Balance

Single Leg Stance (Eyes Open, Eyes Closed, Foam)
Gait Speed
Single Leg Stance

- Eyes Open
- Eyes Closed
- 30 sec. max
- Arms crossed
- Legs not touching
- Foot planted
- Best of 3
- Cutoff at 30 sec.
Single Leg Stance

- Single leg stance <30 seconds is associated with falls in community-dwelling seniors. \(^{32}\)

- Recommended in the screening of high-functioning seniors with good reliability and response to function. \(^{25}\)
## Single Leg Stance

### Norms for “Best of 3” (seconds)

<table>
<thead>
<tr>
<th>Age</th>
<th>Eyes Open</th>
<th></th>
<th>Eyes Closed</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>50-59</td>
<td>41.5</td>
<td>40.9</td>
<td>8.6</td>
<td>7.9</td>
</tr>
<tr>
<td>60-69</td>
<td>33.8</td>
<td>30.4</td>
<td>5.1</td>
<td>3.6</td>
</tr>
<tr>
<td>70-79</td>
<td>25.9</td>
<td>16.7</td>
<td>2.6</td>
<td>3.7</td>
</tr>
<tr>
<td>80-99</td>
<td>8.7</td>
<td>10.6</td>
<td>1.8</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Gait Speed

- 10 m with 5 m acceleration and deceleration zones
- Normal walking speed
- Measured in meters/second
Gait Speed

<table>
<thead>
<tr>
<th>Goal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2-1.4 meters/second</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-62</td>
<td>1.34</td>
<td>1.27</td>
</tr>
<tr>
<td>63+</td>
<td>1.21</td>
<td>.89</td>
</tr>
</tbody>
</table>
Balance
Community: 30%
Athletes: 10%
Balance
Balance
Balance
Balance
<15 sec. = Fall

<12 sec. = Multi-Faller
Fall Predictors

<6 seconds = fall.

<5 seconds = multiple falls
Odds of falling more than doubles!
Falls
Unexpected Predictor

Chair
Stand
Chair Stand

- Senior Athletes
- Community Dwelling Seniors

Falls increase above this line.
The oldest senior athletes still out-perform 60-69 year old non-athletes.

Falls increase above this line.
Balance Lab

SLS Eyes Open, Closed, Foam
Gait Speed
Interpretation

Results Provided
Basic Education
Report Card
Referral to “Find a PT” as needed
<table>
<thead>
<tr>
<th></th>
<th>Needs Improvement</th>
<th>Normal</th>
<th>Goal</th>
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</thead>
<tbody>
<tr>
<td><strong>CARdiovascular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>mmHg</td>
<td></td>
<td>&lt;120/&lt;80 mm Hg</td>
</tr>
<tr>
<td>Oxygen Saturation</td>
<td>%</td>
<td></td>
<td>≥95</td>
</tr>
<tr>
<td>Heart Rate</td>
<td>beats/min</td>
<td></td>
<td>60-100 bpm</td>
</tr>
<tr>
<td>Height</td>
<td>cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td></td>
<td></td>
<td>18.5-24.9</td>
</tr>
<tr>
<td>Waist Circumference</td>
<td>cm</td>
<td></td>
<td>≤35&quot;</td>
</tr>
</tbody>
</table>
|                      |                   |        | ≤40"
<p>| <strong>STRENGTH</strong>         |                   |        |      |
| Grip Strength-R      | kg                |        | See chart |
| Grip Strength-L      | kg                |        | See chart |
| Chair Stand          | sec               |        | &lt;12 seconds |
| <strong>FLEXIBILITY</strong>      |                   |        |      |
| Shoulder (degrees)   | R L               |        | 180 degrees |
| Ankle (degrees)      | R L               |        | 20 degrees |
| Hip (degrees)        | R L               |        | 0 degrees |
| Posture (needs pillow to achieve neutral) | | |
| <strong>BALANCE</strong>          |                   |        |      |
| Single leg eyes open | sec               |        | 30 seconds |
| Single leg eyes closed | sec               |        | See chart |
| Single leg on foam eyes open | sec | | |
| Functional Reach     | cm                |        | 25.4 cm |
| Gait Speed           | meters/second     |        | 1.2 m/s |</p>
<table>
<thead>
<tr>
<th>Senior Athlete Fitness Exam (SAFE)</th>
<th>Needs ☹ Improvement</th>
<th>Normal ☺</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CARDIOVASCULAR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>119/70 mmHg</td>
<td>✗</td>
<td>&lt;120/&lt;80 mm Hg</td>
</tr>
<tr>
<td>Oxygen Saturation</td>
<td>97%</td>
<td>✗</td>
<td>≥95</td>
</tr>
<tr>
<td>Heart Rate</td>
<td>70 beats/min</td>
<td>✗</td>
<td>60-100 bpm</td>
</tr>
<tr>
<td>Height</td>
<td>5’10”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>190 Lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>27.3</td>
<td>✗</td>
<td>18.5-24.9</td>
</tr>
</tbody>
</table>
Your State Games

Contact information, location, dates, events
What does being involved in the Senior Games mean to you?

Young Fun Compete
New Friends Makes Me Feel Special Gives Me Hope
Travel
Participate Focus Fitness
Motivation
Pride Enjoy Volleyball Age
Competition Field Event
“A chance to meet new friends and compete against myself and others. Gets me excited.”
“….Working out keeps me healthy and off of oxygen. I cannot run since I have emphysema but I participate in the shot putt, hammer and javelin. Limited running with rest in between each throw.”
It shows me that we can feel and act as "kids" even as we get older. I feel more alive when I compete.
“Being part of a greater organization...”

“Gave me incentive to train at a higher intensity.”

“I enjoy winning.”

“Got involved because my dad was involved.”
Your State Games

Benefits
- Community Service
- Education Opportunities
- Prevention
- New patients
- Service-learning for students
Equipment Needs

- One banquet table and several chairs
- BP cuff/stethoscope
- Pulse oximeter
- Scale*
- Portable treatment table
- Grip dynamometer
- Goniometer
- Airex Pad (2)
- Tape measure (2)
- Stop watch (2)
- Gait belt
- Hand Sanitizer
- Cleaning Wipes
- Trash Can

*Not needed during state games
Adding to the Research

- July 3-16 National Senior Games in Twin Cities
- Human Subjects Protection CITI Training

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References


