18	11	10	13	34	18	89	27	171	29	6 Month Follow-up

Notes: _____

BALANCE TRACKING SYSTEMS Cervical Challenge (COP Details) Name: Sample Profile ID#: XXXXXX Facility: _____

Visualizations of the COP Path Length and 95% Ellipse for Baseline and most recent Post-Baseline trials are shown below. The center of each image, where the dotted lines intersect, represents the average COP position. In the tables, additional COP metrics beyond path length are provided.

DATE	NEU (ML/AP/ANG)	CF (ML/AP/ANG)	CE (ML/AP/ANG)	RCR (ML/AP/ANG)	LCR (ML/AP/ANG)
2/12/2018 15:47 PM	11.2, 1.4	11.2, 1.4	11.2, 1.4	11.2, 1.4	11.2, 1.4
2/8/2018 15:29 PM	8.2, 0.5	8.2, 0.5	8.2, 0.5	8.2, 0.5	8.2, 0.5

Notes: _____