Senior Fitness Test

SWNPHD has utilized the Senior Fitness Test Kit in the development of the FROG program. The Senior Fitness Test is a great resource for testing the fitness levels of older adults. The test results provide information to both the participant and the instructor regarding the participant's fitness level and compares that level to others in their age category.

Why test seniors?
Fitness is very important for those in their senior years. Older adults need to have adequate strength, flexibility, and endurance to accomplish everyday tasks. Assessing these components of fitness can detect weaknesses which can be treated before causing serious functional limitations.

When should the testing be done?
It is recommended that the test be given before the start of a FROG program, between two and six months and annually.

What tests are included?
The individual fitness test items involve common activities; such as getting up from a chair, walking, lifting, bending, and stretching. The tests were developed to be safe and enjoyable for older adults, while still meeting scientific standards for reliability and validity.

The following tests are part of the Senior Fitness Test Protocol, and are designed to test the functional fitness of seniors:

Chair Stand Test — tests lower body strength
Arm Curl Test — tests upper body strength
Chair Sit and Reach Test — lower body flexibility test
Back Scratch Test — upper body flexibility test
8-Foot Up and Go Test — agility test
Walk Test (6 minutes) or Step in Place Test (2 minutes) — the walk test is used to assess aerobic fitness unless the person uses orthopedic devices when walking or has difficulty balancing, in which case they do the step in place test.

Station 1: Chair Stand Test

The chair stand test is similar to a squat test to measure leg strength.
Purpose: To measure lower-body strength
Equipment: Straight-back chair (17 in.), stopwatch
Procedure: Place the chair against a wall, or otherwise stabilize it for safety. The subject should sit in the middle of the seat, with their feet shoulder width apart, flat on the floor. The arms are to be crossed at the wrists and held close to the chest. From the sitting position, the subject stands completely up, then completely back down, and this is repeated for 30 seconds.
Scoring: Count the total number of complete chair stands (up and down equals' one stand). If the subject has completed a full stand from the sitting position when the time is elapsed, the final stand is counted in the total.
Below is a table showing the recommended ranges for this test based on age groups.

Men's Results

Age	below average	average	above average
60-64	< 14	14 to 19	> 19
65-69	< 12	12 to 18	> 18
70-74	< 12	12 to 17	> 17
75-79	< 11	11 to 17	> 17
80-84	< 10	10 to 15	> 15
85-89	< 8	8 to 14	> 14
90-94	< 7	7 to 12	> 12

Women's Results

Age	below average	average	above average
60-64	< 12	12 to 17	> 17
65-69	< 11	11 to 16	> 16
70-74	< 10	10 to 15	> 15
75-79	< 10	10 to 15	> 15
80-84	< 9	9 to 14	> 14
85-89	< 8	8 to 13	> 13
90-94	< 4	4 to 11	> 11

Comments: the arms may be used for assistance or for safety if need.

Station 2: Arm Curl Test

Purpose: To measure upper-body strength
Equipment: 4 pound weight (women, AAHPERD), 5 pound weight (women, SFT), 8 pound weight (for men) and a chair without armrests, stopwatch.
Procedure: The aim of this test is to do as many arm curls as possible in 30 seconds. This test is conducted on the dominant arm side (or stronger side). The subject sits on the chair, holding the weight in the hand using a suitcase grip (palm facing towards the body) with the arm in a vertically down position beside the chair. Brace the upper arm against the body so that only the lower arm is moving (tester may assist to hold the upper arm steady). Curl the arm up through a full range of motion, gradually turning the palm up (flexion with supination). As the arm is lowered through the full range of motion, gradually return to the starting position. The arm must be fully bent and then fully straightened at the elbow. Repeat this action as many times as possible within 30 seconds.
Scoring: The score is the total number of controlled arm curls performed in 30 seconds.

Men's Results

Age	below average	average	above average
60-64	< 16	16 to 22	> 22
65-69	< 15	15 to 21	> 21
70-74	< 14	14 to 21	> 21
75-79	< 13	13 to 19	> 19
80-84	< 13	13 to 19	> 19
85-89	< 11	11 to 17	> 17
90-94	< 10	10 to 14	> 14

Women's Results

Age	below average	average	above average
60-64	< 13	13 to 19	> 19
65-69	< 12	12 to 18	> 18
70-74	< 12	12 to 17	> 17
75-79	< 11	11 to 17	> 17
80-84	< 10	10 to 16	> 16
85-89	< 10	10 to 15	> 15
90-94	< 8	8 to 13	> 13

Comments: it is important that the upper arm is stable throughout the test, and doesn't swing.

Station 3: Height and Weight

Purpose: To assess body mass index (BMI)
Equipment: Scale, 60-in tape measure, masking tape, and ruler (or other flat object to mark top of head)
Procedure: (weight)
Have the participant remove any heavy coats or sweaters; shoes may be left on.
Measure weight to the nearest pound, subtracting 1 to 2 lbs for shoes
Procedure: (height)
Position the tape measure on the wall, 20 in. up from the floor.
Have the participant stand against the wall with the back of the head lined up with the tape measure.
Lay the ruler on top of the participants head, extending it back to the tape measure
The score is the number of inches in height as indicated on the tape measure, plus 20 in. (the distance from the floor to the zero mark on the tape).
If shoes were worn, subtract 1 to 2 in. using your best judgment.

Body Mass Index (BMI) Manual Calculation

To manually calculate Body Mass Index (BMI):

1. multiply your weight (in pounds) by 703
2. divide by your height (in inches)
3. divide by your height (in inches) again.

   Example: You weigh 135lb and are 5'5" tall. 135 x 703 =94905 ÷ 65"=1460.07 ÷65" = 22.46 BMI

Refer to page 45 of the Appendix for a BMI chart.

Station 4: Chair Sit and Reach Test

The Chair Sit and Reach test is designed to test the functional fitness of seniors.
Purpose: To assess lower-body (primarily hamstring) flexibility.
Equipment: Folding chair with a seat height of 17 in. that will not tip forward, 18 in. ruler
Procedure: The subject should sit on the edge a chair (placed against a wall for safety). One foot must remain flat on the floor. The other leg is extended forward with the knee straight, heel on the floor, and ankle bent at 90°. Place one hand on top of the other with tips of the middle fingers even. Instruct the subject to inhale, and then as they exhale, reach forward toward the toes by bending at the hip. Keep the back straight and head up. Avoid bouncing or quick movements, and never stretch to the point of pain. Keep the knee straight, and hold the reach for 2 seconds. The distance is measured between the tip of the fingertips and the toes. If the fingertips touch the toes then the score is zero. If they do not touch their toes, measure the distance between the fingers and the toes (a negative score), if they overlap, measure by how much (a positive score). Perform two trials.
Scoring: The score is recorded to the nearest 1/2 inch as the distance reached either a negative or positive score. Record which leg was used for measurement. Below is a table showing the recommended ranges (in inches) for this test based on age groups.

Men's Results

Age	below average	average (inches)	above average
60-64	< -2.5	-2.5 to 4.0	> 4.0
65-69	< -3.0	-3.0 to 3.0	> 3.0
70-74	< -3.5	-3.5 to 2.5	> 2.5
75-79	< -4.0	-4.0 to 2.0	> 2.0
80-84	< -5.5	-5.5 to 1.5	> 1.5
85-89	< -5.5	-5.5 to 0.5	> 0.5
90-94	< -6.5	-6.5 to -0.5	> -0.5

Women's Results

Age	below average	average (inches)	above average
60-64	< -0.5	-0.5 to 5.0	> 5.0
65-69	< -0.5	-0.5 to 4.5	> 4.5
70-74	< -1.0	-1.0 to 4.0	> 4.0
75-79	< -1.5	-1.5 to 3.5	> 3.5
80-84	< -2.0	-2.0 to 3.0	> 3.0
85-89	< -2.5	-2.5 to 2.5	> 2.5
90-94	< -4.5	-4.5 to 1.0	> 1.0

Reliability: The reliability of this test will depend on the amount of warm-up prior to testing. If retesting, you must ensure the same procedures are used each time, and the order of tests should also be standardized.
Contraindications: This test should not be done if you have severe Osteoporosis.

Station 5: Back Scratch Test

The Back Scratch Test measures how close the hands can be brought together behind the back.
Purpose: To measure upper-body flexibility
Equipment: 18-in. ruler
Procedure: This test is done in the standing position. Place one hand behind the head and back over the shoulder, and reach as far as possible down the middle of your back, your palm touching your body and the fingers directed downwards. Place the other arm behind your back, palm facing outward and fingers upward and reach up as far as possible attempting to touch or overlap the middle fingers of both hands. An assistant is required to direct the subject so that the fingers are aligned, and to measure the distance between the tips of the middle fingers. If the fingertips touch then the score is zero. If they do not touch, measure the distance between the finger tips (a negative score), if they overlap, measure the distance (a positive score). Practice two times, and then test two times.
Scoring: Record the best score to the nearest centimeter or 1/2 inch. Below is a table showing the recommended ranges (in inches) for this test based on age groups.

Men's Results

Age	below average	average (inches)	above average
60-64	> 6.5	6.5 to 0	< 0
65-69	> 7.5	7.5 to -1.0	< -1.0
70-74	> 8.0	8.0 to -1.0	< -1.0
75-79	> 9.0	9.0 to -2.0	< -2.0
80-84	> 9.5	9.5 to -2.0	< -2.0
85-89	> 10.0	10.0 to -3.0	< -3.0
90-94	> 10.5	10.5 to -4.0	< -4.0

Women's Results

Age	below average	average (inches)	above average
60-64	> 3.0	3.0 to 1.5	< 1.5
65-69	> 3.5	3.5 to 1.5	< 1.5
70-74	> 4.0	4.0 to 1.0	< 1.0
75-79	> 5.0	5.0 to 0.5	< 0.5
80-84	> 5.5	5.5 to 0	< 0
85-89	> 7.0	7.0 to -1.0	< -1.0
90-94	> 8.0	8.0 to -1.0	< -1.0

Comments: Stop the test if the subject experiences pain.

Station 6: 8 Foot Up and Go Test

The '8 Foot Up and Go' is a coordination and agility test for the elderly.
Purpose: To assess agility and dynamic balance
Equipment: stopwatch, straight back or folding chair (about 17 inches/44 cm high), cone marker, measuring tape, area clear of obstacles.
Procedure: Place a chair next to a wall (for safety) and the marker 8 feet in front of the chair. Clear the path between the chair and the marker. The subject starts fully seated, hands resting on the knees and feet flat on the ground. On the command, "Go," timing is started and the subject stands and walks (no running) as quickly as possible (and safely) to and around the cone, returning to the chair to sit down. Timing stops as they sit down. Perform two trials.
Scoring: Take the best time of the two trails to the nearest 1/10th second. Below is a table showing the recommended ranges in seconds for this test based on age groups.

Men's Results

Age	below average	average	above average
60-64	> 5.6	5.6 to 3.8	< 3.8
65-69	> 5.7	5.7 to 4.3	< 4.3
70-74	> 6.0	6.0 to 4.2	< 4.2
75-79	> 7.2	7.2 to 4.6	< 4.6
80-84	> 7.6	7.6 to 5.2	< 5.2
85-89	> 8.9	8.9 to 5.3	< 5.3
90-94	> 10.0	10.0 to 6.2	< 6.2

Women's Results

Age	below average	average	above average
60-64	> 6.0	6.0 to 4.4	< 4.4
65-69	> 6.4	6.4 to 4.8	< 4.8
70-74	> 7.1	7.1 to 4.9	< 4.9
75-79	> 7.4	7.4 to 5.2	< 5.2
80-84	> 8.7	8.7 to 5.7	< 5.7
85-89	> 9.6	9.6 to 6.2	< 6.2
90-94	> 11.5	11.5 to 7.3	< 7.3

Comments: for best results, practice the test once, and then perform it twice. A cane or walker may be used if that is the usual mode of walking. Push-off from the chair is allowed.

Station 7: 6 Minute Walk Test

For people who use orthopedic devices when walking, as well as people who have difficulty balancing, there is an alternative 2 minute step in place test (see page 38).

Purpose: To assess aerobic endurance

Equipment: measuring tape to mark out the track distances, stopwatch, and chairs positioned for resting.

Procedure: The walking course is laid out in a 50 yard (45.72m) rectangular area (dimensions 45 x 5 yards), with cones placed at regular intervals to indicate distance walked. The aim of this test is to walk as quickly as possible for six minutes to cover as much ground as possible. Subjects set their own pace and allowed to stop and rest if needed.

Scoring: measure the distance walked in 6 minutes to the nearest meter.

Males: Walk Distance (meters) = 867 – (5.71 age, yrs) + (1.03 height, cm)

Females: Walk Distance (meters) = 525 – (2.86 age, yrs) + (2.71 height, cm) – (6.22 BMI)

Comments: The test should be terminated if the examined person reports dizziness, nausea, excessive fatigue, pain, or if the examiner notices any other symptoms of concern. The examiners should be trained in recognizing these symptoms and the necessary action plan should be in place in case of medical emergencies.

2 Minute Step in Place Test

This test is performed as an alternative to the 6 minute walk test **for people who use orthopedic devices when walking, as well as in the case of people who have difficulty balancing**.
Purpose: This test measures aerobic endurance.
Equipment: tape for marking the wall, stopwatch, and wall.
Procedure: The subject stands up straight next to the wall while the level corresponding to midway between the patella (knee cap) and iliac crest (top of the hip bone). The subject then marches in place for two minutes, lifting the knees to the height of the tape. Resting is allowed, and holding onto the wall or a stable chair is allowed. Stop after two minutes.
Scoring: Record the total number of times the right knee reaches the tape level in two minutes. Below is a table showing the recommended ranges for this test based on age groups.

Men's Results

Age	below average	average	above average
60-64	< 87	87 to 115	> 115
65-69	< 87	86 to 116	> 116
70-74	< 80	80 to 110	> 110
75-79	< 73	73 to 109	> 109
80-84	< 71	71 to 103	> 103
85-89	< 59	59 to 91	> 91
90-94	< 52	52 to 86	> 86

Women's Results

Age	below average	average	above average
60-64	< 75	75 to 107	> 107
65-69	< 73	73 to 107	> 107
70-74	< 68	68 to 101	> 101
75-79	< 68	68 to 100	> 100
80-84	< 60	60 to 91	> 91
85-89	< 55	55 to 85	> 85
90-94	< 44	44 to 72	> 72

Scorecard: Senior Fitness Test

Name: _____   Test Date: ____/____/____

Male _____   Female_____   Age: _____   Birthday: ____/____/____

Height _____   Weight_____   BMI_____

Baseline Scorecard or Bi-Annual Scorecard

Test	Trial One	Trial two	Comments
Chair Stand (#in 30 seconds)			
Arm Curl (# in 30 seconds)			Weight used 2 3 4 5 6 7 8
2-Minute Step (# of steps)			
Chair sit-and-reach (nearest ½ inch + or -)			Extended leg L or R
Back Scratch (nearest ½ inch + or -)			Hand Over L or R
8-ft Up and go (nearest 1/10 second)			

Test Date: ____/____/____

Height _____   Weight_____   BMI_____

Comparative Follow-Up Scorecard or Annual Scorecard

Test	Trial One	Trial two	Comments
Chair Stand (#in 30 seconds)			
Arm Curl (# in 30 seconds)			Weight used 2 3 4 5 6 7 8
2-Minute Step (# of steps)			
Chair sit-and-reach (nearest ½ inch + or -)			Extended leg L or R
Back Scratch (nearest ½ inch + or -)			Hand Over L or R
8-ft Up and go (nearest 1/10 second)			

Normal Range of Scores for Women

	60-64	65-69	70-74	75-79	80-84	85-89	90-94
Chair Stand test	12-17	11-16	10-15	10-15	9-14	8-13	4-11
Arm Curl test	13-19	12-18	12-17	11-17	10-16	10-15	8-13
6-min. walk test	545-660	500-635	480-615	435-585	385-540	340-510	275-440
Chair sit-and-reach test	-0.5-+5.0	-0.5-+4.5	-1.0-+4.0	-1.5-+3.5	-2.0-+3.0	-2.5-+2.5	-4.5-+1.0
Back scratch test	-3.0-+1.5	-3.5-+1.5	-4.0-+1.0	-5.0-+0.5	-5.5-+0.0	-7.0 - -1.0	-8.0 - -1.0
8-foot up-and-go test	6.0-4.4	6.4-4.8	7.1-4.9	7.4-5.2	8.7-5.7	9.6-6.2	11.5-7.3

Normal Range of Scores for Men

	60-64	65-69	70-74	75-79	80-84	85-89	90-94
Chair Stand test	14-19	12-18	12-17	11-17	10-15	8-14	7-12
Arm Curl test	16-22	15-21	14-21	13-19	13-19	11-17	10-14
6-min. walk test	610-735	560-700	545-680	470-640	445-605	380-570	305-500
Chair sit-and-reach test	-2.5-+4.0	-3.0-+3.0	-3.0-+3.0	-4.0-+2.0	-5.5-+1.5	-5.5-+0.5	-6.5 - -0.5
Back scratch test	-6.5-+0.0	-7.5- -1.0	-8.0- -1.0	-9.0- -2.0	-9.5- -2.0	-9.5 - -3.0	-10.5 - -4.0
8-foot up-and-go test	5.6-3.8	5.9-4.3	6.2-4.4	7.2-4.6	7.6-5.2	8.9-5.5	10.0-6.2