Resistance Training for Cardiometabolic Health

PATIENT-CENTERED EDUCATION FROM THE NATIONAL LIPID ASSOCIATION:

Muscles are the largest organ system in our bodies, and the average person loses between 3-5% of their muscle mass per decade after age 30. This loss accelerates with aging to the point that the average 80- year-old has lost about 30% of their muscle mass. Muscles not only support our physical structure and help us move, but also store and secrete chemicals that help our bodies function in a complex fashion. Muscles also help break down nutrients, so having stronger muscles means we can turn food into fuel for our bodies more efficiently. Resistance training is a form of exercise that stresses our muscles, tendons and bone to a moderate degree to help maintain, and in some cases, gain muscle mass leading to a variety of health benefits. **Resistance training is JUST AS IMPORTANT as "cardio-training"!**

Resistance training is an important type of exercise that compliments aerobic exercise as well as other lifestyle choices and can significantly improve your overall health.

Health benefits of resistance training:

- Improves strength, muscle mass and endurance
- Improves bone density
- Improves balance, reducing falls and accidents
- Reduces the risk of heart attacks and strokes
- Improves longevity and "health span" (the number of years one lives in reasonably good health)
- Improves mental health
- Lowers blood pressure
- Lowers dangerous blood fats, such as triglycerides and LDL cholesterol and increases HDL cholesterol (people want to know what they can do to improve it!)
- Reduces the risk of developing diabetes
- Improves insulin sensitivity and glucose control in diabetics
- Helps arthritis pain

Types of Resistance Training:

- Body weight – e.g., squats, push-ups, Yoga, planks
- Resistance Bands
- Suspension straps – e.g., TRX® straps
- Free weights including dumbbells, kettlebells, and barbells
- Weight machines

Recommended regimen:

20-30 mins, 2-3 days per week, of performing at least 2 sets of 8-12 repetitions per large muscle group to produce at least a moderate amount of fatigue at the end of each set. Concentrate on excellent form as heavier is not always better. Over time, increase the number of reps or amount of weight or both. If you can, starting with a Personal Trainer will help you establish good form and good habits. You can find many videos on the internet and YouTube that have excellent workout regimens for all the above types of exercises so don't delay! Start your resistance training exercises today!

Example Starter Regimen (most with a chair) :

(from the "Strength and Conditioning for Older Adults" Harvard Medical School Special Health Report, referenced below)

Standing Calf Raise, with chair; Chair Stand; Stair Climbing; Hip Extension; Seated Bridge; Biceps Curl; Triceps Dip; Curl-Up; Standing Side Bridge

Resources:

National Academy of Sports Medicine, nasm.org. Find a certified Personal Trainer near you.

"Docs Who Lift Podcast", www.drspencer.com/podcast/ Excellent podcast on cardiometabolic risk reduction with Board Certified Lipidologist Dr Spencer Nadolsky MD and Endocrinologist Karl Nadolsky MD

"OUTLIVE", Peter Attia MD, 2023, NYTIMES Nonfiction #1 Best Seller on improving health span, and emphasizes BOTH cardio and resistance training.

"Strength and Conditioning for All" (and separate booklet for "Older Adults"), https://www.health.harvard.edu/exercise-and-fitness/

Morales PE, Bucarey JL, Espinosa A. Muscle Lipid Metabolism: Role of Lipid Droplets and Perilipins. J Diabetes Res. 2017;2017:1789395. doi:10.1155/2017/1789395

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