Women’s Health Initiative Strong & Healthy
A Pragmatic Trial of Physical Activity (PA) for CVD

Fred Hutchinson Cancer Research Center Data Coordinating Site
U01 HL122273-DCC

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Stanford Intervention Site
U01 HL122280-CCC
Walking & vigorous exercise, similar CHD risk reduction.

Primary Hypothesis

A centralized, public health intervention designed to increase and/or maintain PA levels and reduce sedentary behavior will reduce incidence of major CVD clinical events (MI, stroke, CVD death) in older women.

Primary Safety Aim: Evaluate whether an intervention based on DHHS-recommended levels of physical activity for older adults increases risk of total clinical fracture, hip fracture, falls, or non-CVD mortality over ~5 years.
Secondary Safety Aim: Evaluate whether the PA intervention (vs Comparison) increases Coronary Artery Bypass Graphs or Percutaneous Coronary Intervention.

Secondary Hypotheses

PA (vs “usual activity” Comparison) will lower rates of VTE and PAD and reduce loss of Physical Function (per Rand-36 score), and increase rates of ongoing mobility and independence.
Key Inclusion Criterion: CVD Outcomes Collected within Scope of Ongoing WHI Extension Study (2015-2020)

Self-Reported Cohort

\[ \text{SRC} = 71,251 \]

Medical Record Cohort

22,316

Medical Record Cohort

22,316

AA/Hispanic


Self-Reported Cohort

enrolled in CMS 41,588

Medical Record Cohort

MRC only (N=11,206) Follow-up using self-report and adjudication

MRC and CMS (N=9,371) Follow-up using self-report and adjudication CMS data used to compare reliability of data sources.

CMS only (N=33,216) Self-report and CMS data. At end of study self-reports for periods not covered by CMS will be adjudicated.
Novelty and Significance of WHISH

1. Randomized Consent Design

**Ineligible, if known:**
- dementia
- living in a nursing home
- inability to walk (self-reported)

Pragmatic trial embedded in WHI Extension Study (2015-2020): CVD outcomes, MRC + SRC-CMS

(49,333 eligible women)

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Figure 1: Schematic representation of the randomized consent design for WHISH physical activity trial of (based on Zelen. N Eng J Med 1979; 300: 1242-1245)

**Physical Activity (PA) Intervention**
Mailings, Motivational Calls (± IVR**), Website, Email + live advisor, PRN

**Interactive Voice Response System**
CT + OS (1993-2005) 161,808 total

No longer alive or Ineligible: 90,346

Eligible: 71,462

No CVD Outcomes: 22,129

Randomized to WHISH: 49,333

Intervention: 24,659

Comparison: 24,674

“Intent to Treat” cohort

“Opted out”: 870

Other: 136

Passive Consent: 23,653

(Did not “opt out”) Intervention Started

Randomized in WHISH (n=49,333)
## Characteristics of WHISH Participants at Randomization, by Study Arm

### Mean age

- **Mean age:** \(~79.7 (6.2)\)

### Ethnicity

- **9.2% Black**

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<td>24044 97.5</td>
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## Characteristics of WHISH Participants at Randomization

### Outcome Coverage

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<th>Category</th>
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<td>3849 22.8%</td>
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<td>WHI + CMS</td>
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<td>2935 17.4%</td>
<td>2747 16.9%</td>
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### Age, mean (SD)

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### Ethnicity

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<tr>
<td>American Indian</td>
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<td>73 0.4%</td>
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<td>169 1.0%</td>
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### Current Smoker

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<td>16268 96.4%</td>
<td>15831 97.6%</td>
<td>16004 98.6%</td>
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</table>

30.2% Obese 10.2% with CVD at WHISH baseline
Novelty and Significance of **WHISH**

2. **First-ever large, pragmatic trial testing** whether a PA **intervention** can reduce hard **CVD** endpoints

3. Passive consent in **WHISH** intervention group resulted in >96% of eligible women being **exposed to the intervention**

4. Evidence-based in U.S. (**DHHS 2008, 2018**) PA guidelines and the NIA **Go4Life** materials

5. Population-based, participant-engaged, adaptive, **targeted multicomponent** PA intervention

6. **Accelerometry (OPACH cohort) Substudy**
   - **Active Consent:** “Physical Activity Study”
   - 2350 OPACH ppt; 3 (1 week) wears during trial

[Link to Go4Life](http://go4life.nia.nih.gov/)
Centralized, Participant-Engaged, Adaptive Targeted Intervention

- **Quarterly** (Seasonal) *WHISH*ful Actions **Mailings**
  - Targeted inserts (Physical Function/Physical Activity)

- **Monthly Motivational Telephone Messages**
  - *(Outbound “Adriana” System; IVR tracking system)*

- **Monthly Emails** (~1/4 of Active Participants)

- **Website, upgraded** ([whish.org](http://whish.org)); tracking system

- **Telephone, Mail, Email contact with Staff**

- **Planned:** Smart Phone Messages, walk test, other?
Centralized, **Participant-Engaged, Adaptive, Targeted** Intervention

**WHISH ‘Light Touch’ Dynamic Intervention Model**

- **WHISH Intervention**
  - Informed by Behavioral Theory
    - Social Cognitive Theory
    - Transtheoretical Model
    - Self-Determination Theory
  - Utilizes:
    - Diverse communication channels
    - Varied information sources
    - Coping-based role models

- **Impacts Intervention Objectives**
  - Including:
    - Ongoing participant program engagement
    - Intervention targeting by Physical Function level
    - Data-driven iterative program design, based on motivational “drivers” of Physical Activity (PA) change, including:
      - Intrinsic drivers (analytic; affective frames)
      - Extrinsic drivers (social; environmental)

- **PA Increase/Maintenance**
  - Multi-component:
    - Aerobic PA (primarily walking)
    - Muscle Strengthening
    - Balance & Flexibility
    - Decreasing sedentary behavior
Understanding Your Motivation

Start on the other side. Motivation is more than willpower! There are many different motivators. We have described four of them for you. The ideas you marked on the other side of the page are grouped in colored boxes that correspond to the colored boxes below. Which strategies seem to motivate you?

Social
Being active with others, including grandchildren; getting support from friends and even competing with others.

Senses & Feelings
Being mindful of your surroundings (smells, sounds, sights), your mood and how your body feels while you are active.

What Motivates You?

Purpose & Causes
Doing activities that benefit others, your community, environment, animals, etc.

Cues & Context
Being reminded to move by cues around you and having your home, yard, etc., arranged to encourage physical activity.

Create your own strategies to help you reach your goals

MOVE MORE AND SIT LESS
Every Minute Counts

STEP TO REPLACE INACTIVE TIME...

STEP 1:
How much time are YOU inactive?

Inactive time: any time spent sitting or lying down while awake but not engaged in active movement.

Examples include:
- Reading or writing
- Watching TV
- Working at a computer
- Eating

In each box below, fill in the amount of inactive time (minutes or hours) that you spend.

**MORNING**
- Walk up and down the stairs
- Play with children or pets

**AFTERNOON**
- Go for a walk
- Do errands

**EVENING**
- Take a 2 min. stretch break

TOTAL INACTIVE TIME

STEP 2:
Find activities to replace your inactive time.

Even if you are meeting the physical activity guidelines, sitting for prolonged periods of time can compromise your health. Find ways to add regular activity into your day.

**The Talk Test: How much effort?**

The Talk Test is a great guide for figuring out how hard you are pushing yourself. As you do an activity, take note of whether you can talk or sing. Keep track of the intensity of your activities. As you slowly add effort, notice the progress you are making over time. Challenge yourself each day to include all levels of activity in your routine.

Inactive | Light | Moderate | Vigorous
---|---|---|---
Awake and relaxed while seated or lying down | Can sing and talk while moving | Cannot sing, but can still talk | Can only speak a couple of words at a time

STEP 3:
Set a goal to add active movement.

Add 30 minutes of activity to your day in large or small increments.

You can make a list of "5-minute activities", such as:
- Walking to the end of the block and back whenever you pick up the mail
- Dancing as you wash for your food in the microwave

Replace inactive sitting with light, moderate, or vigorous movement to gain health benefits. Start where you are and safely add effort. Do what you can. Take the Talk Test to find out if your activities are light, moderate, or vigorous.
WHISHful Actions
Physical Activity: The Best Medicine
Women’s Health Initiative Strong & Healthy (WHISH)
Fall 2018

Reduces pain and improves physical function in osteoarthritis of the knee and hip
Reduces risk of developing heart disease and stroke and reduces blood pressure
Improves quality of life and sleep
Reduces risk of falling
Lowers risk of developing many cancers
Reduces risk of injury if a fall does occur
Reduces fatigue during cancer treatment
Reduces feelings of anxiety and depression
Reduces risk of developing dementia and Alzheimer’s disease. Improves cognitive function.
Lower risk of death for many conditions such as cancer, heart disease, hip fracture and diabetes.

Research* shows that physical activity...

*Findings from the 2018 Physical Activity Guidelines Advisory Committee Scientific Report

Physical Activity Guidelines for Americans
2nd edition

Chapter 5. Active Older Adults

2018
Physical activity has a wide range of health benefits including...

**Cardiovascular Disease**
- The American Heart Association promotes physical activity to prevent heart disease and stroke, and to reduce blood pressure.
- Sitting less and activities that increase heart rate (such as walking or interval activity) are recommended to improve heart health.

**Cancer**
- The American Cancer Society recommends physical activity to reduce the risk of breast, colon, and other types of cancer.
- Both everyday activities and your exercise routine can be done as interval activities (below).

**Type 2 Diabetes**
- The American Diabetes Association recommends breaking up prolonged sitting every 30 min. with 3-4 min. of light activity, such as walking, to lower blood sugar.
- Regular activity reduces the risk of getting diabetes.

**Arthritis**
- The Arthritis Foundation indicates that exercise may be the single most effective non-drug treatment you can do for your body.
- Exercise eases the pain of arthritis and improves your energy level.

**Dementia**
- The Alzheimer’s Association promotes staying physically active for overall body wellness.
- Increasing blood flow to your brain is associated with lower risk of cognitive decline.

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**Interval Activity**

Interval activity (also called High Intensity Interval Training or HIIT) is a routine that switches between short bursts of increased effort, or going “all out,” and short periods of decreased effort, “easing up” or rest.

**What is it?**

**Four Reasons To Try It**
1. Increases the health benefits of activities you are already doing.
2. Gives you a more beneficial workout - in less time.
3. Preserves muscle and increases your ability to take in oxygen and produce energy.
4. Helps manage chronic conditions such as diabetes and improves cardiovascular and respiratory health.

**How do I start?**

You can do intervals with any type of activity. Your workout can include one or more different activities. Use the Talk Test to measure how much effort you are using (see insert). When you go “all out” you should be at a moderate or vigorous level.

See the insert for examples of interval activities you can try!
Physical Function (PF):
Form 151 (annual WHI)
Q 7-16 ask how health limits 10 specific activities, 3 choices:
• no, not limited at all
• yes, limited a little
• yes, limited a lot

Physical Activity Levels:
MET-hours per week (kcal/week per kg)
Form 521 (annual WHISH, incl. controls)
Q1 walking >10 min without stopping, outside the home,
• Frequency (X/week)
• Duration (minutes)
• Usual Speed

Assigning participants to Lower, Middle and Higher PF/PA groups
1. Grouped participants by PF: <65, 65-75, 76-89, ≥ 90 then by PA levels (METS-hours per week): 0, 1, 2, ≥3

2. Assigned all women in lowest PF with 0 METs to “Lower” PF/PA “target group”. Assigned all women in highest PF with ≥3 METs to “Higher” PF/PA. And, assigned women with PF of 65-75 with ≥ 3 METs to “Middle” PF/PA “target group.”

3. Randomly assigned women with PF ≤75 (except above participants) to “lower” or “middle” PF/PA. Randomly assigned women with PF ≥76 (excluding above participants) to “middle” or “higher” PF/PA.

| Table 5. Characteristics by Targeted Intervention Group. |
|---------------------------------|----------|----------|----------|
| Group                          | Low      | Generic  | High     |
| N                              | 7064     | 6122     | 6004     |
| Age (ave (sd))                 | 81.0 (6.0)| 79.0 (5.8)| 76.9 (5.2)|
| Current Age                    |          |          |          |
| <77                            | 24%      | 32%      | 44%      |
| 77-82                          | 38%      | 32%      | 30%      |
| >82                            | 17%      | 31%      | 52%      |
| PF (ave (sd))                  | 40.7 (20.5)| 70.4 (20.0)| 91.7 (6.4)|
| Race/ethnicity                 |          |          |          |
| White                          | 37%      | 32%      | 31%      |
| African-Amer                   | 43%      | 30%      | 27%      |
| Hispanics                      | 31%      | 34%      | 35%      |
| Asian/PI                       | 29%      | 35%      | 36%      |
**Do Interval Activity…**

**Do Interval Activity…**

**Do Interval Activity…**
Observed self-reported PA level among all WHISH participants who returned Form 521 (N ~ 40,000).

All differences are substantial in size, highly significant (p<0.01 for all) and mostly increasing over time.
Power calculations

Using:
- Observed physical activity differences between arms
- Observed combined arms event rates
- Observed relation between physical activity and CVD from NHLBI-funded OPACH study (LaCroix, PI)

**WHISH** will have 4 years of follow-up as of Jan 1, 2020.

- Longer follow-up needed to definitely test the **WHISH** hypothesis
- **WHISH** Intervention may have beneficial effects on other aspects of CVD aging

**Renewal Specific Aims**

1° Continue **WHISH** Intervention and extend follow-up to a minimum of 8 years.

2° Examine **WHISH** intervention effects on key markers related to healthy CVD aging including physical function, sleep and depressive symptoms.

Exploratory: Conduct pilot studies examining **WHISH** intervention effects on novel biomarkers indicative healthy CVD aging (e.g., NT-proBNP, high sensitivity Troponin T)
What we learned about YOU from the last survey!

Your interests
We asked about future topics of interest. You responded:

- 57% said: Latest news on activity and aging
- 40% said: Home exercise tips or videos
- 39% said: Improving mood and motivation

Based on your responses, we now include:

- A News & Research feature (newsletter & website)
- Home exercise inserts and videos with participants demonstrating simple activities you can do at home
- Participant stories and messages for inspiration

Your motivation
We asked “What motivates you to get up and move when you don’t feel like it?”

Common words in your responses included:

- Motivation
- Water aerobics
- Exercise
- Morning
- Choice
- Age
- Steps
- Family
- Husband
- Balance
- Feeling
- Shopping
- Pet

Describe your abilities now
Your responses:

- Have some difficulty or am unable to
- 40% said: Stand on one foot without support
- 45% said: Walk for 30 minutes at any pace without stopping
- Have little or no difficulty
- 70% said: Get up and down from a low chair
- 62% said: Walk for 10 minutes at a brisk pace

We’ve created exercise handouts and videos for all ability levels. Visit the website: whish.org

Your aches & stiffness
Where do you have stiffness that interferes with your daily activities? Your responses:

- 44% said: Back
- 39% said: Knees
- 31% said: Hips

Take a look at the enclosed insert for stretches that will improve flexibility and ease stiffness.

Helen, 74, CA

Arthritis affects nearly half of adults older than 65. It is often painful and can cause fatigue. Research shows that regular physical activity, when done safely, reduces pain and improves sleep and physical function. Small amounts of physical activity can produce large benefits.

- Try low impact activities like walking, water aerobics, gardening, tai chi, stretching and muscle-strengthening exercises for 20-30 minutes/day.
- Split the activities into smaller 10-minute sessions throughout the day if that is less tiring.

Sources: 2018 Physical Activity Guidelines, Arthritis Foundation
Balance, Strength & Inspiration

WHISH Website Prize Winners

In the spring WHISHful Actions newsletter we had a contest to encourage you to visit the Home Exercises page on the WHISH website, whish.org. Below are three of the prize winners who viewed the home exercise videos and other resources. We asked the prize winners how they use the website and how they stay active.

What I like best about the Home Exercises page is that there are new options to add to my home exercise routine or swap out with older exercises I’ve done for years. It never gets old or boring. It’s easy to find exercises that challenge me without over-exertion or strain on my body.

Alice, 95, GA

As a senior with “senior problems,” it was easy to identify with other participants and know that I was not alone. I do several physical activities to alleviate aches and aches.

Marilyn, 79, NY

What do you do to stay active and improve the quality of your life?

When I see the WHISH exercises, I am reminded of activities I can do that I might easily forget. I go to the fitness center where I live three times a week. I get on the bike, do leg lifts, call stretches, some arm exercises, lift 5 pounds, and do other machines to exercise the back of my legs.

The WHISH site provides additional strengthening and stretching activities that I added to my daily routine. It also provides encouragement when I am just ‘tired.’ Minnie, 80, NV

Annual Check-Up

Did you know that a yearly Wellness Visit is usually covered by Medicare? [website: www.medicare.gov/coverage/yearly-wellness-visit]. Speak with your doctor about any health concerns you have in the following areas related to fall prevention:

VISUAL impairment can double your risk of falling compared to a person with no vision problems. Have your eyes checked and glasses updated. If you have low vision, many programs and devices can help.

HEARING loss may increase your risk of falls because you are less aware of your surroundings. Also ask your doctor about your inner ear which also plays a role in balance, posture, and coordination.

MEDICATIONS could affect your thinking, or make you tired, dizzy, or light-headed when you get up. Ask about possible side effects or drug interactions. Discuss any health conditions associated with your daily activities, such as joint pain, breathlessness, numbness and tingling in your hands or feet.

PHYSICAL FUNCTION. A lack of physical activity can weaken your muscles. Not doing strength and balance exercises further increases your chances of falling. Try to get up and about as much as you can.

NEWS & RESEARCH

Good news from WHISH research (OPURCH). There is even more evidence that light physical activity (such as walking at about 2 mph, washing dishes, and doing laundry) reduces the risk of new cardiovascular disease events in older women.

A large Harvard study (The Women’s Health Study) found that older women (ages 65-101 yrs.), with an average of 4400 steps/day lived longer than those who walked 2700 steps/day. Women who increased the amount of walking and light activity up to 7500 steps/day showed even greater benefit.

When it comes to physical activity, all movement throughout the day counts.

Sources: JAMA Network Open, 2019; JAMA Internal Medicine, 2019. The full articles are posted on the WHISH website, whish.org.
WA #19 – Winter 2020  Staying Active in Winter

Think Differently About “Exercise”
Make the most of your day

What does it mean to be physically active?
Moving more and sitting less is what being more active means. Being physically active doesn’t just mean exercising at a gym or taking a class. Daily activities that have you moving at home such as running errands, cleaning the house, doing yardwork, and caring for chores count as activity too. Do as much as you can. You will benefit from all kinds of activities that help you sit less.

What activities do you enjoy?
Activities that make you feel good. You’re also more likely to stick!

Are you a priority too?
Taking care of your health isn’t just about getting things done. Going for a walk or doing yard work, changing your mood, and reducing your stress feel better.

The Ta-Did List
Focusing on your daily To-Do list. What you’ve done - it might help your day with a Ta-Did list of what you’ve done.

A Well-Rounded Routine
Combine aerobic, strength, and flexibility activities into one session (a ‘circuit’) or break up your routine into shorter sessions throughout the day or week. Take a look at the newsletter insert for more ideas!

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<tr>
<td>Aerobics</td>
<td>2x week</td>
</tr>
<tr>
<td>Chores around the house</td>
<td>daily</td>
</tr>
<tr>
<td>Hiking or using the stairs</td>
<td>daily</td>
</tr>
<tr>
<td>Resistance band or hand weight exercises **</td>
<td>weekly</td>
</tr>
<tr>
<td>Balance exercises, yoga, or Tai Chi</td>
<td>weekly</td>
</tr>
</tbody>
</table>

The WHISH Calendar is an easy ** Want a new WHISH Resistance Band? Contact the WHISH staff - we’ll send you one!
## Staying Active in Winter

### Target Group

**LOWER** Target Group

### Well-Rounded Routines

For a well-rounded routine, combine aerobic, strength and flexibility activities into one session or break up your exercises into shorter sessions throughout the day. Try this WHISH routine next time you are searching for some physical activity inspiration!

### Aerobic

Take a 30 minute walk. You can break this up into three 10 minute bouts.

For a challenge, try walking at a faster pace, uphill, or up and down a set of stairs using a handrail for support.

### Strength

Practice the resistance band exercises described on the back of this insert. You can find more strength exercises in your Go4Life book on pages 44-62.

For this exercise: Hold your band, palms up. Gently squeeze your shoulder blades back toward your spine. Pull your hands away from each other with your elbows by your side.

### Balance & Flexibility

Maintain and improve your balance by practicing a single line walk. Take 10 steps forward and 10 steps back.

## Resistance Band Exercises

### Middle Target Group

### Arm Curl

**Step 1:**
Stand on your WHISH resistance band with your feet shoulder-width apart and holding on to both ends.

**Step 2:**
Bring your hands (palms inward) toward your shoulders by bending your elbows, pulling up on the resistance band.

**Step 3:**
Slowly straighten your arms to return to starting position. Repeat steps 2-3, eight times.

### Resistance Band Squats

**Step 1:**
Stand on your WHISH resistance band with your feet shoulder-width apart. Hold the ends of the band with your elbows bent at 90 degrees. Lift your legs so your hips and knees are at 90 degree angles.

**Step 2:**
Bend your knees while keeping your elbows tight.

**Step 3:**
Slowly return to starting position. Repeat steps 2-3 twice.

### RESISTANCE BAND EXERCISES

**To prevent injury and get the most benefit while doing resistance band exercises, be sure to avoid fast and jerking movements. Do these exercises at a slow, smooth and controlled pace.**

### HIGHER Target Group

### Squat and Reach

**Step 1:**
Stand on your WHISH resistance band with your feet shoulder-width apart and pointing forward. Hold onto the resistance band with both hands.

**Step 2:**
Bend your knees as if you are going to sit back and into a chair while extending your arms out in front of you. The resistance band should make this movement challenging. Keep your back straight and tummy tight.

**Step 3:**
Slowly return to standing position. Repeat steps 2-3, ten times.

### Lying Leg Press

Place a folded towel beneath your tailbone to prevent back strain.

**Step 1:**
Lying on your bed or mat, loop your WHISH resistance band around your feet, and hold the ends of the band with your elbows bent at 90 degrees.

**Step 2:**
Straighten your legs while keeping your elbows bent at 90 degrees.

**Step 3:**
Slowly bend your knees to return to starting position. Repeat steps 2-3, ten times.
WHISHful Actions
Preserve Your Reserve
Women's Health Initiative Strong & Healthy (WHISH)
Spring 2020

Your Functional Capacity

Daily activities such as getting dressed, housework, shopping, and other activities outside the home require movements like reaching, lifting, turning, standing up, walking, and stair climbing. These movements depend upon having enough endurance, strength, balance and flexibility in your physical reserve to function safely, independently and without getting too tired.

Retain your functional capacity by establishing a well-rounded routine that builds and maintains your endurance and strength. Preserve your reserve!

Inside This Issue

- Assess your functional capacity with a simple test you can do at home
- Discover your strengths and areas where you might be able to improve
- The enclosed insert includes exercises you can use to maintain or improve your functional fitness no matter how active you currently are.

Let's Get Started With Your Assessment

There are six parts to the assessment. Each part focuses on a different functional ability. Refer to the back page for more details.

#1 Chair Sit-and-Reach
1. Sit on a chair with one leg straight out in front, toes pointed to the ceiling, and the other leg bent with foot flat on the floor.
2. With one hand on the other, reach to your toes only as far as you comfortably can. Hold for two seconds.
3. Measure or estimate the distance from your fingertips to your toes, then switch to the other leg. Do the test twice and use the best score.

My Score: ________ (in inches)

#2 Sit to Stand
1. With your chair against a wall, sit with your feet hip-width apart.
2. Without using the arm rests, stand up fully, then sit down.
3. Count how many times you can stand up and sit back down in 30 seconds. If you need to, it’s okay to use the arm rests to stand. Just make a note next to your score.

My Score: ________ (how many times)

#3 Arm Curl
1. Sit on a sturdy chair, back straight and feet hip-width apart. Hold a 2 to 5-pound object in your dominant hand (for the test, we’re only measuring your dominant arm). You can also use a resistance band anchored under your feet to place a weight.
2. Bend only at the elbow, bring the weight or band toward your shoulder, palm facing your shoulder.
3. Lower the weight back down to your side. Repeat as many times as you can in 30 seconds. Use a smooth, steady motion.

My Score: ________ (no. of arm curls)
**How will this self-assessment benefit you?**

Many older adults function very close to their maximum ability when doing activities such as getting out of a chair or climbing stairs. Identifying your functional weak spots and addressing them early could help prevent falls and loss of mobility later on.

**#4 Back Scratch**

1. Stand tall. Reach one hand over your shoulder and down the middle of your back.
2. Reach other hand around your side and up the middle of your back. Without causing pain, try to bring your hands together.
3. Look in a mirror and estimate how far apart your fingertips are from each other.

My Score: __________ (in inches)

**#5 8-Foot Up and Go**

1. Place a chair at the end of a hallway and measure 8-feet from the chair. Mark the distance with a cone or piece of tape.
2. Sit in the chair. Time how long it takes you to stand up, walk 8 feet, turn around, walk back to the chair and sit down. Perform the test twice and use the best score. If using a cane or walker, make a note of it next to your score.

My Score: __________ (in seconds)

**#6 2-Minute Step Test**

1. Place a piece of tape on the wall at about the same height as your mid-thigh (midway between your knee and top of your hip).
2. Stand next to a wall or chair. Mark in place lifting your knees to the height of the tape on the wall.
3. Count how many times your RIGHT knee reaches the height of the tape within the 2-minute period.

My Score: __________ (how many times your right leg only)

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**What the assessment measures & how it relates to daily life**

<table>
<thead>
<tr>
<th>Chair Sit &amp; Reach</th>
<th>Sit to Stand</th>
<th>Arm Curl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower body flexibility; better posture, walking, getting in &amp; out of a chair, using stairs; reducing falls.</td>
<td>Lower body strength; getting up from a chair, using stairs; reducing falls.</td>
<td>Upper body strength; household chores, lifting, carrying things.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Back Scratch</th>
<th>8-ft. Up &amp; Go</th>
<th>2-min. Step Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper body (shoulder) flexibility; bathing, dressing, grooming, reaching.</td>
<td>Agility and balance; quick maneuvering; getting up more easily.</td>
<td>Endurance, lower body strength; walking, shopping, nightseeing.</td>
</tr>
</tbody>
</table>

**Normal range for assessment scores: Women (by age group)*

The normal range is the score for the middle 50% of women in each age group.
Your personal progress is what matters most, however - not how you compare to other women your age. Reassess yourself in a few months. How are you doing?

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>70-74</th>
<th>75-79</th>
<th>80-84</th>
<th>85-89</th>
<th>90-94</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair Sit &amp; Reach ** (inches)</td>
<td>0 - 1</td>
<td>0 - 1.5</td>
<td>0 - 2</td>
<td>0 - 2.5</td>
<td>0 - 4.5</td>
</tr>
<tr>
<td>Sit to Stand (no of stands)</td>
<td>10 - 15</td>
<td>10 - 15</td>
<td>9 - 14</td>
<td>8 - 13</td>
<td>4 - 11</td>
</tr>
<tr>
<td>Arm Curl (no. of curls)</td>
<td>12 - 17</td>
<td>11 - 17</td>
<td>10 - 16</td>
<td>10 - 15</td>
<td>8 - 13</td>
</tr>
<tr>
<td>Back Scratch ** (inches)</td>
<td>0 - 4</td>
<td>0 - 5</td>
<td>0 - 5.5</td>
<td>1 - 7</td>
<td>1 - 8</td>
</tr>
<tr>
<td>8-Ft. Up and Go (seconds)</td>
<td>4.9 - 7.1</td>
<td>5.2 - 7.4</td>
<td>5.7 - 8.7</td>
<td>6.2 - 9.6</td>
<td>7.3 - 11.5</td>
</tr>
<tr>
<td>2-Minute Step Test (no steps right leg)</td>
<td>60 - 101</td>
<td>60 - 100</td>
<td>60 - 91</td>
<td>55 - 85</td>
<td>44 - 72</td>
</tr>
</tbody>
</table>

* Adapted from Jones and Kiji. Measuring functional fitness of older adults. 2002.
** This is the distance (in inches) between your fingers and your toes (Chair Sit & Reach test), or your fingertips on one hand and the fingertips on your other hand (Back Scratch test) if they don’t touch or overlap. Your score is even better if you are able to reach beyond your toes or the fingertips of your other hand.

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**Contact Us**

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Phone: (844) 469-4474 | "Adriana": (844) 320-6683 | whish.org | whish-team@stanford.edu
Maintain Your Mobility

These exercises will help maintain or improve your score on the... 

1. **BACK SCRATCH** to increase flexibility in your shoulders and upper arms. Use this exercise in your weekly warm-up. (Spring 2015)
   - Hold your elbow on your shoulder, then pull your arm across your chest. Repeat 3 times. 
   - "Minutes Test" to improve your endurance and strengthen your legs. (Summer 2015)
   - Dig between your arm and elbow. Step on one leg and your right hand. Stand up to the same arm with your right leg. 
   - Step your back down on a chair with your left leg. Repeat 3 times.

2. **5-UP and 60-60** to improve your agility and balance. (Fall 2015)
   - Hold one end of a towel in your right hand. Bend your right knee and stretch it on your back. 
   - With your left knee, stretch and contract your left leg. Repeat 3 times.

3. **Shoulder Stretch**
   - "Minutes Test" to improve your endurance and strengthen your legs. (Summer 2015)
   - Dig between your arm and elbow. Step on one leg and your right hand. Stand up to the same arm with your right leg. 
   - Step your back down on a chair with your left leg. Repeat 3 times.

4. **Cross Step** (Spring 2018)
   - Hold one end of a towel in your right hand. Bend your right knee and stretch it on your back. 
   - With your left knee, stretch and contract your left leg. Repeat 3 times.

5. **MINUTE TEST** to improve your endurance and strengthen your legs. (Summer 2015)
   - Dig between your arm and elbow. Step on one leg and your right hand. Stand up to the same arm with your right leg. 
   - Step your back down on a chair with your left leg. Repeat 3 times.

6. **Cross Step** (Spring 2018)
   - Hold one end of a towel in your right hand. Bend your right knee and stretch it on your back. 
   - With your left knee, stretch and contract your left leg. Repeat 3 times.

These exercises will help maintain or improve your score on the... 

1. **SHIRT ON AND BACK ON** to lower body fluidity. (Fall 2015)
   - Lie on your back, keep your legs straight, then pull your right leg towards your chest. 
   - Slowly lower your right leg towards your chest, and repeat 3 times on each side.

2. **SET TO STAND** for lower body core strength. (Fall 2015)
   - Lie on your back with your legs bent. Pull your right leg towards your chest, and repeat 3 times on each side.

3. **ARM CLEG** for upper body strength. (Fall 2015)
   - Hold your right arm and elbow, then pull your right arm towards your chest. 
   - Repeat 3 times on each side.

These exercises will help maintain or improve your score on the... 

1. **SHIRT ON AND BACK ON** to lower body fluidity. (Fall 2015)
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   - Repeat 3 times on each side.
A 10-question COVID-19 survey was created & sent from REDCap (a HIPAA-compliant electronic data capture database), via email to 5,036 participants who have subscribed to the WHISH Monthly Email Campaign. (May 4)

Data are returned to the REDCap database for each individual ppt ID. >1800 had already replied by May 6.
to Prevent Heart Failure 1R01HL130591-01 (PI: Charles B Eaton)

Primary Objective: To evaluate the effect of the WHISH Physical Activity Intervention on incident and recurrent Heart Failure*, HF with preserved Ejection Fraction (HFpEF) and HF with reduced EF(HFrEF) and CVD mortality in women with antecedent HF, and perform dose-finding analyses in the WHISH PA trial of ~49,000 Women aged 65+ at baseline.

* all HF hospitalizations and CVD death in those with antecedent HF

The imbedded accelerometer study allows for a dose-finding analysis regardless of the RCT results, using newly developed MET–equivalent indices for older women.

- SilenT Atrial Fibrillation Recording Study (WHISH-STAR) 1R01HL136390-01 (PI: Marco V Perez)

Primary Objective: To measure the effect of the WHISH PA intervention on clinical and asymptomatic forms of atrial fibrillation using loop recorders