

Western



Canadian Centre for
Activity and Aging



“Strong for Life” Strength Training for Older Adults

Objective: Increase our understanding of how to safely and effectively introduce strength challenges into group fitness
Building Strength, Balance, and Confidence



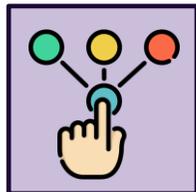
Agenda



Introduction 👉 Myths and Barriers to Strength Training



Why 👉 Importance or Strength Training for Aging Adults



How 👉 Specific to the Goal



What 👉 Form and Function



Take Home 👉 How do we start on Monday

Myths And Misconceptions

It's dangerous to start strength training after age **65**.



Individuals with Osteoporosis should never lifting **heavy** weights.



Strength training can improve **joint pain** for those with OA.



Cardio is more important than strength training for seniors.



Increases in muscle mass can occur into our **80s**.



“I walk a lot and work in the garden which is enough for me.”





Barriers

Why are Participants Hesitant ?



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“Confidence”

“Understanding”

“Proper Guidance”

“Social Norms /
Expectations”



“Fear”



- Injury
- Overexertion / Fatigue
- Worsening Existing Conditions
- Heart Attack or Stroke



Why Strength Training



Preserves Muscle Mass



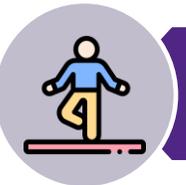
Functional Strength for Daily Life



Increases Bone Density



Enhances Independence



↑ Coordination & Balance



↓ Risk of Falls and Injuries



Supports Metabolic Health



Boosts Confidence & Energy

Are We Doing Enough?

Strength-training and balance activities in Canada: historical trends and current prevalence.

Prince SA ¹, Lang JJ ¹, Colley RC ², Giangregorio LM ³, El-Kotob R ³, Butler GP ¹, Roberts KC ¹

Author information ▶

Health Promotion and Chronic Disease Prevention in Canada : Research, Policy and Practice, 01 May 2023, 43(5):209-221

> Health Rep. 2016 Oct 19;27(10):11-17.

Reduced muscular strength among Canadians aged 60 to 79: Canadian Health Measures Survey, 2007 to 2013

Suzy L Wong ¹

▶ Clin Interv Aging. 2014 Feb 14;9:323-331. doi: [10.2147/CIA.S54644](https://doi.org/10.2147/CIA.S54644)

Adherence of older women with strength training and aerobic exercise

Alexandra Miranda Assumpção Picorelli ¹, Daniele Sirineu Pereira ¹, Diogo Carvalho Felício ¹, Daniela Maria Dos Anjos ¹, Danielle Aparecida Gomes Pereira ¹, Rosângela Corrêa Dias ¹, Marcella Guimarães Assis ¹, Leani Souza Máximo Pereira ¹

> Can J Public Health. 2016 Oct 20;107(3):e272-e277. doi: 10.17269/cjph.107.5365.

Correlates and preferences of resistance training among older adults in Alberta, Canada

Erin A Bampton ¹, Steven T Johnson, Jeff K Vallance

Exercise Habits of Community Dwelling Seniors

Dr Christina Ziebert PhD (Western / CCAA)

Purpose: Examine exercise habits of older adults in the community vs 24-hour movement guidelines.

How:

- 65 adults over 65years
- ActiGraph + activity diary

Results:

- All exceeding 150 minutes of moderate activity in the week.
- Strength - ave 1.4x/week
- Balance - ave 1.3x/week

Strength & Longevity

Prediction and Prolonging



Balance

- <10s associated with higher mortality risk
- Fall prevention



Sit to Stand

- Balance/coordination
- Lower extremity strength
- Longevity



Gait Speed

- Associated with increased survival rates
- Functional Mobility



Grip Strength

- Upper extremity & overall strength
- BMD,  Risk of falls and fractures
- Malnutrition, cognitive impairment, depression, sleep issues, diabetes, morbidity and Quality of Life



Muscle Strength

- Reduced **mortality**
- Maintenance of **Functional Independence**
- Reduced **falls risk**
-  **metabolism (RMR) / weight maintenance**
-  **Bone density**
-  Risk factors for **Chronic illnesses**

Physical Testing Protocols

- CCAA's FFax or Senior Fitness Test (SFT)
- Normative and Functional Standard score
- Battery of test better predictor



Form – Strength / Power– Specificity



Specificity

Functional / Task Specific

- Relative speed
- Coordination/Reaction

- Mobility
- Changing positions
- Maintain positions (Trunk Control)
- Change of elevation
- Carrying
- Pushing
- Pulling
- Lifting off the floor
- Lifting overhead
- Varied surfaces

	Reps	Sets
	2-6	2-3
	8-12	3-4
	15+	2-3

Power

Strength

Stability

- Capacity
- Hypertrophy
- Endurance

- Pattern
- Skill

Quality

Challenge





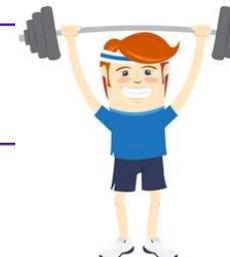
How Hard should it be?

.....Controlled Challenge



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	Exertion	RPE	Activity Examples	"In the Tank"
	None	0		
	Very Light	5	Could likely do 20+ repetitions with good form (warm up)	
	Light	6	Could do 5-10 reps more with good form	
	Moderate/ Somewhat Hard	7	Could maybe do 3-5 reps more with good form	
	Hard	8	Could maybe do 2-3 reps more with good form	
	Very Hard	9	Could maybe do 1-2 reps more with good form	
	Maximum Effort	10	Could not lift one more time without very poor form	



Build A Solid Foundation

Shoulders

- Relaxed
- Slightly drawn together

Spine

- Maintain natural curves

Pelvic

- Level
- Abdominals engaged
- "Bowl of water"

Head

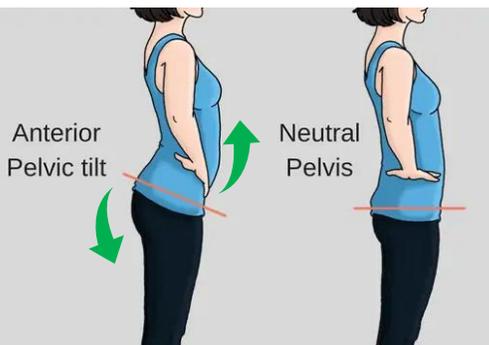
- Ear directly over your shoulder
- Imagine a string pulling your head upwards
- Avoid leading with chin
- Slight chin tuck – "double chin"

Rib Cage

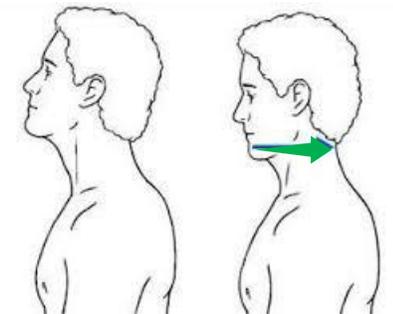
- Keep rib cage down
- No arch if lying flat

Feet

- Feet under hips
- Solid base of support



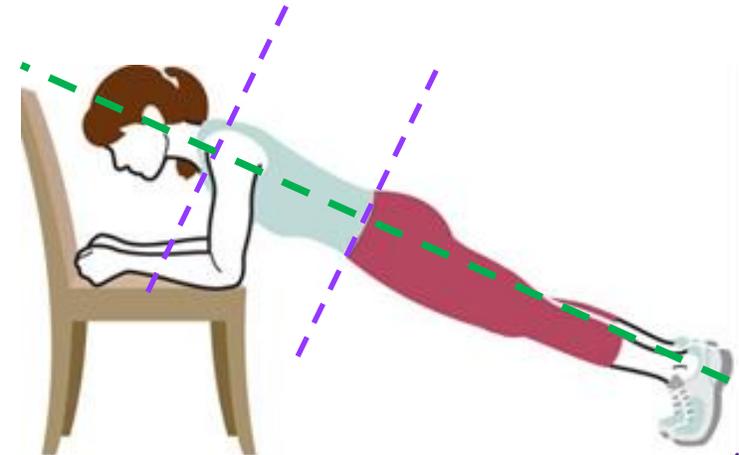
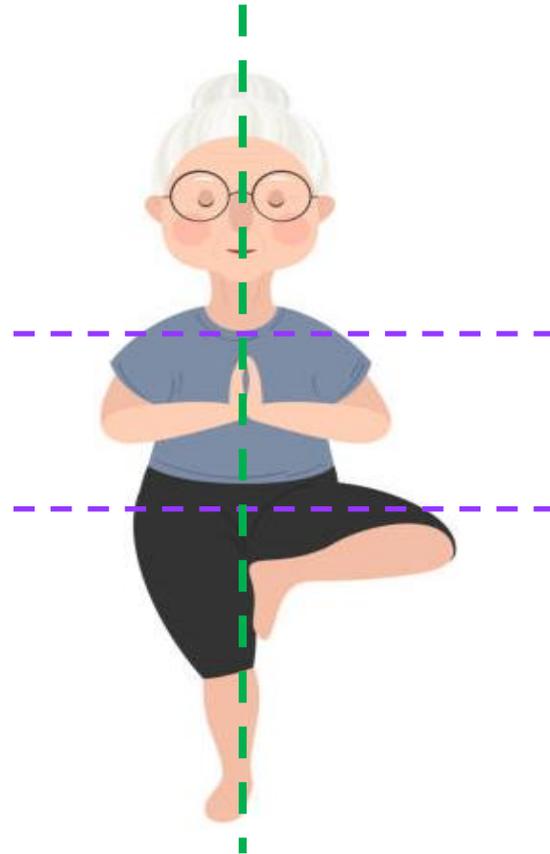
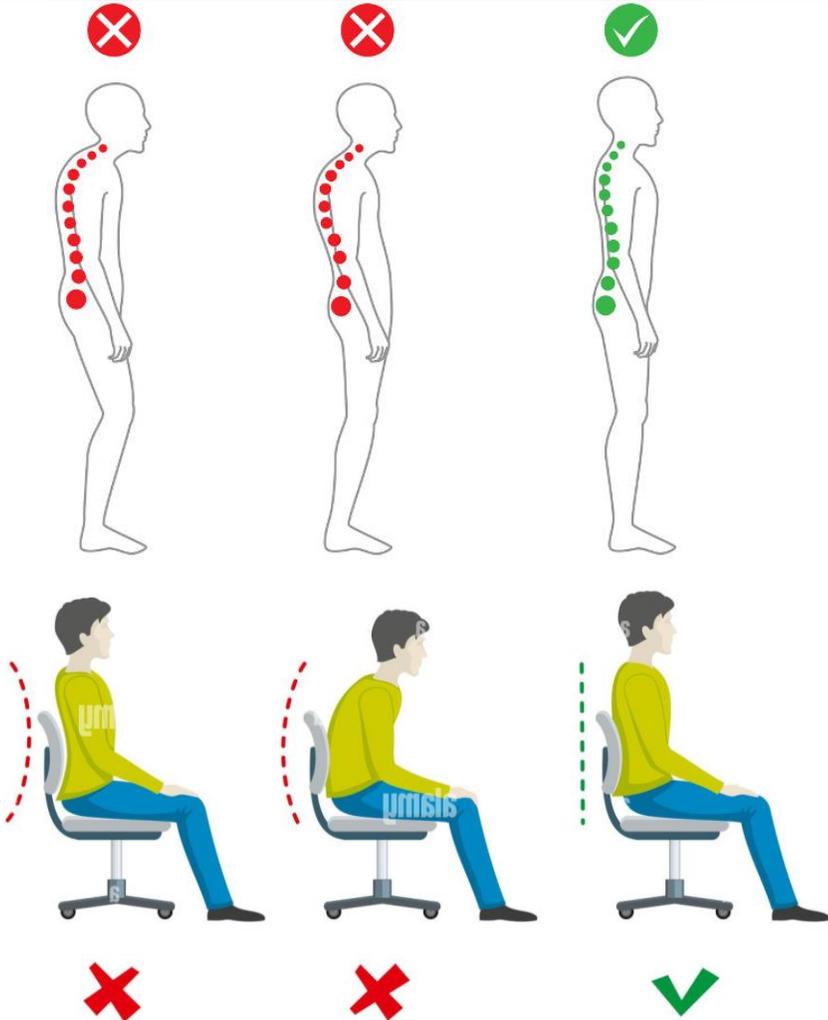
Pelvic Neutral



Chin Tuck

If it doesn't look correct.....

.....Fix it!



Compound Exercises - We Should Be Including Lower Body

- Squats
- Lunges
- Step-Ups
- Bridging
- Heel Raises



“Google Search” - Activities that become difficult with a lack of lower body strength

Mobility and Movement	Walking Climbing stairs Standing up from a chair or toilet Getting in and out of a car Getting in and out of bed
Maintaining balance	Recovering from a trip or stumble Standing for prolonged periods
Personal Care	Bathing or showering Dressing Toileting (sitting down and standing up)
Household Activities	Carrying groceries or laundry Vacuuming, sweeping, or mopping Reaching for items on lower shelves or drawers Gardening or yard work
Recreational & Social Activities	Dancing or participating in group exercise Playing with grandchildren Traveling
Emergency Response	Getting up after a fall Moving quickly in an emergency (e.g., fire, intruder, or medical emergency)

Compound Exercises - We Should Be Including Upper Body / Trunk

- **Pushing**

- Push ups



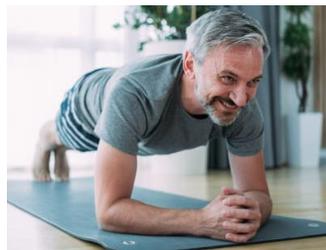
- **Pulling**

- Bent over rows



- **Pressing**

- Overhead



- **Trunk**

- (Planks and crunches)



“Google Search” - Activities that become difficult with a lack of upper body strength

Daily Living Activities	Lifting objects (e.g., groceries, laundry baskets) Carrying bags or packages Opening jars, bottles, or cans Pushing or pulling doors open Getting up from bed (using arms for leverage)
Personal Care	Brushing or combing hair Washing upper body in the shower Dressing (e.g., putting on shirts, bras, or jackets) Reaching overhead (e.g., into cabinets or closets) Feeding oneself (if grip strength is very weak)
Mobility Support	Using a walker or cane properly Transferring in and out of a wheelchair Using arms to push off a chair or toilet seat
Household Tasks	Vacuuming or sweeping Cooking (e.g., stirring, lifting pots or pans) Making the bed or folding laundry Cleaning (e.g., wiping counters or windows)
Recreational and Social Activities	Playing with grandchildren or pets Gardening (digging, pulling weeds, using tools) Participating in hobbies (e.g., painting, crafting, woodworking)
Emergency Response	Catching oneself during a fall Using a phone in an emergency Holding on to railings or grab bars for support

“Functional” Exercises - We Should Be Considering



Marching Variations



Carrying Things



Lifting Stuff off the Ground



Getting off the floor



Quick / Reactionary
Activity Specific



Safe Practices



Progressive Challenges



Environment



Form 1st



Practice



Individualized



Slow progression



Breathing



Pain free



Monitor & Adjust



“Cues”

- “Stand tall” — posture
- “Brace your core” — spine support
- “Slow and controlled” — safety
- “Breathe” — don’t hold your breath
- “Feet and knees under” — for alignment
- “Technique first – weight second”



Too Difficult

Regress

- Intensity ↓ RPE ie) 5
- Pacing – slower/ ↓ # of reps
- On/Off Ratio: ↓ On time or ↑ Off time
- Resistance - ↓
- Volume - ↓
- Adjust **exercise** (Basic)



Too Easy

Progress

- Intensity ↑ RPE ie) 8
- Pacing – faster/ ↑ # of reps
- On/Off Ratio: ↑ On time or ↓ Off time
- Resistance - ↑
- Volume - ↑
- Adjust **exercise** (More Complex)



Monday.....



Things Change....it's OK!



Focus on the Person



Consistent Progressive Challenges



“No limits”



Good Leaders “Support”

Educate!



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Thank You!

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