

# Exercise Issues in the Postmenopausal Female

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## Objectives

- ▶ Review exercise recommendations and benefits for a postmenopausal female
- ▶ Review spine safe and osteoporosis specific exercises
- ▶ Review exercise effect on menopause symptoms

## A Case

- ▶ Mary
  - ▶ 65 year old female
  - ▶ Active and recently retired
- ▶ Exercise
  - ▶ 3 times/week
  - ▶ Spinning and sit-ups now
  - ▶ Wants to try yoga
- ▶ Medical conditions:
  - ▶ Osteoporosis
  - ▶ Mild knee osteoarthritis



## What are our goals for exercise?

- ▶ Fitness
- ▶ Energy
- ▶ Improved mood
- ▶ Strengthen bones
- ▶ Fall prevention
- ▶ Treat chronic disease
- ▶ Stay functional

## Benefits of Exercise

- ▶ Improve physical function and quality of life
- ▶ Slow sarcopenia
- ▶ Decrease cognitive decline
- ▶ Reduce risk diabetes, heart disease
- ▶ Lower mortality
- ▶ Decrease falls and improve bones

## 6 Workout Mistakes Women Make When They Hit Menopause

- ▶ Do only cardio
- ▶ Prefer to swim or cycle
- ▶ Take it too easy
- ▶ Continue with their same diet
- ▶ Do not warm up
- ▶ Don't ask for help

[www.prevention.com/fitness/workout-mistakes-after-menopause](http://www.prevention.com/fitness/workout-mistakes-after-menopause)

## Too Fit To Fracture Recommendations

**For preventing bone loss and falls, recommend a combination of**

- ▶ Strength training for major muscle groups  $\geq 2x/week$
- ▶ Balance challenges daily
- ▶ Moderate-to-vigorous aerobic physical activity  $\geq 150$  min/week, or 20-30min per day

**To reduce spine loads, recommend:**

- ▶ Exercises for back extensor muscles daily
- ▶ Spine sparing strategies – hip hinge for bending, step-to-turn instead of twisting, holding loads close to body

*Giangregorio LM, et al Osteoporos Int. 2014*

## Osteoporosis

Bone disease marked by reduced bone strength leading to an increased risk of fractures.



Bone Strength = Bone Mass(density) + Bone Quality

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## Impact of Osteoporosis and Fractures

**50%**  
of osteoporosis-related repeat fractures can be **prevented** with appropriate treatments

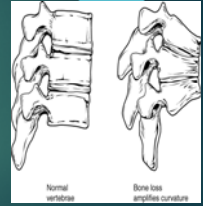
Osteoporosis fractures will likely cost us **\$25 billion** by 2025

**Over 1/3** of patients with a hip fracture had a prior fracture

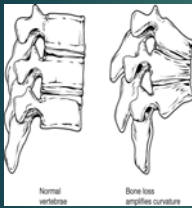
Slide by permission from the National Bone Health Alliance

## What types?

- ▶ Weight bearing is best
  - ▶ Bone density in cycling and swimming similar to sedentary
- ▶ Fun and sustainable
- ▶ Spine safe



## Importance of Spine Fractures



- ▶ Most common osteoporotic fractures
- ▶ 75% are not clinically evident
- ▶ Patients with a spine fracture have a 5-fold future risk of a spine fracture and 2-fold risk of a hip fracture
- ▶ 9% decrease in lung capacity per vertebral fracture

## Safe Movement for Spinal Protection



National Osteoporosis Foundation

## Spinal Extension Exercises

National Osteoporosis Foundation

## Spine Safe Yoga and Pilates

- ▶ Needs to be spine safe!
- ▶ Watch flexion poses and exercises
- ▶ Sarah Meeks
  - ▶ S.A.F.E. Yoga for Skeletal Health
  - ▶ Spine safe yoga instructor course

### So you want to do Yoga? and you have Osteoporosis...

RECOMMENDED POSES:

- ALIGNMENT
- ASSESSMENT
- BALANCE
- WEIGHTBEARING
- SPINAL EXTENSION
- MENTAL CALM

**WITH LOW BONE DENSITY AVOID:**

- ROUNDING POSES: Uttirāsana, Paschimottāsana, Sarvangāsana
- DEEP TWISTS: Matsyendrasana, Parivrtta Trikonāsana
- DEEP HIP STRETCHES: Pigeon Pose (Eka Pada Hanthasana)
- WARRIOR 1: Virabhadrasana I
- OVERPRESSURE FROM TEARDROPS

For more information contact: National Osteoporosis Foundation 800.org 1(800)231-4222

### So you want to do Pilates? and you have osteoporosis...

RECOMMENDED MATWORK:

- ALIGNMENT
- AWARENESS
- LEG STRENGTH
- POSTURE
- SPINAL EXTENSION
- CORE CONTROL

**WITH LOW BONE DENSITY AVOID:**

- ROUNDING SPINE: ABDOMINAL WORK: Hundred, Rollup, Rolling Crisscross, Teaser, Single/Double Leg Stretch, Neck Pull, Open Leg Kickers
- LOADED SPINE FLEXION: Rollover, Controline Spine Stretch, Jack-Knife, Scissors, Bicycle, Boomerang, Seal, Crab, Control Balance
- DEEP TWISTS: Spine Twist, Corkcutter, One-Criss Cross
- PRESSURES ON THE RIBCAGE: Rocking, Swan 27°

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## Specific Protocol

- ▶ Kemmler et al. describe program to keep bones healthy
  - ▶ Warm-up
  - ▶ Jumping (walking if already osteoporotic)
  - ▶ Circuit-based strength training
  - ▶ Flexibility
- ▶ International Osteoporosis Foundation. "Exercise Recommendation." [www.iof.org/health/09mt/9847](http://www.iof.org/health/09mt/9847)

## Does exercise help with Hot Flashes?

- ▶ Maybe?
- ▶ Controlled study shows slight benefit in 2016
  - ▶ Small pilot – 21 women
  - ▶ 48 fewer episodes/wk in the exercise group
  - ▶ Less severe when they occur
- ▶ Cochrane review - 5 randomized studies show no benefit

## What do we tell Mary?

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## Mary

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  - ▶ Hand osteoarthritis



## What do we tell Mary?

- ▶ Congratulate her!
- ▶ 150 minutes per week
- ▶ Resistance training
- ▶ Start walking again
- ▶ Stop doing sit-ups!
- ▶ Find a "safe spine" yoga class

## References

- ▶ Giangregorio, L. M., et al. "Too Fit To Fracture: exercise recommendations for individuals with osteoporosis or osteoporotic vertebral fracture." *Osteoporosis International* 25.3 (2014): 821-835.
- ▶ [http://www.cochrane.org/CD006108/MENSTR\\_exercise-for-vasomotor-menopausal-symptoms](http://www.cochrane.org/CD006108/MENSTR_exercise-for-vasomotor-menopausal-symptoms)
- ▶ Bailey, T.G., et al. "Exercise training reduces the acute physiological severity of post-menopausal hot flushes." *J Physiol* 594.3 (2016): 657.
- ▶ Mendoza, N., et al. "Benefits of physical exercise in postmenopausal women." *Maturitas*. 93 (2016): 83-88.
- ▶ Shad, B.J., et al. "Exercise prescription for the older population." *Maturitas*. 93 (2016): 78-82.
- ▶ International Osteoporosis Foundation. "Exercise Recommendation." [www.iofonline.org/iprnt/9847](http://www.iofonline.org/iprnt/9847)