

BTracks™ Assess Balance

A Computerized Balance Assessment
and Training System



- OBJECTIVE
- ACCURATE
- COMPUTERIZED
- AFFORDABLE
- PORTABLE



BTracks™ Balance Plate
is lightweight and portable.

The **BTracks™** Balance Plate with Assess Balance
Software has an affordable price that's under \$2000.

BALANCE
TRACKING SYSTEMS

BTrackS™ Assess Balance

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

BTrackS Assess Balance provides clinicians and wellness professionals with a suite of testing protocols that objectively and accurately determine balance and posture abilities, which can relate to increased fall risk and other clinical conditions. BTrackS Assess Balance is intuitive to use and now includes Biofeedback Balance Training. BTrackS Assess Balance works directly with the BTrackS Balance Plate – the world’s first truly affordable force plate. The BTrackS Balance Plate is portable, weighs just 13 pounds and requires no AC power to operate.

BTrackS™ Balance Test

The BTrackS Balance Test (BBT) is the test individuals take to assess their balance. The BBT requires the individual to stand on the Balance Plate and undergo four 20-second trials. BTrackS Assess Balance software will calculate the number of centimeters that the individual sways during each trial and then use these to calculate the final BBT result. A detailed report is available after every test and progress is easy to track.

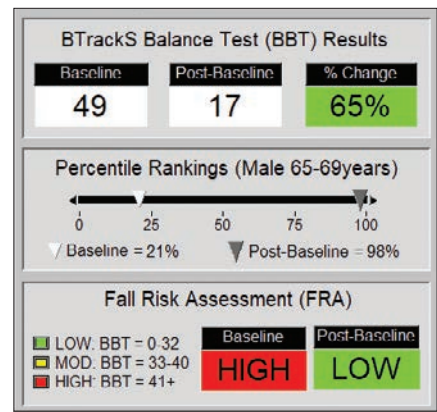
Normative Data for Percentile Ranking

Integrated into Assess Balance is a powerful normative database of over 17,000 BBT results. Each test is compared to others with similar age and gender. Individuals with low ranking can be targeted for training.

Fall Risk Assessment/Screening

After a BBT, each individual is provided with a fall risk assessment of Low (green), Moderate (yellow) or High (red). The table on the right shows an example. The age of the individual is the top X-axis and the percentile ranking is the left Y-axis. The number in the table is the BBT Result.

A fall risk assessment of *low, moderate* or *high* is provided for each individual who is tested using BTrackS



A detailed report is available after every test.

| MALE | | | | |
|------|-----------|-----------|-----------|-----------|
| | Age 60-64 | Age 65-69 | Age 70-74 | Age 75-79 |
| 100% | 12 | 10 | 5 | 13 |
| 95% | 20 | 19 | 19 | 20 |
| 90% | 23 | 21 | 21 | 23 |
| 85% | 24 | 22 | 25 | 26 |
| 80% | 25 | 23 | 26 | 28 |
| 75% | 26 | 26 | 29 | 29 |
| 70% | 28 | 27 | 31 | 33 |
| 65% | 29 | 29 | 31 | 33 |
| 60% | 30 | 30 | 33 | 36 |
| 55% | 30 | 31 | 35 | 37 |
| 50% | 32 | 33 | 37 | 39 |
| 45% | 33 | 35 | 39 | 41 |
| 40% | 34 | 36 | 44 | 43 |
| 35% | 37 | 40 | 45 | 47 |
| 30% | 38 | 42 | 48 | 56 |
| 25% | 41 | 45 | 50 | 62 |
| 20% | 43 | 49 | 55 | 70 |
| 15% | 48 | 56 | 63 | 78 |
| 10% | 54 | 64 | 74 | 83 |
| 5% | 65 | 79 | 99 | 119 |
| 0 | 317 | 249 | 210 | 146 |

Fall Risk Assessment chart.



Multiple studies published in the *Journal of Biomechanics* have validated the accuracy and reliability of BTrackS

Posture and Weight Distribution

BTrackS Assess Balance can quickly and effectively determine global postural alignment during relaxed standing. If the individual has good posture, their center of pressure will be located in an ideal position midway between the ankles – represented by the white cross hair on the image. There is also normative analysis to provide a 90% confidence ellipse metric. Weight distribution is also calculated during this test. The system measures the percentage of weight in the front/back and left/right directions. Weight bearing asymmetries can be identified and treatments can be considered.

BTrackS™ Balance Training

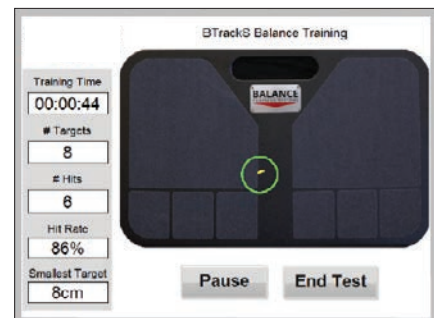
Using real-time biofeedback about center of pressure, BTrackS Balance Training helps individuals learn to control postural sway. During training, center of pressure is moved (dynamic control), and held (static control), in circular target locations presented for ten seconds on an image of the BTrackS Balance Plate. If center of pressure is maintained for three consecutive seconds, the target is hit. The target size is manipulated during training based on the success of the individual.

Clinical Test of Sensory Organization and Balance (CTSIB)

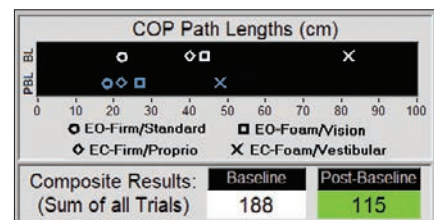
The CTSIB is an optional testing protocol that can be added to your purchase. The CTSIB is used by experienced clinicians to try and assess how the three main sensory feedback systems for balance (i.e. proprioception, vision, vestibular) are functioning relative to one another. This is done by comparing four balance conditions, Eyes Open/Firm Surface, Eyes Open/Foam Surface, Eyes Closed/Firm, Eyes Closed/Foam.



Posture and weight distribution results are displayed.



Real-time biofeedback balance training.



Each CTSIB Trial and the Composite is presented

Advanced Balance Metrics

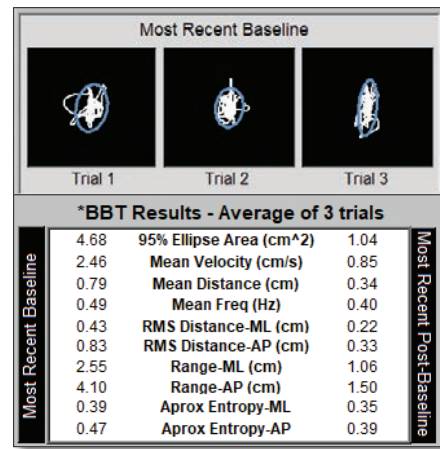
There are 10 additional metrics provided for each BBT that further analyze the postural sway of the individual. These metrics capture the various size, speed and consistency characteristics of center of pressure.

Private Cloud Profile Storage

Testing results are stored locally but can also be stored in a variety of cloud or server storage systems that meet the needs of your organization. This allows multiple computers to have access to the results.

FDA Class 1 Medical Device

BTrackS FDA Registration Number is 3010668481.



95% ellipse and list of advance metrics.

Detailed Reports for Each Test

Each test in BTrackS Assess Balance has a detailed report. The reports track every test given to an individual so progress can be easily measured. The report below is an example of the BBT report.

BTrackS Assess Balance Report:
BBT Results

Name: Sample Profile
 ID#: XXXXXX
 Facility: _____

The BTrackS Balance Test (BBT) is the standard testing protocol implemented by the BTrackS Assess Balance Software. The BBT result is equal to the average Center of Pressure (COP) Path Length, displayed in centimeters, from three 20-second testing trials. Percentile rankings for age and sex are derived from the BTrackS Normative Database which includes 16,000+ results from individuals aged 5-100+ years. Fall Risk Assessment (FRA) is based on the number of standard deviations a BBT result is from an average adult aged 20-39 years.

BTrackS Balance Test (BBT) Results

| Baseline | Post-Baseline | % Change |
|----------|---------------|----------|
| 49 | 17 | 65% |

Percentile Rankings (Male 65-69years)

▼ Baseline = 21% ▼ Post-Baseline = 98%

Fall Risk Assessment (FRA)

| Baseline | Post-Baseline |
|----------|---------------|
| HIGH | LOW |

The most recent Post-Baseline BBT result has a COP path length of 17. Compared to the most recent Baseline BBT of 49, this represents an improvement of 65%.

This Post-Baseline BBT result of 17 corresponds to the 98th percentile, meaning this result is better than 97% of similarly aged people of the same sex. This represents an increase of 77 percentiles from the Baseline BBT result that was in the 21st percentile.

Based on the Post-Baseline BBT result being less than 33, the Fall Risk Assessment (FRA) is considered LOW.

Baseline Results

| TEST DATE | T1 | T2 | T3 | BBT | % | FRA | TEST NOTE |
|---------------------|----|----|----|-----|----|------|---------------|
| 2/1/2016 3:47:02 PM | 48 | 44 | 56 | 49 | 21 | HIGH | initial visit |

Post-Baseline Results

| TEST DATE | T1 | T2 | T3 | BBT | % | FRA | TEST NOTE |
|----------------------|----|----|----|-----|----|------|-------------------|
| 2/8/2016 3:20:10 PM | 39 | 44 | 44 | 42 | 32 | HIGH | Wk 1 Follow-up |
| 3/2/2016 4:24:24 PM | 40 | 40 | 38 | 39 | 36 | MOD | Wk 4 Follow-up |
| 4/1/2016 2:27:11 PM | 33 | 34 | 35 | 34 | 49 | MOD | Wk 6 Follow-up |
| 4/26/2016 3:37:54 PM | 24 | 30 | 31 | 29 | 66 | LOW | Wk 12 Follow-up |
| 6/2/2016 3:41:18 PM | 23 | 21 | 23 | 22 | 88 | LOW | Wk 16 Follow-up |
| 8/1/2016 1:44:12 PM | 19 | 17 | 15 | 17 | 66 | LOW | 6 Month Follow-up |

Notes: _____

BTrackS Assess Balance Report:
BBT Advanced Results

Name: Sample Profile
 ID#: XXXXXX
 Facility: _____

BBT Balance Test (BBT) results are typically determined on the basis of COP Path Length. Some users may have use, however, for alternate COP metrics and/or enlarged visualizations of the raw COP data trace. These are provided below.

Most Recent Baseline

Most Recent Post-Baseline

***BBT Results - Average of 3 trials**

| | | |
|------|-------------------------------------|------|
| 4.68 | 95% Ellipse Area (cm ²) | 1.04 |
| 2.46 | Mean Velocity (cm/s) | 0.85 |
| 0.79 | Mean Distance (cm) | 0.34 |
| 0.49 | Mean Freq (Hz) | 0.40 |
| 0.43 | RMS Distance-ML (cm) | 0.22 |
| 0.83 | RMS Distance-AP (cm) | 0.33 |
| 2.55 | Range-ML (cm) | 1.06 |
| 4.10 | Range-AP (cm) | 1.50 |
| 0.39 | Aprox Entropy-ML | 0.35 |
| 0.47 | Aprox Entropy-AP | 0.39 |

95% Ellipse Area: Smallest ellipse fitting 95% of COP data
 Mean Velocity: Total COP length divided by the trial duration
 Mean Distance: Average distance from COP data center
 Mean Frequency: Average number of loops to cover COP data
 RMS-ML: Square root of mean squared medial-lateral COP data
 RMS-AP: Square root of mean squared anterior-posterior COP data
 Range-ML: Max minus min COP data in medial-lateral direction
 Range-AP: Max minus min COP data in anterior-posterior direction
 Aprox Entropy-ML: Unpredictability of medial lateral COP data
 Aprox Entropy-AP: Unpredictability of anterior-posterior COP data
 *ML-AP metrics assume perfect alignment along cardinal planes of the BTrackS Balance Plate

Baseline Results

| TEST DATE | ELL | VEL | DIS | FREQ | RM-ML | RM-AP | RG-ML | RG-AP | EN-ML | EN-AP |
|---------------------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 2/1/2016 3:47:02 PM | 4.68 | 2.46 | 0.79 | 0.49 | 0.43 | 0.83 | 2.55 | 4.10 | 0.39 | 0.47 |

Post-Baseline Results

| TEST DATE | ELL | VEL | DIS | FREQ | RM-ML | RM-AP | RG-ML | RG-AP | EN-ML | EN-AP |
|----------------------|-------|------|------|------|-------|-------|-------|-------|-------|-------|
| 2/8/2016 3:20:10 PM | 1.98 | 1.11 | 1.22 | 0.29 | 0.59 | 1.27 | 3.10 | 3.50 | 0.31 | 0.23 |
| 3/2/2016 4:24:24 PM | 1.84 | 1.97 | 0.94 | 0.33 | 0.46 | 0.97 | 2.73 | 4.26 | 0.43 | 0.30 |
| 4/1/2016 2:27:11 PM | 35.93 | 1.71 | 0.08 | 0.40 | 0.20 | 0.74 | 1.40 | 3.22 | 0.51 | 0.40 |
| 4/26/2016 3:37:54 PM | 20.23 | 1.44 | 0.53 | 0.43 | 0.27 | 0.59 | 1.66 | 2.74 | 0.42 | 0.30 |
| 6/2/2016 3:41:18 PM | 1.75 | 1.11 | 0.43 | 0.41 | 0.19 | 0.47 | 1.02 | 2.16 | 0.49 | 0.38 |
| 8/1/2016 1:44:12 PM | 1.04 | 0.85 | 0.34 | 0.40 | 0.22 | 0.33 | 1.06 | 1.50 | 0.35 | 0.39 |

Notes: _____

