Lesson Objectives
After this lesson, participants will:

- Become acquainted with the StrongWomen Program
- Have a greater understanding of the benefits of strength training
- Gain techniques to develop and follow a strength training program

Materials Needed for the Lesson

- The StrongWomen Program: 14 Years of Strengthening Extension Outreach Coversheet
- The StrongWomen Program: 14 Years of Strengthening Extension Outreach Evaluations
- 2008 Physical Activity Guidelines for Americans (optional)
- StrongWomen Exercise Program Handout for each participant
- Examples of weights/equipment (may include: dumbbells, resistance bands, All Pro leg weights)
- Registration information for a local StrongWomen Program (optional)

Teaching Instructions

- Read pages 7-9 and 21-34 of the 2008 Physical Activity Guidelines for Americans
- Review and prepare to lead the balance activities, warm up exercises and stretches
- *Please complete and submit The StrongWomen Program: 14 Years of Strengthening Extension Outreach Coversheet.
- *Submit a completed The StrongWomen Program: 14 Years of Strengthening Extension Outreach Evaluation.

* Note to FCH Faculty and Staff: If sufficient data is collected, a collective impact statement for this lesson would be created and those who provided data will be included as a collaborator.

Welcome and Introduction:

**SAY ALOUD:** Hello! Welcome to today’s FCE Lesson on The StrongWomen Program: 14 Years of Strengthening Extension Outreach. We are going to start our lesson out with a balance activity. Like many things in life, balance is a skill that can decline with age, especially if it isn’t practiced. The American College of Sports Medicine (ACSM) recommends adults do balance exercises 2-3 times per week to maintain balance and prevent falls. We are going to start with a simple exercise you can build into your everyday routine. It is simply standing on one foot!

Invite participants to get up from their chairs and practice standing on one foot and alternating, using their chair for balance. Explain the exercise below and have participants practice alternating legs and holding their balance for 30 seconds per leg.
**Exercise**: Stand on One Foot  
**What You Need**: Sturdy chair

**SAY ALOUD**: You can do this exercise while standing in line at the grocery store, in the bathroom while brushing your teeth, in the morning while making coffee, during commercials on TV, or while you talk on the phone. For an added challenge, you can modify the exercise to improve your balance by closing your eyes and then adding turning your head from side to side with eyes closed once you get better.

Stand on one foot behind a sturdy chair, holding on for balance. Hold position for 30 seconds. Switch to other leg and hold for 30 seconds. Repeat twice with each leg.

**ASK**: When do you think you could incorporate balance exercises into your everyday routine? *Have participants share their answers aloud.*

**SAY ALOUD**: Many older adults struggle with activities like the one we just did. If you weren’t able to comfortably stand on one leg for at least 30 seconds, this is a good indicator that your balance could use some work and you are at a greater risk of falling.

Jim Miller, writer for The Huffington Post and SavvySenior.org explains that

“...every year more than one in three people age 65 years or older fall, and the risk increases with age. A simple fall can cause a serious fracture of the hip, pelvis, spine, arm, hand or ankle, which can lead to hospital stays, disability, loss of independence and even death.”

Miller goes on to explain how loss of balance can lead to a

“vicious cycle of inactivity--you feel a little unsteady, so you curtail certain activities. If you’re inactive, you’re not challenging your balance systems or using your muscles. As a result, both balance and strength suffer. Simple acts like strolling through a grocery store or getting up from a chair become trickier. That shakes your confidence, so you become even less active.”

It was this vicious cycle that researcher and writer Miriam Nelson, Ph.D. and colleagues at Tufts University sought to interrupt with their studies on balance and strength training. Nelson began her research in the late 1980s with an unlikely group of men and women who ranged in age from 86-96.
Nelson explains in her book “Strong Women Stay Young,”

“after 8 weeks of strength training the frail elderly men and women increased their strength by an average 175 percent...balance scores rose by 48 percent...the results were truly remarkable!”

Nelson published her results in the Journal of the American Medical Association in 1990 and penned her first of many books in 1997. The story goes that Nelson was presenting her research at a National Extension Association Conference and a couple of Extension Agents approached her explaining that they would love to work with her to develop a community-based program that Extension Agents could take back to their states and implement. Nelson obliged and in 2003 the first StrongWomen Leader Trainings took place.

Since then over 2,500 leaders have been trained throughout the United States and Canada. Oregon has programs in 12 counties, many of which have been active for over a decade thanks to the early adopter Extension Agents from the state who brought StrongWomen to their communities.

This is a perfect example of how the Land Grant Extension and Outreach system is intended to work. When Abraham Lincoln passed the Morrill Land Grant Act in 1862, he envisioned a way for America’s middle class to access higher education. At the time, only men attended college and they went for medicine, law, and theology. Lincoln wanted to make education accessible and useful.

The modern day Extension Service still works to translate the research done on University campuses to community-based programs, just like StrongWomen.

**Introduction to StrongWomen**

**SAY ALOUD:** We’ll now go into a bit more depth about the StrongWomen Program and why strength training is so important.

Miriam Nelson has conducted numerous research studies over the years at Tufts University and the resulting books and programs include “Strong Women Stay Young” and “Strong Women Strong Bones.” Nelson’s work gets to the heart of strength training and its importance in maintaining, improving and promoting health.

The StrongWomen program is a national evidence-based community exercise program. Volunteer leaders are trained by a StrongWomen Strength Training Leader. These leaders, often in conjunction with their local Oregon State University Extension Faculty member, organize local programs often held at churches, senior centers, Extension Offices or other community organizations. These programs are held over the course of 12 weeks, meeting two (2) or three (3) times a week.

*If you have an upcoming StrongWomen program or leaders training you are promoting, please share details here.*

*Provide a copy of the StrongWomen Exercise Program Handout for each participant.*
Warm Up

**SAY ALOUD:** The warm up is a very important part of any physical activity regime. The warm-up gently prepares the body for exercises by gradually increasing the heart rate and circulation. This process loosens the joints and increases blood flow to the muscles, lowering the chance of a muscle pull or joint injury.

I’m going to walk you through a warm up routine for the StrongWomen Program.

*Demonstrate each warm up first*

Exercise: March in Place  
**What You Need:** Sturdy Chair (needed by some)

**SAY ALOUD:** Marching in place is a great way to warm up at the start of strength training exercises.

*Starting Position*  
1) Slowly stand, holding onto a supportive railing or the back of a chair or bench.  
2) Hold on with both hands if you feel unsteady.  
3) Alternate lifting knees up and down, as if marching in place.  
4) March in place for 3 to 5 minutes.  
5) Gradually try to lift knees higher and/or march faster toward the end.

Exercise: Wide Leg Squat  
**What You Need:** Sturdy Chair

**SAY ALOUD:** This simple exercise will strengthen the muscles of the front, back and inner thigh, as well as the buttocks, which makes it especially important for the hipbones. It also helps improve balance.

*Starting Position*  
Stand with your feet slightly greater than shoulder-width apart, about 6-8 inches in front of a chair with your arms crossed in front of your chest, shoulders relaxed.

*The Move*  
1) Leaning slightly forward at the hip, aim your buttocks into the chair and slowly lower yourself back to the seated position. Keep your chest lifted and your back, neck and head in a straight line.  
2) Pause for a breath in the seated position.  
3) Leaning slightly forward, stand up slowly, making sure to keep your knees directly above your ankles. As you do this, push up from your heel through your lower legs, thighs, hips and buttocks, which will help you keep your knees from moving in front of your feet.
Reps and Sets
Complete 10 repetitions for 1 set

Exercise and picture from The StrongWomen Program Tool Kit

What is Muscle Strengthening (strength training)?

SAY ALOUD: Muscle strengthening activities are those that require our muscles to do more work than they are used to doing during daily activities by holding against an applied force or weight.

ASK: What are some examples of strength training activities?
Have participants share their answers aloud.

Weight Lifting (free weights & machines)
- Resistance Bands
- Calisthenics (using body weight for resistance)
- Carrying Heavy Loads (groceries)
- Climbing Stairs
- Heavy Yard Work (digging, lifting, hoeing)
- Some Yoga or Tai Chi exercise

Muscle strengthening and aerobic exercise are both forms of physical activity. A combination of both muscle strengthening and aerobic exercise for at least 150 minutes a week provides the most health benefits.

ASK: Think back over the last week, how many minutes of physical activity did you complete?

When you bring the group back from discussion, ask if the participants are currently meeting the goal of 150 minutes per week of physical activity.
**SAY ALOUD:** Although it is important to note both muscle strengthening and aerobic exercise are important to include in your weekly physical activity plan, today’s lesson will focus on muscle strengthening.

**ASK:** What do you believe are some of the benefits of regular strength training?

**Benefits**

**SAY ALOUD:** Muscle strengthening activities provide additional benefits not found with aerobic activity. Including:

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Details</th>
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<tbody>
<tr>
<td>Arthritis Relief</td>
<td>Muscle strengthening can assist with pain management and increases quality of life for those suffering from arthritis.</td>
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<tr>
<td>Improved Balance</td>
<td>Regular muscle strengthening not only increases functional ability but improves balance and reduces falls.</td>
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<tr>
<td>Increased Bone Strength</td>
<td>As we age, our bone density decreases leading to breaks and fractures. This decline can be slowed through regular muscle strengthening activities.</td>
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<tr>
<td>Supports Weight Control</td>
<td>Building muscle supports weight control, as people with more muscle mass have a higher metabolic rate.</td>
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In addition, muscle strengthening has been shown to decrease depression, increase quality of sleep, and improve appetite and glucose control.

**Framework to Develop Strength Building Program**

**SAY ALOUD:** The 2008 Physical Activity Guidelines for Americans provides a comprehensive guide, which was created to provide research-based recommendations for different populations. The information I will share about developing a strength building program has been taken from this guide (*hold up a printed copy and pass around if available*). You may access this guide for free at Health.gov. This guide has developed physical activity framework for different populations from young children to older adults. Today, I will highlight the guidelines which pertain to two different populations of adults in regards to strength building exercises.

**Active Adults**

**SAY ALOUD:** These guidelines pertain to most men and women ages 18-64. However, there are specific guidelines for women during pregnancy and postpartum, as well as adults with disabilities and select chronic conditions.

Adults aged 65 and older, who are fit and are not limited from chronic conditions, may follow the Active Adults guidelines.
Active Older Adults

**SAY ALOUD:** These guidelines are focused on adults ages 65 and older who suffer from one or more chronic conditions. This population will have a great deal of difference in their ability; therefore, the guidelines support active older adults selecting activities based upon their ability.

The following information is relevant to both Active Adults and Active Older Adults:

| Frequency          | 2-3 days per week, on alternating days  
|--------------------| (e.g. M,W,F or Tu,Th,Sa — not back-to-back days) |
| Duration           | Although there is no specific recommendation for time, you should aim to work all major muscle groups until it is difficult to complete another repetition. |
| Muscle Groups      | Legs, hips, chest, back, abdomen, shoulders and arms |

**Stretching**

**SAY ALOUD:** Stretching after your workout can help reduce your pain and stiffness, and increases your flexibility and range of motion. It can be tempting to skip these stretches as you go back to your daily activities, but this is one of the most important parts of ensuring you get the most benefit from your physical activity program.

I’m going to walk you through two of the stretches of the Strongwomen Program.

**Demonstrate each stretch first**

**Exercise:** Hamstring & Calf Stretch  
**What You Need:** Sturdy chair

1) Stand facing a sturdy chair.  
2) Slowly bend forward at the hip, keeping your legs straight without locking your knees. Rest your hands on the seat of the chair with your elbows slightly bent, feeling a stretch in the back of your upper and lower leg. Keep your back flat.  
3) Hold stretch for a count of 20-30 seconds.
**Exercise:** Chest & Arm Stretch  
**What You Need:** NA

1) Stand with your arms down by your side.
2) Extend both arms behind you and clasp your hands together. Make your arms as straight as possible before lifting them up behind you as high as possible. Keep your chest forward and shoulders back during the stretch.
3) Hold the stretch for a count of 20-30 seconds.

*Exercise and picture from The StrongWomen Program Tool Kit.*

**Closing**

**SAY ALOUD:** Strength training is an important and major piece of a physical activity regimen, but it is not the only element. The American College of Sports Medicine recommends a weekly balance of cardiorespiratory, strength, flexibility and balance exercises. So, if you are walking, keep it up! However, the goal is to include strength training to your weekly physical activity regime two (2) to three (3) time per week.

*Include information about local strength training resources and programs if available.*

*Ask participants to complete the voluntary evaluation.*
References


http://origins.osu.edu/article/democratizing-american-higher-education-legacy-morrill-land-grant-act

Inspiration

Never Leave the Playground: https://www.google.com/#q=never+leave+the+playground+youtube

23 ½ Hours: https://www.youtube.com/watch?v=aUaln56H1Go

Developed by Jamie Davis and Lauren Kraemer, OSU Extension Family and Community Educators