## Appendix.

Functional Gait Assessment ${ }^{a}$
Requirements: A marked 6-m (20-ft) walkway that is marked with a $30.48-\mathrm{cm}$ (12-in) width.

## 1. GAIT LEVEL SURFACE

Instructions: Walk at your normal speed from here to the next mark 16 m [20 ft]).
Grading: Mark the highest category that applies.
(3) Normal-Walks $6 \mathrm{~m}(20 \mathrm{ft})$ in less than 5.5 seconds, no assistive devices, good speed, no evidence for imbalance, normal gait pattern, deviates no more than $15.24 \mathrm{~cm}(6 \mathrm{in})$ outside of the $30.48-\mathrm{cm}$ (12-in) walkway width.
(2) Mild impairment-Walks $6 \mathrm{~m}(20 \mathrm{ff})$ in less than 7 seconds but greater than 5.5 seconds, uses assistive device, slower speed, mild gait deviations, or deviates $15.24-25.4 \mathrm{~cm}(6-10 \mathrm{in})$ outside of the $30.48-\mathrm{cm}(12-\mathrm{in})$ walkway width.
(1) Moderate impairment-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, slow speed, abnormal gait pattern, evidence for imbalance, or deviates 25.4 $38.1 \mathrm{~cm}(10-15 \mathrm{in})$ outside of the $30.48-\mathrm{cm}$ ( $12-\mathrm{in}$ ) walkway width. Requires more than 7 seconds to ambulate $6 \mathrm{~m}(20 \mathrm{ft})$.
(0) Severe impairment-Cannot walk $6 \mathrm{~m}(20 \mathrm{ft})$ without assistance, severe gait deviations or imbalance, deviates greater than 38.1 cm ( 15 in ) outside of the $30.48-\mathrm{cm}$ (12-in) walkway width or reaches and touches the wall.

## 2. CHANGE IN GAIT SPEED

Instructions: Begin walking at your normal pace (for $1.5 \mathrm{~m}[5 \mathrm{ft}]$ ). When I tell you "go," walk as fast as you can (for $1.5 \mathrm{~m}[5 \mathrm{ft}]$ ). When I tell you "slow," walk as slowly as you can (for $1.5 \mathrm{~m}[5 \mathrm{ft}]$ ).
Grading: Mark the highest category that applies.
(3) Normal-Able to smoothly change walking speed without loss of balance or gait deviation. Shows a significant difference in walking speeds between normal, fast, and slow speeds. Deviates no more than $15.24 \mathrm{~cm}(6 \mathrm{in})$ outside of the $30.48-\mathrm{cm}$ (12-in) walkway width.
(2) Mild impairment-Is able to change speed but demonstrates mild gait deviations, deviates $15.24-25.4 \mathrm{~cm}(6-10 \mathrm{in})$ outside of the $30.48-\mathrm{cm}(12-\mathrm{in}$ ) walkway width, or no gait deviations but unable to achieve a significant change in velocity, or uses an assistive device.
(1) Moderate impairment-Makes only minor adjustments to walking speed, or accomplishes a change in speed with significant gait deviations, deviates $25.4-38.1 \mathrm{~cm}(10-15 \mathrm{in}$ ) outside the $30.48-\mathrm{cm}(12-\mathrm{in})$ walkway width, or changes speed but loses balance but is able to recover and continue walking.
(0) Severe impairment-Cannot change speeds, deviates greater than 38.1 cm ( 15 in ) outside $30.48-\mathrm{cm}(12-\mathrm{in}$ ) walkway width, or loses balance and has to reach for wall or be caught.

## 3. GAIT WITH HORIZONTAL HEAD TURNS

Instructions: Walk from here to the next mark 6 m (20 ff) away. Begin walking at your normal pace. Keep walking straight; after 3 steps, turn your head to the right and keep walking straight while looking to the right. After 3 more steps, turn your head to the left and keep walking straight while looking left. Continue alternating looking right and left every 3 steps until you have completed 2 repetitions in each direction. Grading: Mark the highest category that applies.
(3) Normal-Performs head turns smoothly with no change in gait. Deviates no more than $15.24 \mathrm{~cm}(6 \mathrm{in})$ outside $30.48-\mathrm{cm}$ ( 12 -in) walkway width.
(2) Mild impairment-Performs head turns smoothly with slight change in gait velocity (eg, minor disruption to smooth gait path), deviates $15.24-25.4 \mathrm{~cm}(6-10 \mathrm{in})$ outside $30.48-\mathrm{cm}$ (12-in) walkway width, or uses an assistive device.
(1) Moderate impairment-Performs head turns with moderate change in gait velocity, slows down, deviates $25.4-38.1 \mathrm{~cm}$ ( $10-15 \mathrm{in}$ ) outside $30.48-\mathrm{cm}$ (12-in) walkway width but recovers, can continue to walk.
(0) Severe impairment-Performs task with severe disruption of gait (eg, staggers 38.1 cm [ 15 in ] outside $30.48-\mathrm{cm}$ ( 12 -in) walkway width, loses balance, stops, or reaches for wall).

## 4. GAIT WITH VERTICAL HEAD TURNS

Instructions: Walk from here to the next mark ( 6 m [20 ft]). Begin walking at your normal pace. Keep walking straight; after 3 steps, tip your head up and keep walking straight while looking up. After 3 more steps, tip your head down, keep walking straight while looking down. Continue alternating looking up and down every 3 steps until you have completed 2 repetitions in each direction.
Grading: Mark the highest category that applies.
(3) Normal-Performs head turns with no change in gait. Deviates no more than 15.24 cm ( 6 in ) outside $30.48-\mathrm{cm}$ (12-in) walkway width.
(2) Mild impairment-Performs task with slight change in gait velocity (eg, minor disruption to smooth gait path), deviates $15.24-25.4 \mathrm{~cm}(6-10 \mathrm{in})$ outside $30.48-\mathrm{cm}$ ( $12-\mathrm{in}$ ) walkway width or uses assistive device.
(1) Moderate impairment-Performs task with moderate change in gait velocity, slows down, deviates $25.4-38.1 \mathrm{~cm}(10-15 \mathrm{in})$ outside $30.48-\mathrm{cm}$ ( $12-\mathrm{in}$ ) walkway width but recovers, can continue to walk.
(0) Severe impairment-Performs task with severe disruption of gait (eg, staggers 38.1 cm [ 15 in ] outside 30.48 - cm ( 12 -in) walkway width, loses balance, stops, reaches for wall).

## 5. GAIT AND PIVOT TURN

Instructions: Begin with walking at your normal pace. When I tell you,
"turn and stop," turn as quickly as you can to face the opposite direction and stop.
Grading: Mark the highest category that applies.
(3) Normal-Pivot furns safely within 3 seconds and stops quickly with no loss of balance.
(2) Mild impairment-Pivot turns safely in $>3$ seconds and stops with no loss of balance, or pivot turns safely within 3 seconds and stops with mild imbalance, requires small steps to catch balance.
(1) Moderate impairment-Turns slowly, requires verbal cueing, or requires several small steps to catch balance following turn and stop.
(0) Severe impairment-Cannot turn safely, requires assistance to turn and stop.

## 6. STEP OVER OBSTACLE

Instructions: Begin walking at your normal speed. When you come to the shoe box, step over it, not around it, and keep walking.
Grading: Mark the highest category that applies.
(3) Normal-Is able to step over 2 stacked shoe boxes taped together ( 22.86 cm [ 9 in ] total height) without changing gait speed; no evidence of imbalance.
(2) Mild impairment-Is able to step over one shoe box 11.43 cm [4.5 in] total height) without changing gait speed; no evidence of imbalance.
(1) Moderate impairment-Is able to step over one shoe box 11.43 cm [4.5 in] total height) but must slow down and adjust steps to clear box safely. May require verbal cueing.
(0) Severe impairment-Cannot perform without assistance.

## Appendix.

Continued

## 7. GAIT WITH NARROW BASE OF SUPPORT

Instructions: Walk on the floor with arms folded across the chest, feet aligned heel to toe in tandem for a distance of 3.6 m [ 12 ft ]. The number of steps taken in a straight line are counted for a maximum of 10 steps. Grading: Mark the highest category that applies.
(3) Normal-Is able to ambulate for 10 steps heel to toe with no staggering.
(2) Mild impairment-Ambulates 7-9 steps.
(1) Moderate impairment-Ambulates 4-7 steps.
(0) Severe impairment-Ambulates less than 4 steps heel to toe or cannot perform without assistance.

## 8. GAIT WITH EYES CLOSED

Instructions: Walk at your normal speed from here to the next mark 16 m [20 ft]) with your eyes closed.
Grading: Mark the highest category that applies.
(3) Normal-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, no assistive devices, good speed, no evidence of imbalance, normal gait pattern, deviates no more than $15.24 \mathrm{~cm}(6 \mathrm{in})$ outside $30.48-\mathrm{cm}(12-\mathrm{in})$ walkway width. Ambulates $6 \mathrm{~m}(20 \mathrm{ft})$ in less than 7 seconds.
(2) Mild impairment-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, uses assistive device, slower speed, mild gait deviations, deviates $15.24-25.4 \mathrm{~cm}$ ( $6-10 \mathrm{in}$ ) outside $30.48-\mathrm{cm}$ ( $12-\mathrm{in}$ ) walkway width. Ambulates $6 \mathrm{~m}(20 \mathrm{ft})$ in less than 9 seconds but greater than 7 seconds.
(1) Moderate impairment-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, slow speed, abnormal gait pattern, evidence for imbalance, deviates 25.4-38.1 cm (10-15 in) outside $30.48-\mathrm{cm}$ (12-in) walkway width. Requires more than 9 seconds to ambulate $6 \mathrm{~m}(20 \mathrm{ft})$.
(0) Severe impairment-Cannot walk $6 \mathrm{~m}(20 \mathrm{ft})$ without assistance, severe gait deviations or imbalance, deviates greater than 38.1 cm ( 15 in ) outside $30.48-\mathrm{cm}$ (12-in) walkway width or will not attempt task.

## 9. AMBULATING BACKWARDS

Instructions: Walk backwards until I tell you to stop.
Grading: Mark the highest category that applies.
(3) Normal-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, no assistive devices, good speed, no evidence for imbalance, normal gait pattern, deviates no more than 15.24 cm ( 6 in ) outside $30.48-\mathrm{cm}$ ( 12 -in) walkway width.
(2) Mild impairment-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, uses assistive device, slower speed, mild gait deviations, deviates $15.24-25.4 \mathrm{~cm}$ ( $6-10 \mathrm{in}$ ) outside $30.48-\mathrm{cm}$ (12-in) walkway width.
(1) Moderate impairment-Walks $6 \mathrm{~m}(20 \mathrm{ft})$, slow speed, abnormal gait pattern, evidence for imbalance, deviates 25.4-38.1 cm (10-15 in) outside $30.48-\mathrm{cm}$ (12-in) walkway width.
(0) Severe impairment-Cannot walk $6 \mathrm{~m}(20 \mathrm{ft})$ without assistance, severe gait deviations or imbalance, deviates greater than 38.1 cm ( 15 in ) outside $30.48-\mathrm{cm}$ ( 12 -in) walkway width or will not attempt task.

## 10. STEPS

Instructions: Walk up these stairs as you would at home (ie, using the rail if necessary). At the top turn around and walk down.
Grading: Mark the highest category that applies.
(3) Normal-Alternating feet, no rail.
(2) Mild impairment-Alternating feet, must use rail.
(1) Moderate impairment-Two feet to a stair; must use rail.
(0) Severe impairment-Cannot do safely.

TOTAL SCORE: $\qquad$ MAXIMUM SCORE 30

[^0]Walker, M.L. (2007). Reference Group Data for the Functional Gait Assessment.
Physical Therapy (87)11, 1468-1477.

Table 1.
Functional Gait Assessment Total Scores by Decade

| Age <br> $(\boldsymbol{y})$ | N | Minimum <br> Score | Maximum <br> Score | Mean | SD | 95\% <br> Confidence <br> Interval |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $40-49$ | 27 | 24 | 30 | 28.9 | 1.5 | $28.3-29.5$ |
| $50-59$ | 33 | 25 | 30 | 28.4 | 1.6 | $27.9-29.0$ |
| $60-69$ | 63 | 20 | 30 | 27.1 | 2.3 | $26.5-27.7$ |
| $70-79$ | 44 | 16 | 30 | 24.9 | 3.6 | $23.9-26.0$ |
| $80-89$ | 33 | 10 | 28 | 20.8 | 4.7 | $19.2-22.6$ |
| Total | 200 | 10 | 30 | 26.1 | 4.0 | $25.5-26.6$ |



Figure 2.
Comparison of the mean Functional Gait Assessment (FGA) total scores and 95\% confidence intervals by decade. A perfect score is 30 .


Figure 3.
Mean score of each Functional Gait Assessment (FGA) item by decade. On the Y axis, scores for each item can range from 0 (severe impairment) to 3 (normal). On the X axis are the 10 items of the FGA: $1=$ gait on level surface, $2=$ change in gait speed, $3=$ gait with horizontal head turns, $4=$ gait with vertical head turns, $5=$ gait with pivot turn, $6=$ step over obstacle, $7=$ gait with narrow base of support, $8=$ gait with eyes closed, $9=$ ambulating backward, $10=$ steps.


[^0]:    ${ }^{a}$ Adapted from Dynamic Gait Index. ${ }^{1}$ Modified and reprinted with permission of authors and Lippincott Williams \& Wilkins (http://lww.com).

