Aging is inevitable, but getting “old” isn’t ;)

Strength Training and Balance at all ages

Dr. Becca Fetter, PT, DPT

Introduction

ENDURING STRENGTH
PHYSICAL THERAPY AND FITNESS

BS in Mechanical Engineering @ Iowa 2005

Doctor of Physical Therapy from Washington University in St. Louis 2017

Started Bone Builders classes in Mt. Vernon in April 2022 while working for Ability Physical Therapy

Opened Enduring Strength Physical Therapy and Fitness in North Liberty in May 2024

Where we're going:

1. 1 rep max living
2. Strength training
3. Balance

What is 1 rep max living?

When demands of life are near or exceeding one's Maximum Capacity (or One Repetition Maximum = 1RM)

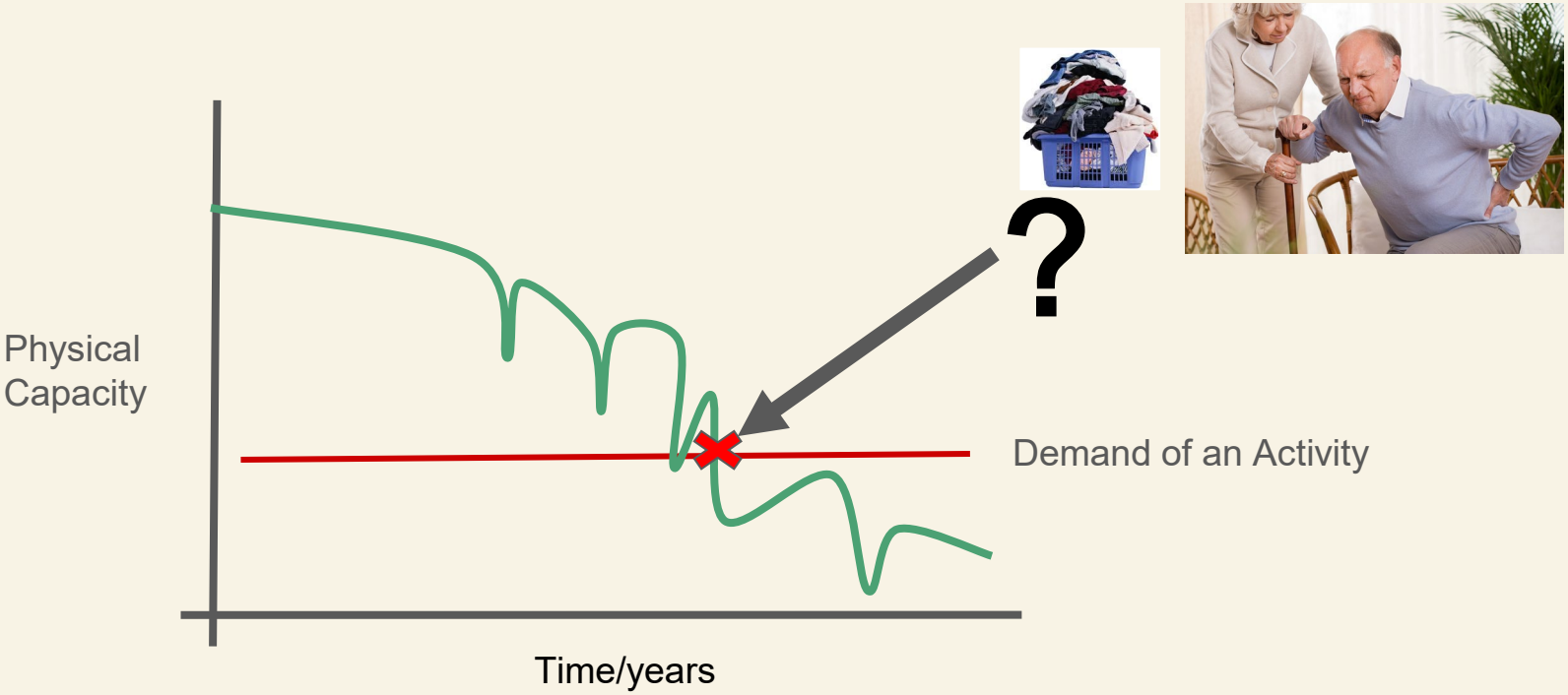
Use it or Lose it!



=

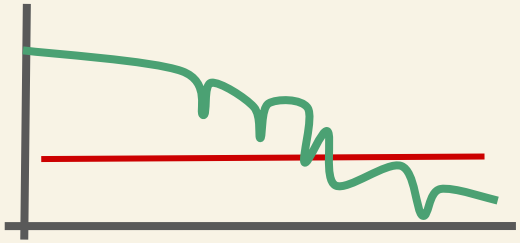


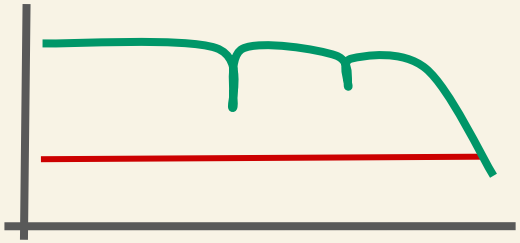
Loads vs Injury



Good news - We can affect our capacity!

- Start light
- Gradual progression
- Supervision for good form
- Consistency over time
  - Month/Years, not weeks





How do we know our capacity? 30s Sit To Stand

CUT-OFF SCORES

Moderately Active Older Adults:

Normative data published in Rikli and Jones 1999b

(Rikli and Jones, 2013; n = 2140 moderately active older adults)

Criterion fitness standards to maintain physical independence

Age	60-64	65-69	70-74	75-79	80-84	85-89	90-94
Women	15	15	14	13	12	11	9
Men	17	16	15	14	13	11	9

https://www.sralab.org/rehabilitation -measures/30 -second -sit -stand -test

So how do we build that capacity?

Progressive overload!

Do what you can today, try to do a little more next time

Our bodies adapt to the forces we put on them

Fundamental Movements in Life

- **Squatting** - getting up out of a chair or toilet
- **Hinge** - picking something up off the floor
- **Push** - grocery cart, grandkids stroller, get up off the floor
- **Pull** - opening heavy doors, yardwork
- **Carry** - groceries, pets, yardwork, grandchildren
- **Single leg work** - balance, stairs, getting off the floor

Fundamental Movements in Strength Training

- **Squatting** - assisted sit to stand, body weight, weighted
- **Hinge** - deadlift, kettlebell swings, ball slams
- **Push** - modified push ups, bench press
- **Pull** - rows, modified pull ups, lat pull downs
- **Carry** - dumbbells, KB's, odd objects, sled push/pull
- **Single leg work** - lunges, single leg sit to stand, step ups

Vary Load, Repetitions, Style, Speed, etc

Fundamental Movements in Strength Training

Example home workout - 2-3 sets of 10 each:

Sit to Stand Without Arm Support



Deadlift with Resistance



Push Up on Table



Standing Shoulder Row



Suitcase Carry



Step Up



Where Does Balance Come From?

- Musculoskeletal System (Muscles & Joints)
- Visual System (Eyes)
- Proprioceptive (Sensors In Skin & Joints)
- Vestibular System (Inner Ear)

Muscles & Joints

- **Muscles**
  - Strength - To Move Into A Position
    - Single leg stance
  - Endurance - To Stay There
  - **Power - Quickly React**
    - Recover A Trip or Slips - Quick Stomp
- **Joints**
  - **Movement Options**
    - Step Over Things e.g. Baby Gate
    - Lean & Step Different Directions

Visual System

- **Acuity or Accuracy**
  - E.g. Snellen Eye Chart
- **Field**
  - Amount You Can See In Front Of You
- **Tracking**
  - Following Objects
- **Assistance**
  - Glasses - Clean, Fit, Updated prescription

Proprioception

- Skin
  - What Can You Feel?
- Joints
  - Where Are My Limbs & Trunk
  - How Much Of My Weight Is Where
  - Aids Coordination
- Foot Wear
  - More Cushion Isn’t Always Better
  - Fit/Wear Patterns
  - Barefoot time?

Vestibular - Inner Ear

- **Speed**
  - Slowing Down or Speeding Up
- **Direction**
  - Up or Down
  - Rotation
  - Angles of motion
- **Work With Eyes**
  - Vestibular -Occular Reflex
    - E.g. Looking side to side grocery shopping
    - Stare at your thumbnail 1 arm -length away
    - Turn head 30 deg side to side every sec

Quick Balance Workout!

4’ EMOM of:

30s Sit To Stand

30s Marches + Head Turns +/ - EC

30s Heel & Toe Raises +/ - EC

30s Line Quick Steps FWD/BK

Thank You For Your Time!

What Questions Do You Have?

Email: Becca@EnduringStrengthPT.com

Call/Text: 319-251-3239

ENDURING STRENGTH

PHYSICAL THERAPY AND FITNESS