



Healthy Aging through Community and Exercise: A Case-Study of Strong Women Programs in the Columbia River Gorge

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Oregon State
University



What chronic diseases
can regular physical activity
help to reduce?

What are some
additional benefits
of regular physical activity?

Strong Women Program History & Development

- Developed at Tufts University by Dr. Miriam Nelson
- Targeted mid-life and older women who were at greater risk of osteoporosis and other co-morbidities.
- Dr. Nelson originally struggled to get IRB approval to give elder women weights.
- Program disseminated through Extension Service nationwide.

LIFTING WOMEN TO BETTER HEALTH



STRONGWOMEN



STRONG WOMEN MISSION

To increase the number of women participating in safe and effective strength training programs throughout the United States and abroad.



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STRONG WOMEN OBJECTIVE #1:

To provide educational materials and training to new leaders to help them successfully implement the StrongWomen Program.



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STRONG WOMEN OBJECTIVE #2:

To facilitate implementation of the StrongWomen Program in community settings where middle-aged and older women come together.



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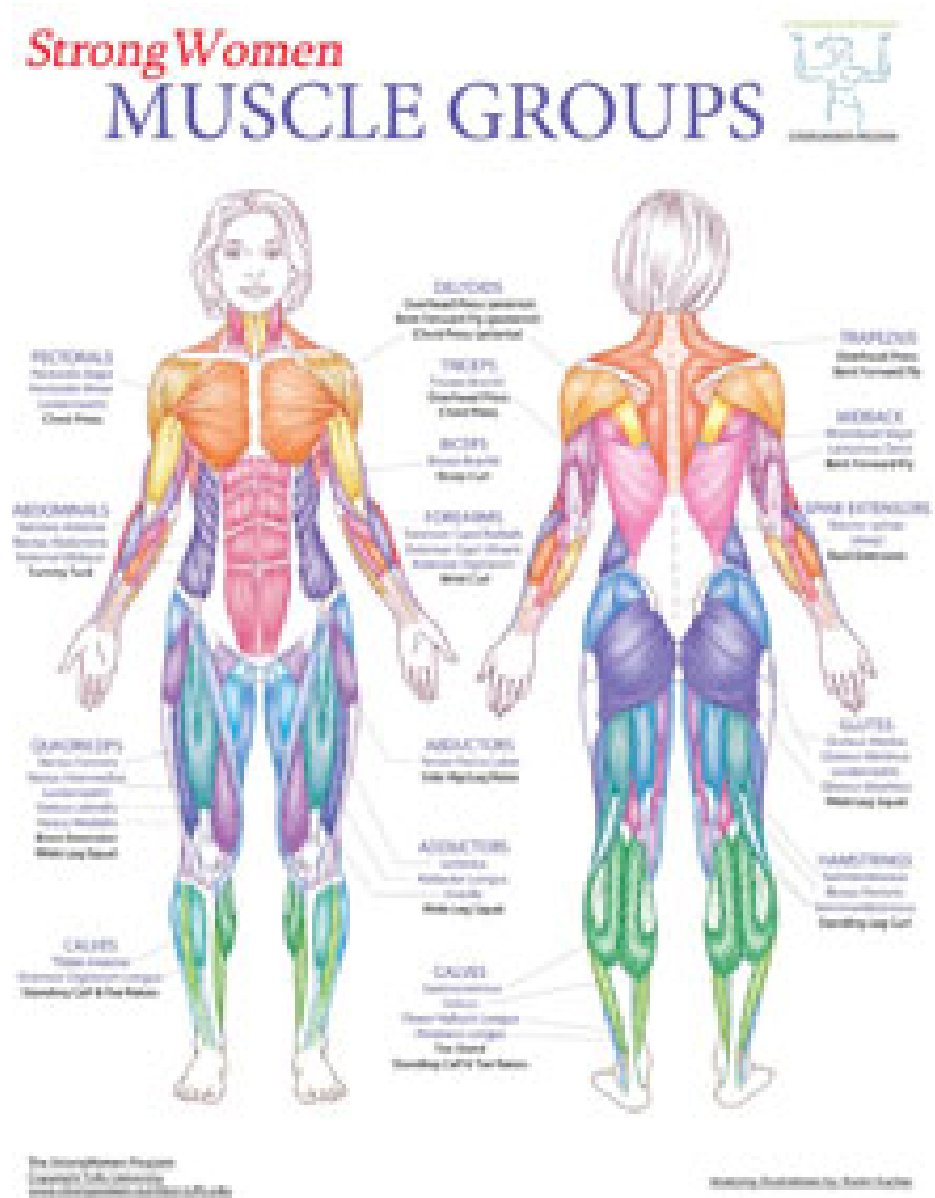
STRONG WOMEN OBJECTIVE #3:

To improve the health and well-being of middle-aged and older women by increasing access to structured, safe, and effective strength training programs.



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Strong Women
Strength Training
Exercises are
designed to work all
of the major muscle
groups.



Two Similar but Different Programs:

StrongWomen Stay Young

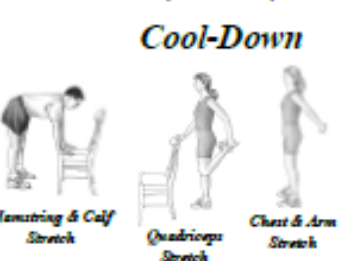
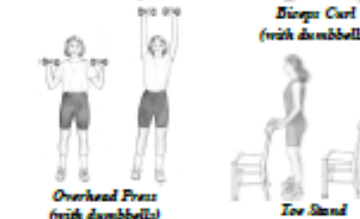
- Can be done seated or standing.
- Utilizes leg weights and dumbbells to work all major muscle groups.
- Better for beginners

StrongWomen Strong Bones

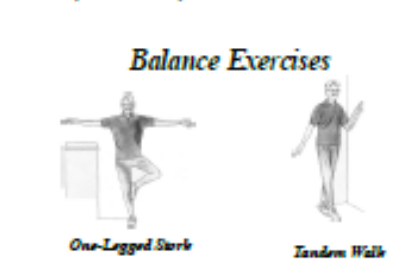
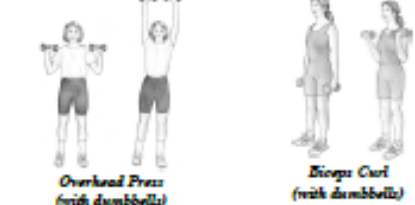
- Incorporates some floor exercises.
- Utilizes leg weights and dumbbells to work all major muscle groups.
- Assists with progression.

Strong Women Exercise Programs

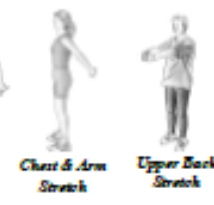
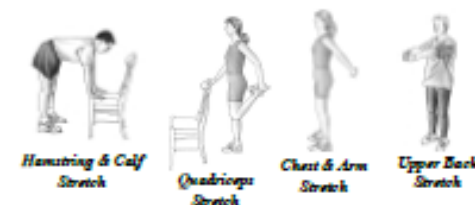
Strong Women Stay Young



Strong Women, Strong Bones



Cool-Down



Balance Exercises



Context of Aging in Rural Communities

- Growing demographic of older adults, especially in rural communities
- Rural communities lack exercise facilities; lack of transportation makes it difficult to access opportunities; rural communities are frequently less walkable
- Gyms & fitness centers can be intimidating: machines, young/fit people



Importance of Strength Training for Older Adults

- Strength training recommended for all adults.
- Percent of older adults strength training ranges from 7%-17% depending on demographics
- Consistent, long-term participation in StrongWomen vs. high levels of attrition in other programs or at a gym
- Improvement of functional abilities



American College of Sports Medicine:
Cardiorespiratory (Aerobic) 150min/week
Resistance (Strength) 2-3 days/week
Flexibility (Range of Motion) 2-3 days/week
Neuromotor (Balance) 2-3 days/week





Emerging Research on the Damaging Health impacts of Loneliness

- “Loneliness has the same impact on mortality as smoking 15 cigarettes a day, making it even more dangerous than obesity.” -Douglas Nemecek, MD, Cigna’s chief medical officer
- “Loneliness is a growing health epidemic. We live in the most technologically connected age in the history of civilization, yet rates of loneliness have doubled since the 1980s.” -Surgeon General Vivek H. Murthy, MD,



Social Connectivity through Strong Women

- Activities outside of class
- After retirement, older adults move to a new (older more rural) community with lack of connections; StrongWomen becomes their primary social network
- Aging in Place
- Developing Rites of Passage
- Buddy system—recognizing dementia or mental decline in group members
- Silliness and Creativity



Let's Rap!



Welcome to 16 new leaders!



Numerous Physical Improvements

(In addition to social and emotional benefits)

- Strength
- Balance
- Bone Density
- Muscle Mass
- Reduced use of medication
- Improved sleep
- Functional abilities



Testimonials

Strong Women exercises helped me prepare for and recover from total knee replacement surgery this past winter. Doing the exercises in advance strengthened my legs and arms so I could quickly do the physical therapy right after surgery. Within 6 weeks after surgery I was able to resume class and it served as a great supplement to physical therapy. Four months after surgery I am now able to walk normally, climb stairs and even kneel to work in my garden.

-Debby Chenoweth, 63



I have been a part of Strong Women for about a year and a half and I am so pleased with what I am gaining at this time of my life. Two big issues for me have been poor balance and not breathing properly when exercising. Both have improved since I have been in the program. The breathing improved because during the exercises we do at Strong Women our leader, Claire, reminds us to breathe! And so I remember to breathe now when I am hiking. The balance is far from perfect but has improved steadily with the exercises that focus on that each day we meet. Even at this time in my life, I am glad that I can look forward to improving in this area, too, as I keep coming to Strong Women.

-Gerri Beal,83



Recently I went on a tour to Sicily and Italy. The tour was made up of people of all ages, although I was by far the oldest person. I decided that they would not ever have to wait for me to catch up with the rest during our activities--and they didn't! I was so pleased that I had been exercising with Strong Women prior to the tour as I walked through Roman ruins, along cobblestone streets, climbed the side of a volcano, descended into cave dwellings and was able to keep up with ease. Hurrah for Strong Women!

-Jackie Wade, 83



StrongWomen has improved my health and made everyday tasks easier in many ways. Walking is difficult because I have neuropathy and my legs are weak and stiff. The exercises have strengthened my legs and improved my balance, so I feel safer. The last bone density test for osteoporosis showed improvement in the hip. Able to get out of my chair without using the armrests to push myself up. Able to get off the toilet easier. (Don't have to worry about finding a handicapped bathroom that has hand rails when using a public restroom). Have fibromyalgia and it has helped the pain. Exercising is fun with a great group of gals. The exercising and social interaction helps my depression.

-Joanne Ehl, 84





Study #1: Results After 16 Weeks of Strength Training

- Muscle strength + 33%
- Systolic blood pressure - 9.7mm Hg
- Muscle mass + 1.2kg
- Trunk fat - 0.7kg
- Diabetes Medications - 72%
- All of these results are significant!



Study #2: Results After One Year of Strength Training

- Muscle strength increased 76%
- Muscle mass increased 1.4 kg
- Balance improved 14%
- Fat decreased 1.4 kg
- Physical activity increased 25%
- Bone Mineral density increased 1%
- Control group BMD decreased 2%





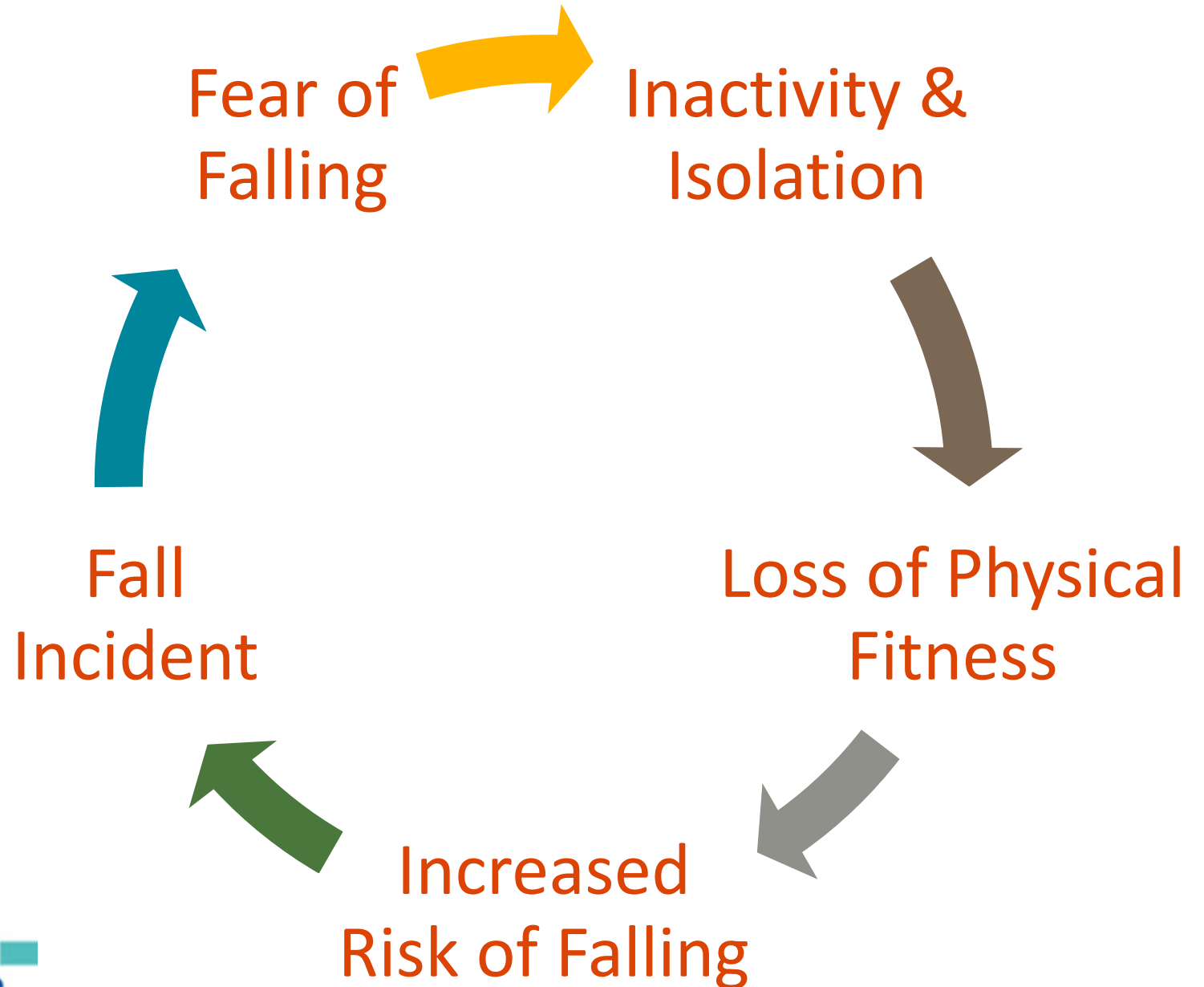
**WHAT COMES
FIRST?**

**INACTIVITY OR
AGING?**



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Fall Cycle



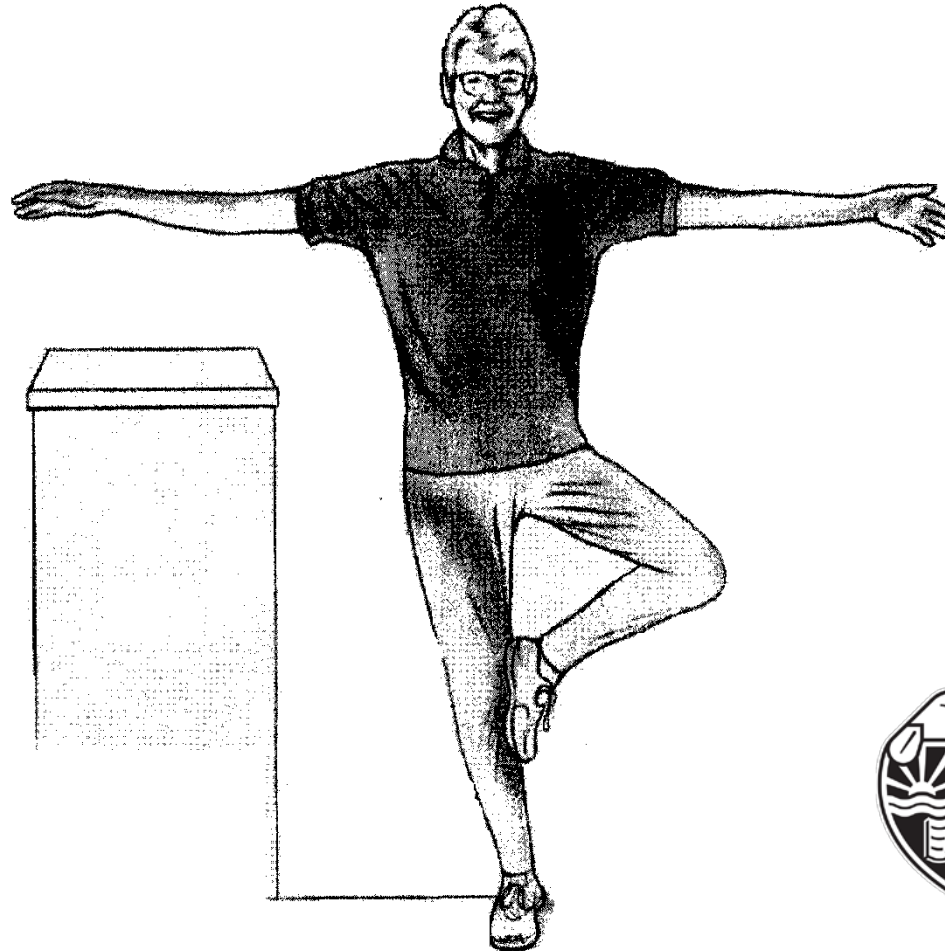
Every
20 minutes
an older adult dies from
a fall in the United States.
Many more are injured.
Take a stand to prevent falls

WIDE LEG SQUAT



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ONE-LEGGED STORK



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TANDEM WALK



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STRONG WOMEN OF THE GORGE

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Thank you!

Questions?

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