

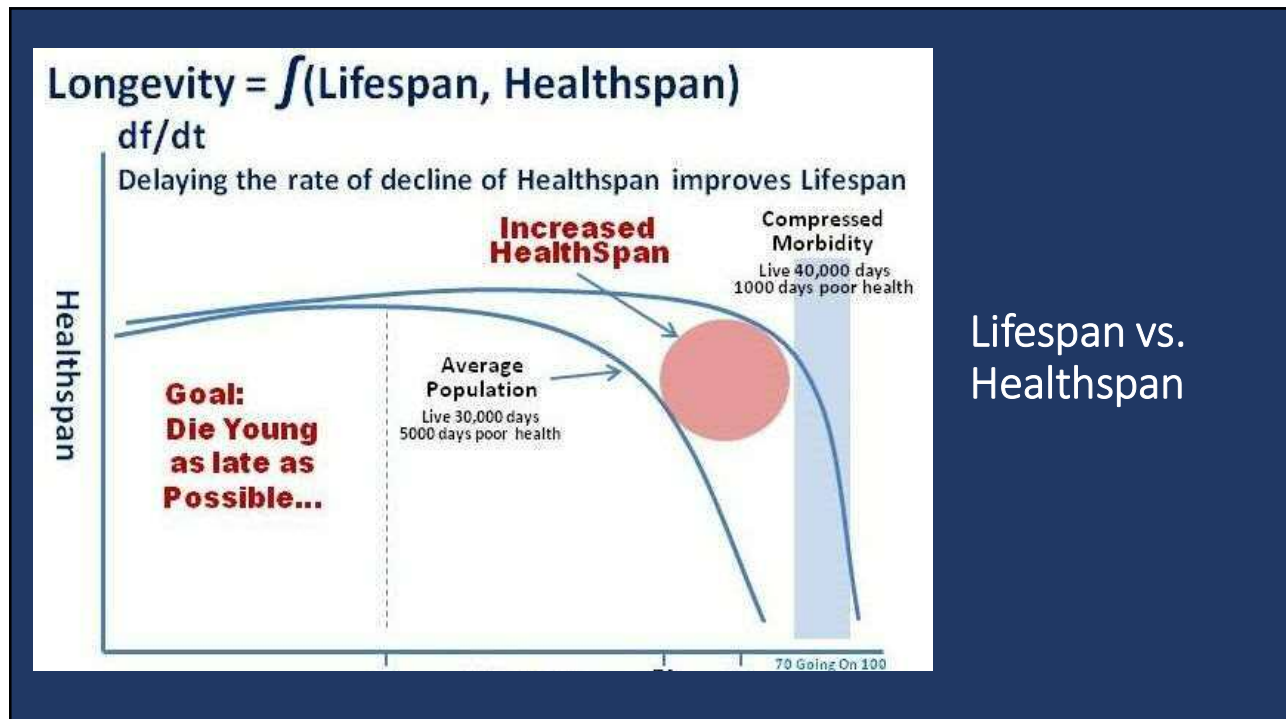


Fitness for Longevity

Combating age-related declines in health and fitness levels by using various modes of exercise to improve lifespan and health span.

Noah Arenson, MPT, MBA

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Brain Health

- Improves insulin sensitivity
- Increases Brain Volume
- Improve Executive Function
- Decreases anxiety/depression
- reduce the risk of neurodegenerative diseases

"It seems to be that exercise is the single most important thing you can do to preserve brain health." –Peter Attia, MD



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Cardiovascular Health

- Optimize Oxygen uptake
- Reduces stress hormones
- Works like a beta blocker
- Increases high-density lipoprotein (HDL)



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Exercise and Therapeutic Activity

Therapeutic Activity

- 1) Get off floor without help
- 2) Walk down 2 flights of stairs carrying 10 lbs of groceries in each hand
- 3) Lifting 20 lb suitcase to overhead compartment



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Physical Therapy Assessment and Treatment

- Joint Mobility
- Range of Motion
- Strength
- Flexibility
- Endurance
 - Aerobic
 - Anaerobic



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Four Pillars of Exercise



STABILITY



AEROBIC
EFFICIENCY



STRENGTH



ANAEROBIC
PERFORMANCE

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Stability



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Assessing for Stability

- Berg Balance Scale
- Single Leg Balance
- Functional Gait Index
- Balance Error Scoring Systems
- Functional Reach Test
- Timed Up and Go

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Train for Stability

Video: https://youtu.be/SwnQ_fBcmVU

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Aerobic Efficiency

- Zone 2: the exercise intensity at which you are stressing mitochondria and oxidative capacity the most
- Tenants of zone 2 training: recruits mainly type I muscle fibers, mobilizes the highest amount of fat oxidation, and stimulates bioenergetics (fat & glucose in mitochondria)
- Listen to podcasts or audiobooks and enjoy the slow pace!
- A reasonable measure of how zone 2 should feel: you can carry out a full conversation, maybe not as comfortably as if you weren't exercising, but still without much strain; nasal breathing.
- You want to know your actual maximum heart rate – zone 2 will be about 70-80% of the realized maximum heart rate
- We can do zone 2 training safely our entire lives
- Measure heart rate

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Aerobic Efficiency



Video: <https://youtu.be/y8QslusSLPE>

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Resistance Training



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Resistance Training

- Definition of resistance training: any type of exercise that moves against resistance –
- Cardiovascular exercise has been more widely researched throughout the years, but resistance training provides many of the same benefits with the additions of improved posture, muscle development, and bone density
- Light loads, heavy loads – all resistance training improves bone;
- It's never too late to start resistance training! Profound improvements in muscle strength and hypertrophy will still take place no matter what age you start –
- You can maintain a majority of muscle mass if you stay consistent throughout the years

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Resistance Training

Video: https://youtu.be/OKWD20p8_eU

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Anaerobic Training/ HIIT



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Anaerobic Training

- Maximal Aerobic capacity (VO₂ max) is highly correlated to longevity of life.
- VO₂ Max– the ability of the body to transport oxygen during exercise, improved with high intensity interval training
- Zone 5 as a small part of life
 - Example: At the airport, an escalator is broken and you have two pieces of luggage and you are late for your flight.

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Anaerobic Training/ HIIT

Video: <https://youtu.be/ORwzpcHPpKQ>

Video: <https://youtu.be/7ndxttOQuGk>

Video: <https://youtu.be/hu67hGqxRF4>

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Sample Weekly Exercise

- Typical week of exercise:
 - 2-4 bouts of strength training
 - 3-4 bouts of zone 2
 - 1-2 bouts of zone 5
- Stability is sprinkled into pretty much every day

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Thank You

- Noah Arenson, MPT



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