Senior Wellness: Kick the Cane

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Disclosures

- I have no actual or potential conflicts of interest related to this presentation.

Objectives

- Recognize benefits that individualized exercise can bring to the elder population
- Identify appropriate exercises for patients in a frail state
- Prescribe a unique exercise routine for older patients
**Introduction**

- Growing evidence suggests that physical activity reduces the risk of cognitive impairment
- Additional evidence that the risk of lung cancer, endometrial cancer, osteoarthritis, sleep problems and anxiety disorders can all be reduced
- Therapeutic role of exercise in coronary heart disease, PVD, HTN, DM-II, OA, Osteoporosis, Lipid disorders, Obesity, Claudication, and COPD
- Can help manage depression, anxiety disorders, stroke, dementia, back pain, constipation, and prevention of VTE
- Benefits of exercise have been observed even in some of our most vulnerable and frail patients
- Osteopathic Tenets remind us that the body is a unit and is capable of self-regulation, self-healing, and health maintenance with structure and function being interrelated

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**The Story of the Justice**

- Recent election has brought the health of the SCOTUS to the attention of the American public
- Oldest Serving Justice, Ruth Bader Ginsburg, age 84
- Regular Gym Routine
  - One hour sessions, twice weekly
  - 5 mins on elliptical
  - Light stretching
  - Three sets (10-13 reps) of strengthening exercises with machine bench press (70lbs) with leg curls, chest-flies, lat pull-downs with stretching between sets
  - Three sets of seated rows and standing rows
  - One-legged squats
  - 10 push-ups without using knees, stretch, 10 more
  - 30 secs of standard planks then 30 secs of side planking on each side
  - arm/shoulder exercises with dumbbells with alternating squats
  - step on a platform
  - medicine ball toss starting seated, stand, toss, catch, sit, repeat...

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**You may be wondering....**

- What if your patients can’t walk, are immobile, or use a wheel-chair for transit?
- What if the patients are frail?
- Dementia?
- How do we get them engaged?
- Who is going to help?
Let's give them a chance...

- A Multicomponent Exercise Intervention - An Interventional, Controlled, Simple Randomized Study
  - Supervised facility group exercise program to improve frailty
  - 65 mins/session, 5 days/week x 24 weeks
  - Controlled protein-calorie and Vitamin D supplementation
  - Included endurance, strength, coordination, balance, and flexibility exercises
  - Proprioception and balance 10-15 mins
  - Postural sway, dynamic balance, coordination, and flexibility of lumbo-pelvic region
  - Aerobic: walking around a circuit, climbing stairs
  - Strength: resistance bands, isometric/concentric/eccentric exercises with hands, arms, legs
  - Stretch

JAMDA 2016

Group activity required one trainer for every fifteen participants

- Results showed that 31.4% of the intervention group experienced reversal of frailty following the exercise program
- Secondary outcomes included a reduction in the Yesavage Geriatric Depression Index, an increase in the MMSE, and an improvement in quality of life scales

Wheelchair? No problem.

- Single-blind, cluster-randomized controlled trial with repeated measures
- 15 month wheelchair-bound resistance band exercise program to reduce depression and/or behavioral disturbances in adults with dementia
  - Depression measured using Cornell Scale for Depression in Dementia
- Resistance band exercises 3x weekly in 40 min sessions

-JAGS 2016
Three Phases (Basic and Advanced Levels)
- Warm-up
- Aerobic exercise
- Harmonic stretching

Stage 1: Volunteer led program (6 months)
- Regular NH volunteers trained by PI

Stage 2: DVD-guided stage (9 months)
- By 6 months, the experimental group was significantly less depressed with fewer behavioral problems than the control
- Changes persisted throughout DVD-guided months

How to help kick the cane...
- First you must consider the individual's current condition and functional capacity
- Set achievable goals with the recommendations in mind
- Identify barriers and provide potential solutions and give specific recommendations on type, frequency, and intensity of the exercise you're prescribing

CDC Guidelines
- >150 mins of moderate-intensity aerobic activity OR
  75 mins of vigorous-intensity aerobic activity per week
  WITH
- >2 days of muscle-strengthening activities per week
Intensity
- Light: walking, light housework, stretching
- Moderate: brisk walking, water aerobics, ballroom dancing, gardening
- Vigorous: jogging, running, aerobic dancing, heavy gardening

Aerobic
- Walking, stationary cycling, aquatic exercise

Muscle strengthening
- Resistance bands, weight machines, handheld weights, digging, lifting, carrying (e.g., gardening, carrying groceries)

Flexibility
- Stretching the hamstrings, calves, triceps, etc.

Balance
- Backward, sideways, heel, toe walking; tai chi

Sample Prescription
- 87 year-old female with past medical history of osteoarthritis of the knees, osteoporosis, and mild cognitive impairment. She uses a rolling walker to ambulate and does no intentional exercise. She enjoys social media and card games on her computer.
- 3 days weekly we can work on increasing her speed or distance in walking for 20 mins
- 3 days weekly incorporate stretches of arm/leg muscles 5-10 mins
- Perform resistance band exercises (2 sets 5-10 reps) 2 days weekly
- Consider starting twice weekly water aerobics class to help relieve stress on joints

Conclusion
- Guidelines recommend ≥ 150 mins of moderate-intensity aerobic activity or 75 mins of vigorous-intensity activity + at least 2 days of muscle strengthening exercises per week
- Frailty is reversible in early stages
- Exercise is possible even in a wheelchair
- Decreases depression
- The body has the potential to heal itself and achieve a greater level of functioning if we give it a chance
- Any exercise is better than none
- If RBG can do it so can you!
References