Let's Get Real About Your Health:

The Why and How of Fitness

POWER, STRENGTH, SPEED/AGILITY

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Agenda

- Intro – The medical statistics and the prescription gap
- Why Resistance Training Is Important
- Muscle, Bones, Metabolic Health and Fall Prevention
- What happens when you move more?
- Power
- Strength
- Agility/Speed
- Putting it Together

Women working out with weights

Introduction

- Approximately 31million Americans ages 50 and older get little to no physical activity according to the CDC
- Federal Guidelines recommend150–300 minutes of moderate-intensity (like brisk walking) or 75–150 minutes of vigorous-intensity (like running) aerobic exercise per week, spread out across the week
- It is also recommended to add muscle-strengthening activities involving all major muscle groups at least 2 days per week
- Less than half of PCP's recommend the need for strength training to patients over 50

The Prescription Gap

- **The Intent-to-Practice Gap**: 95%
- **The Written Prescription Deficit**: Fewer than **10% of patients** over 60 receive a formal, written exercise prescription from their healthcare provider.
- **The Cardio Bias**: When doctors do recommend exercise, they overwhelmingly default to cardiovascular movements like **walking, jogging, or cycling**.
- Strength training is rarely the primary suggestion, is often stated as an after thought or as an add on to cardio options, ie. "Keep walking and add a little resistance training in a couple of times a week."

Why Resistance Training is Prescribed

Physicians emphasize strength training for patients over 55 to combat:

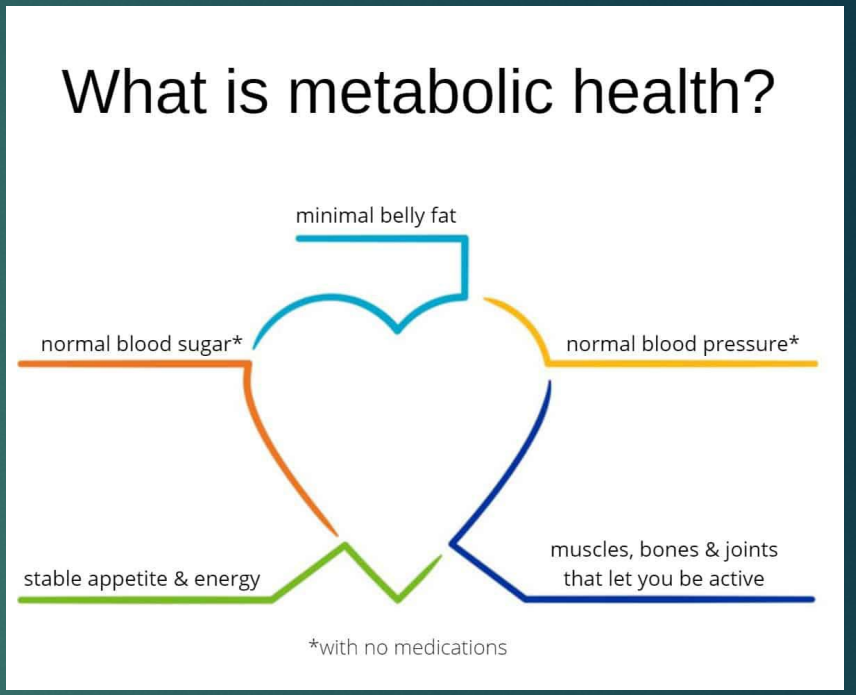
Sarcopenia: Age-related loss of muscle mass and function.

Bone Loss: Resistance training is highly effective at maintaining or increasing bone mineral density to prevent osteoporosis.

Fall Prevention: Leg and core strength dramatically improve balance and proprioception, lowering fall risks.

Metabolic Health: Stronger muscles help manage blood glucose levels, insulin resistance, and cardiovascular disease.

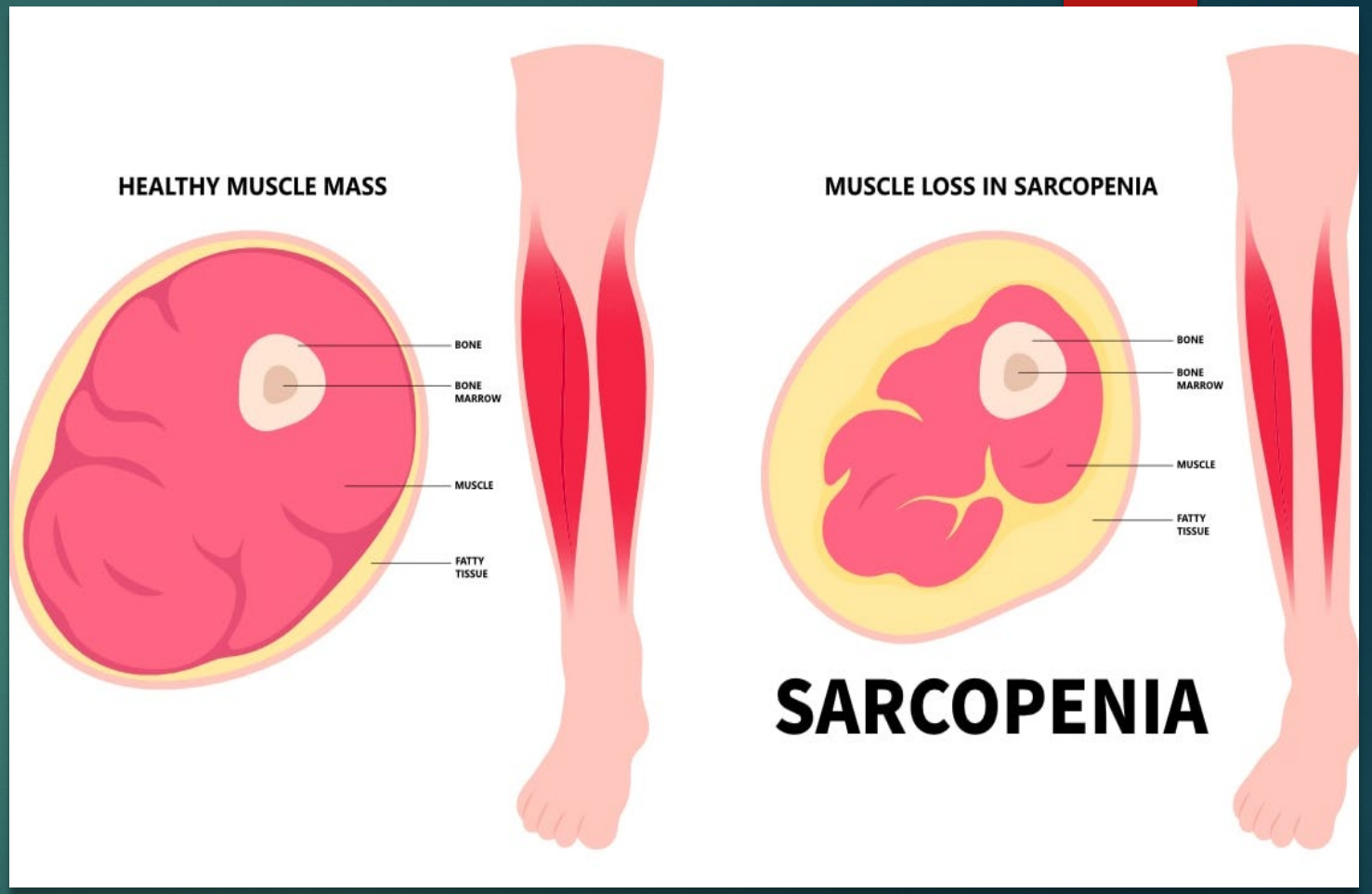
Muscle Loss Bone Loss Metabolic



After age 60, both muscle mass and bone density naturally decline due to progressive conditions called sarcopenia and osteoporosis. Muscle loss typically accelerates to about 3% to 8% per decade, while bone breakdown begins to outpace growth, significantly increasing the risk of fractures and loss of independence.

SARCOPENIA

- **Mass & Strength Decline**
- **Fast-Twitch vs. Slow-Twitch Muscles**
- **Reversibility**

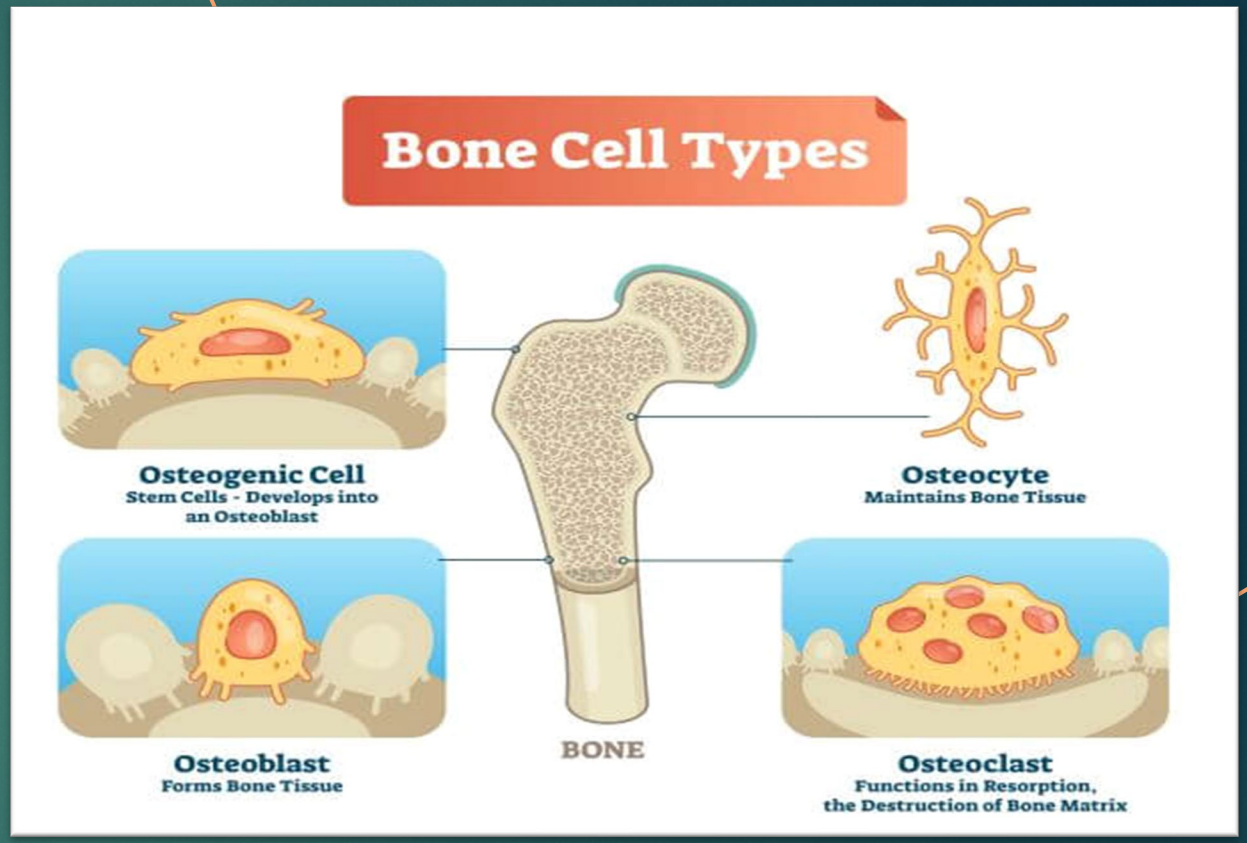


Healthy Muscle Cross Section of Human Calf – Sarcopenia Cross Section of Human Calf

BONE LOSS

Osteogenic
Osteocyte
Osteoblasts
Osteoclasts

Osteoblast and OsteoClasts - Together, these two specialized cells work in a continuous cycle called bone remodeling to keep the skeleton strong, healthy, and repaired.)



Bone Cell Types

Mechanical Loading

FALL PREVENTION

- **Enhances Reactive Balance**
- **Stabilizes Your Core**
- **Corrects Muscle Imbalances**
- **Hardens Bone Density**
- **Maximizes Joint Mobility**

Women holding Kettlebell in a Squat Position

Good Metabolic Health

- Blood Sugar – above 70mg/dL and below 100mg/dL (milligrams per deciliter)
- Waist Circumference – Men – less than 40in. /
- Women less than 34.6in.
- Blood Pressure at or below 120/80* without medication
- Cholesterol – LDL as low as possible / HDL for men ≥ 40mg/dL HDL for women ≥ 50mg/dL
- Triglycerides – below 150mg/dL

What Do We Do?

We've got to move MORE to MOVE more!

Progression Over Time

Timeline	Neuromuscular & Muscle Strength	Bone Health & Density Adaptation
2-4 Weeks	Measurable gains in daily energy, stamina, and basic mobility.	Initial signaling; muscle-to-bone pulling stimulates bone remodeling.
8-12 Weeks	Noticeable increases in hand grip strength, leg power, and balance.	Tendons and bones begin adapting to mechanical loads.
6-12 Months	Significant improvement in daily function (e.g., stair climbing, rising from chairs).	Measurable increases in spinal and hip bone density.
1-3 Years	Sustained mitigation of sarcopenia and improved joint stability.	Modest, stable increases in BMD (typically 1% to 3% annually).

Power:

- Why – Combat Muscle Loss, Reverse Loss of Fast Twitch Muscle Fibers
- How – adding quickness to the force you produce in your movement
- Direct Result – Reduce Injury Risk, Improve Stability, Regain "Explosive" Movement needed for daily independence such as rising from a chair or climbing stairs and preventing falls
- Examples:
- Power Ups – adding force to standing up
  - a. Chair b. Counter or Table c. Standing d. Standing to Toes e. Hop
- Speed Skaters – adding force to stepping back
  - a. Chair or Table b. Floor c. Hold Foot Up d. Hop
- Power Push-Ups – adding force to upper body
  - a. Wall b. Chair or Table c. Bench or Stool d. Floor

Strength:

- Why – Improve Muscle Mass, Improve Bone Density, Increase Metabolism Combat Muscle Loss.
- How – Adding Weight Training to your weekly routine
- Direct Result – Support activities of daily living and improve quality of life. Lifting groceries, getting up out of a chair or off the floor, opening jars, walking up stairs and reducing pains that are typically thought to be "just because I'm getting old".
- Examples:
- Row - Pushing and Pulling with a weight – seated or standing
  - ADL – Opening the refrigerator door, opening and closing curtains, pushing a grocery cart, sitting up comfortably without fatigue.
- Deadlift – Picking Up and Putting Down with a weight - standing
  - ADL – groceries, luggage, gardening, putting something in or taking something out of your car, lifting-up the grandbabies!
- Shoulder Press with a weight – seated or standing
  - ADL – Putting away the dishes, washing/combing/styling hair, getting dressed, good posture

Speed/Agility:

- Why – Improve Body Movement and Performance, Improve Metabolic Health, Increase Oxygen Flow, Combat Decline in Neuromuscular Function (Mind-Muscle Connection),
- How – Adding Quick changes to your movement, Completing two activities at one time
- Direct Result – Maintain and Improve Reaction Time. Ability to change the body's position, direction or velocity WHILE maintaining Balance and Control!

Examples:

- One Hand Ball Toss and Catch while walking forward or balancing on one foot
- High Knee and Hamstring Curl with one foot on a block, bench or
- Pad
- Quick Steps or Toe Taps on Floor or to a step or bench

Exercises for Activities of Daily Living

Daily Activity	Why It Matters	Strength Exercise	Primary Muscles Worked
1. Standing up from a chair	Maintains independence at home and in public	Chair squats or sit-to-stands	Quadriceps, glutes, core
2. Climbing stairs	Essential for homes, community mobility, and emergencies	Step-ups and Calf Raises	Quadriceps, glutes, calves
3. Carrying groceries	Enables independent shopping	Farmer's carries	Grip, shoulders, core, legs
4. Getting up from the floor	Important after gardening, playing with grandchildren, or preventing injury after a fall	Seated Row and/or Wall Push Ups	Full body, core, shoulders, hips
5. Reaching overhead to cabinets	Allows access to dishes, food, and household items	Dumbbell overhead press	Shoulders, triceps, upper back
6. Walking longer distances	Supports community participation and travel	Weighted walking or walking lunges	Legs, hips, core
7. Lifting laundry baskets	Helps with household chores	Deadlifts (using dumbbells or kettlebells)	Glutes, hamstrings, back, core
8. Opening jars and carrying objects	Supports meal preparation and household tasks	Grip strengthening with farmer's carries or hand grippers	Forearms, hands, grip
9. Getting in and out of a car	Essential for transportation	Split squats or reverse lunges - hip rotations	Legs, hips, balance muscles
10. Maintaining balance while dressing	Reduces fall risk during dressing and bathing	Single-leg Romanian deadlifts (assisted if needed)	Glutes, hamstrings, ankles, core

PUTTING IT ALL TOGETHER

- 1. Get Moving
- 2. Pick Up Something Heavier than You Usually Do and Put It Down – Now do that again and again
- 3. Find Something You Like to Do that Gets You Moving
- 4. Try Something New
- 5. Find a Buddy
- 6. Add a Little More to Your Everyday
- 7. Exercise Snacks
- 8. Find a Place that Helps You!
- Come see me at the Ellicott City 50+ Fitness Center

References

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Thank You