



Evidence for Use of Yoga in Geriatric Populations

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Disclosure: NONE



Why do we care? Lots of Old People!

- ▶ The aging baby boomers
 - ▶ By 2030, older people (65 or older) are projected to outnumber children for the first time in U.S. history (U.S. Census Bureau)
 - ▶ By 2035, there will be 78.0 million people \geq 65 years old compared to 76.7 million (previously 76.4 million) under the age of 18
 - ▶ That's just a decade away!



Pain and Osteoarthritis (OA)

- ▶ US 33.6% (12.4 million) of individuals ≥ 65 years affected by OA
 - ▶ Projected increase to 67 million by 2030
- ▶ OA primary reason for pain
 - ▶ Limited ROM/Loss of joint movement
 - ▶ Most commonly affected joints: knees
- ▶ Symptomatic knee OA associated with
 - ▶ Anxiety
 - ▶ Fear of falling and falls
 - ▶ Impaired quality of life
- ▶ Knee osteoarthritis affects some 80% of elderly people

How about elders that require higher levels of care?

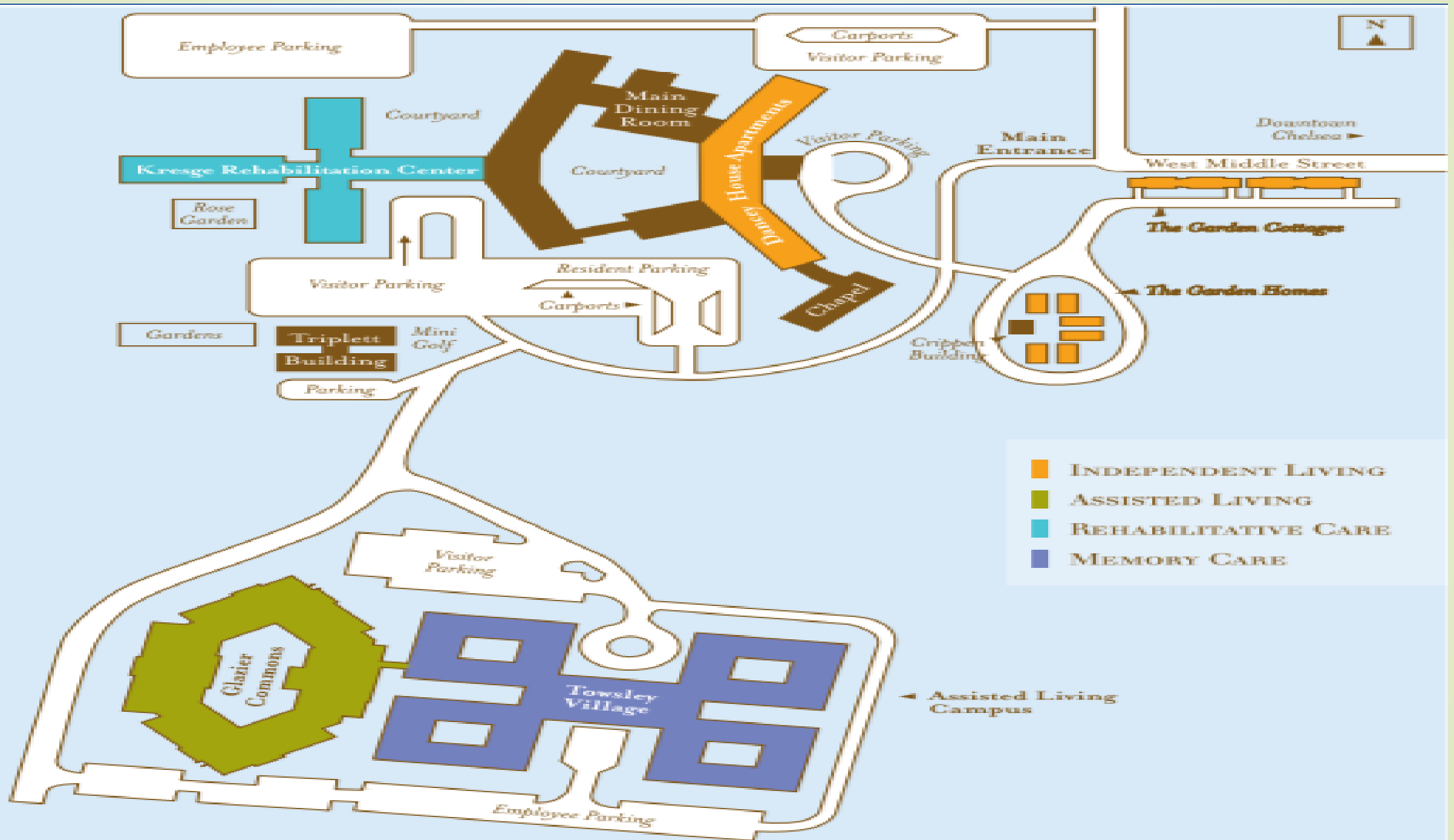
- ▶ I have worked as a primary health care provider at the Chelsea Retirement Community Glazier Assisted Living for > 11 years





Population at the CRC

- ▶ CRC Glazier Commons – Assisted Living Community
 - ▶ On a 58-acre campus situated in the historic City of Chelsea
 - ▶ Just minutes from Ann Arbor
 - ▶ Campus has a variety of programs, classes and events
 - ▶ Lifelong-learning classes to exercise programs, field trips, shopping excursions, musical performances, arts and crafts, book clubs, religious studies, and theme parties
 - ▶ 24 hour staffing with medical aids (non-licensed) and direct care supervisors, typically with basic medical knowledge
 - ▶ If desired, person can choose primary medical care provided by University of Michigan Department of Family Medicine physicians



Why I chose to do Yoga Intervention in this population

- ▶ Met Patty Hart, CYT
 - ▶ Experienced in teaching modified yoga techniques for community-dwelling elders
 - ▶ Has classes she teaches at both Saline and Dexter Senior Centers
 - ▶ Also has training in trauma-focused yoga
- ▶ Received my board certification in Integrative Medicine 2018
 - ▶ 2016-17 Inaugural faculty fellow here at Michigan Medicine, Integrative Medicine Family Medicine Program
 - ▶ Grateful to my colleagues and teachers





The Fellowship and My Project

- ▶ Received training in Integrative Family Medicine during one year fellowship (2016-17)
- ▶ Learned about and experienced various integrative medicine modalities
- ▶ Interacted with integrative physicians and alternative providers
- ▶ Focused on self-care
- ▶ Developed an integrative approach to patient care to apply to my current academic family medicine practice
- ▶ *Developed* a research project that hopes to advance our understanding of Integrative Medicine – YOGA FOR ASSISTED-LIVING ELDERLY
 - ▶ Finally! I launched my research project in October, 2018



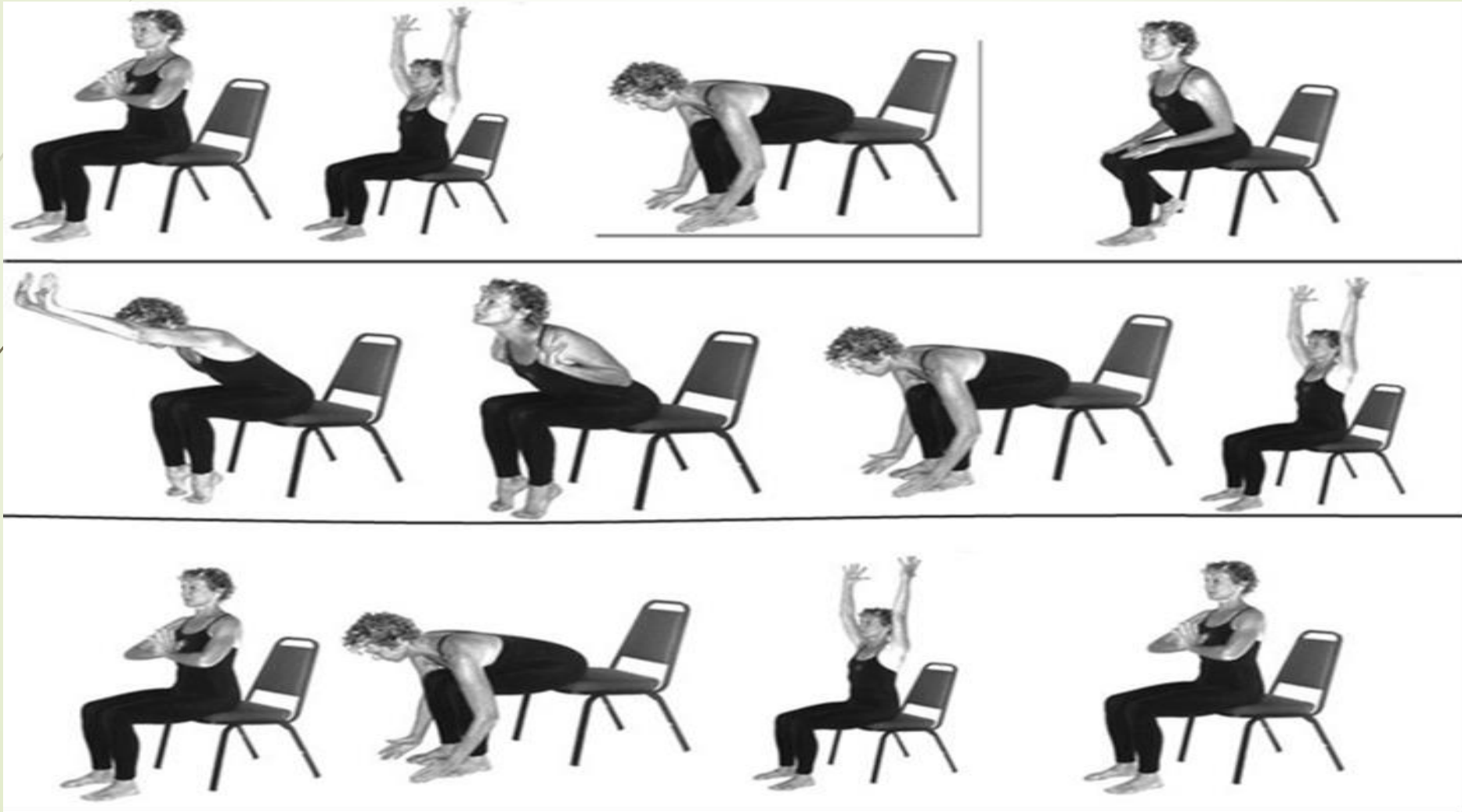
Yoga: a definition

An integrative mind-body practice that combines

- 1) Physical activity = postures (asanas)
- 2) Mindfulness practice = breath control = pranayama
- 3) Meditation = dhyana

All typically performed concurrently

Modified Yoga Positions



What's the Evidence for use of Yoga in Elderly??





Evidence for Practice of Yoga in the Elderly

- ▶ Study¹ investigated whether a 7-week yoga intervention improved physical function, perceived stress, and mental/emotional wellness in elderly participants
 - ▶ 8 participants (66.5±0.3 years) attended 2 60-min Hatha yoga sessions/week for 7 weeks
 - ▶ Performed pre- and post-intervention assessments
 - ▶ Balance assessed using a 5-test battery
 - ▶ Flexibility measured by sit-and-reach and shoulder flexibility tests
 - ▶ Functional mobility tests included 8-ft up-and-go, 5 chair stands, and 4-m walk
 - ▶ Participants completed SF-12, exhaustion level, and Perceived Stress Scale (PSS) questionnaires
 - ▶ Results:
 - ▶ SF-12 Mental Component Summary scores, exhaustion levels, and PSS scores improved post-intervention
 - ▶ No differences were found for physical function measures
- ▶ Conclusions: Yoga participation can improve mental/emotional wellness, exhaustion levels, and stress levels in elderly individuals, even without measurable improvements in physical function. Clinicians and health practitioners who work with the elderly should consider yoga as a potential therapeutic modality for improving important aspects of quality of life in this population.

YoMed Sequence

45min / 3xs week / 12 weeks

Seated Meditation

10-15minute Body Scan

Sequence

1. Dandasana
2. Table Top
3. Down Dog
4. Mountain
5. Warrior 1 (right side)
6. Warrior 2 (right side)
7. Triangle (right side)
8. Mountain
9. Repeated Warrior 1, Warrior 2, and Triangle on the left side
10. Mountain with lateral side stretch right
11. Mountain with lateral side stretch left
12. Modified Airplane (right side)
13. Mountain
14. Modified Airplane (left side)
15. Forward Fold
16. Low Lunge Twist (right side)
17. Low Lunge Twist (left side)
18. Seated Meditation

- ▶ Novel yoga meditation program² (YoMed) is as effective as a standard proprioceptive training in improving proprioception, balance and power in older individuals who have fallen
 - ▶ Design: 16 older persons randomly assigned to either the YoMed Group (YM) or Proprioception Training Group (PT)
 - ▶ Each group received 45 min of training, 3 days per week, for 6 weeks
 - ▶ Pretest and post-test outcome measures were used to quantify the comparative effects of the interventions
 - ▶ During the training session, subjects guided through a 15-min body scan while in a seated meditation position
 - ▶ Body scan protocol used closed eyes and motor imagery that brought awareness to subject's present body position
 - ▶ This was followed by a series of 18 gentle poses

Thai Yoga vs Tai Chi vs control (telephone counseling)

- ▶ Study⁵ compares two 12-week low intensity exercise regimens on components of physical function and quality of life in *community-dwelling healthy yet sedentary adults aged over 60*
- ▶ Design: This study used a randomized, multi-arm, controlled trial design
- ▶ Methods: 39 sedentary participants (29 women), aged 67.7 ± 6.7 years randomly allocated to either a 12 week Thai Yoga (TY) or Tai Chi (TC) for 90 min twice per week, or telephone counselling Control (C)
- ▶ Senior Fitness Test (chair-stand, arm-curl, sit-&-reach, back-scratch, 8-footup-&-go and 6-min walk) and Short Form 36 Health Survey, Centre for Epidemiological Studies of Depression, Physical Activity Scale for the Elderly and the Physical Activity Enjoyment Scale were assessed at baseline, six, 12 weeks, and three months after the completion of the regimen
- ▶ Results: After 12 weeks, chair-stand (mean difference, 2.69; 95% CI, 0.97–4.41; $P < 0.001$), arm-curl (2.23; 95% CI, 0.06–4.52; $P = 0.009$), sit-&-reach (1.25; 95% CI, 0.03–2.53; $P = 0.013$), back-scratch (2.00; 95% CI, 0.44–3.56; $P = 0.005$), 8-footup-&-go (-0.43; 95% CI, -0.85 to 0.01; $P = 0.013$), 6-min walk (57.5; 95% CI, 20.93–94.07; $P < 0.001$), vitality (13.27; 95% CI, 2.88–23.66; $P = 0.050$) and enjoyment (7.96; 95% CI, 3.70–12.23; $P = 0.001$) significantly improved in TY compared to C, however no change was observed in TC compared to C. TY improved in chair-stand (2.31; 95% CI, 0.59–4.03; $P = 0.007$), sit-&-reach (1.38; 95% CI 0.10–2.66; $P = 0.007$), 6-min walk (32.31; 95% CI, -4.26–68.88; $P = 0.015$), vitality (12.88; 95% CI, 2.50–23.27; $P = 0.040$) and enjoyment (5.65; 95% CI, 1.39–9.92; $P = 0.010$) compared to TC after 12 weeks
- ▶ Conclusions: The findings suggest that older adults can make significant improvements in their health and well-being by engaging in low intensity Thai Yoga exercise

Yoga Study shows Rise in Bone Mineral Density (BMD)

- ▶ Assessment of the effectiveness of selected yoga postures in raising bone mineral density (BMD)⁴
- ▶ Methods: Ten-year study of 741 Internet-recruited volunteers comparing pre-yoga BMD changes with post-yoga BMD changes
- ▶ Outcome Measures: Dual-energy x-ray absorptiometric scans
- ▶ Results: Bone mineral density improved in spine, hips, and femur of the 227 moderately and fully compliant patients
 - ▶ Monthly gain in BMD significant in spine (0.0029 g/cm², P= .005) and femur (0.00022 g/cm², P= .053), but in 1 cohort, although mean gain in hip BMD was 50%, large individual differences raised the confidence interval and the gain was not significant for total hip (0.000357 g/cm²)
- ▶ No yoga-related serious injuries were imaged or reported
- ▶ Bone quality appeared qualitatively improved in yoga practitioners
- ▶ Conclusion: Yoga appears to raise BMD in the spine and the femur safely



Silver Yoga Study⁶

- Background: Promoting the health of transitional frail elders (e.g., through therapeutic-based yoga exercises) is essential to reduce healthcare expenditures caused by chronic health problems
- Objective: The purpose of this study was to determine the efficacy of 24 weeks of the senior-tailored silver yoga (SY) exercise program for transitional frail elders
- Methods: A convenience sample of 69 elders in assisted living facilities were assigned randomly to the SY group (n= 38) or to the control group (n= 31) on the basis of the facilities where they resided, and 55 of them completed this quasi-experimental pretest and posttest study
- Intervention was conducted three times per week, 70 minutes per session, for 24 weeks. Physical fitness (body composition, cardiovascular-respiratory functions, body flexibility, muscle power and endurance, balance, and agility) were examined at baseline, at 12 weeks, and at the end of the 24th week of the study
- Results: At the end of the study, the physical fitness indicators of participants in the SY group had improved significantly, and they had better physical fitness than participants in the control group (all p values $\leq .05$)
- Discussion: It was recommended that the SY exercises be incorporated as an activity program in assisted living facilities to promote the physical fitness of transitional frail elders



Silver Yoga, continued

- ▶ Silver yoga (SY) exercise program is a safe and manageable yoga program developed by Chen, Tseng, Ting, and Huang (2007) to accommodate the reduced body flexibility experienced by many elders
- ▶ The program includes four phases:
 - ▶ A) warm-up (20 minutes) = eight postures to loosen up the body structure
 - ▶ B) Hatha yoga (20 minutes) = seven gentle, stretching postures to increase range of motion and progressive muscle relaxation of elders, with special consideration for their physical abilities and tolerance
 - ▶ C) Relaxation (10 minutes) = three activities to rest the body
 - ▶ D) Guided-imagery meditation (15 minutes), two imagery-guiding directions to facilitate a state of relaxation.
- ▶ Abdominal breathing is emphasized in each phase of the program
- ▶ Postures in the program are considered to be less strenuous than those used in traditional yoga (Chen, Tseng, et al., 2007)

RCT Yoga vs Aerobic Exercise for Osteoarthritis⁹

- ▶ RCT compared effects of Hatha yoga (HY) and aerobic/strengthening exercises (ASE) on knee OA
 - ▶ 3 arms design was used: HY, ASE, and education control
 - ▶ Both HY and ASE groups involved 8 weekly 45-min group classes with 2–4 days/week home practice sessions
 - ▶ Control group received OA education brochures and weekly phone calls from study staff
 - ▶ Standardized instruments used to measure OA symptoms, physical function, mood, spiritual health, fear of falling, and quality of life at baseline, 4 and 8 weeks
 - ▶ HY/ASE adherences assessed weekly using class attendance records and home practice video recordings
 - ▶ Primary analysis of the difference in the change from baseline was based on intent-to-treat and adjusted for baseline values
 - ▶ 83 adults with symptomatic knee OA completed the study (84% female; mean age 71.6 ± 8.0 years; mean BMI 29.0 ± 7.0 kg/m²)
 - ▶ Retention rate was 82%
- ▶ Results: Compared to the ASE group at 8 weeks, participants in the HY group had a significant improvement from baseline in perception of OA symptoms (-9.6 [95% CI $-15.3, -4$]; $p = .001$), anxiety (-1.4 [95% CI $-2.7, -0$]; $p = .04$), and fear of falling (-4.6 [$-7.5, -1.7$]; $p = .002$)
 - ▶ No differences in class/home practice adherence between HY and ASE
 - ▶ 3 non-serious adverse events were reported from the ASE group
 - ▶ Both HY and ASE improved symptoms and function but HY may have superior benefits for older adults with knee OA



Effects of Yoga on Sleep Quality and Depression in Elders in Assisted Living Facilities¹¹

- ▶ 6-month yoga exercise program in improving sleep quality and decreasing depression in transitional frail elders living in assisted living facilities
- ▶ Methods: A quasi-experimental pretest-and-posttest design was used
 - ▶ A convenience sample of 69 elderly residents of assisted living facilities divided randomly into a yoga exercise (n= 38) and control group (n= 31) based on residence location
 - ▶ A total of 55 participants completed the study
 - ▶ Intervention implemented in three small groups
 - ▶ Each practice group was led by two pre-trained certified yoga instructors three times per week at 70 min per practice session for 24 weeks
 - ▶ Outcome measures of sleep quality (Pittsburgh Sleep Quality Index) and depression state (Taiwanese Depression Questionnaire) examined at baseline, at 12th week, and 24th week of the study
 - ▶ Results: After 6 months of performing yoga exercises, participants' overall sleep quality had significantly improved, where as depression, sleep disturbances, and daytime dysfunction had decreased significantly (p<.05)
 - ▶ In addition, participants in the intervention group had better results on all outcome indicators than those of participants in the control group (p<.05)
 - ▶ Conclusions and Implications: Recommend yoga exercise be incorporated as an activity program in assisted living facilities or in other long-term care facilities to improve sleep quality and decrease depression in institutionalized elders



Effects of a Yoga Program on Postural Control, Mobility, and Gait Speed in Community-Living Older Adults: A Pilot Study¹³

- Objectives: Examine the impact of an 8-week therapeutic yoga program on postural control, mobility, rising from the floor, and gait speed in community-living older adults.
- Design: Pretest/posttest design with experimental group and an age-matched control group
 - Changes over time (pretest to posttest) were evaluated in all outcome measures using paired t-tests
- Setting: The yoga class was performed at a local continuing care retirement community
 - All testing performed at the site
 - Control subject pretests and posttests performed at a second continuing care retirement community
- Participants: Eight research participants, all women, with a mean age of 84 (4.6) years, 8 control participants, 5 women and 3 men, aged 81.3 (4.9) years
 - Research participants naive to yoga
- Interventions: An 8-week, 80-minute, biweekly Kripalu yoga class designed specifically for community-dwelling older adults
- Main Outcome Measures: Postural control (Berg Balance Scale), mobility (time to rise from the floor to standing, Timed Up and Go), gait (usual and fast gait speed), and balance confidence (Activities-Specific Balance Scale)
- Results: All subjects attended at least 10 of the 16 classes (62% attendance).
 - Posttest differences found for yoga participants in balance scores (P.003) and fast walking speed (P.031)
 - No other significant changes noted
- Conclusions: Improvements in postural control as measured by the Berg Balance Scale and gait as measured by fast gait speed indicate that research subjects benefited from the yoga intervention.
- The yoga program designed for this study included activities of standing, sitting, and lying on the floor
- Therefore subjects perform activities during yoga that can improve postural control, mobility, and gait speed

Effect of Sit 'N' Fit Chair Yoga Among Community-Dwelling Older Adults With Osteoarthritis

TABLE 1. Intervention: Chair Yoga

Component	Time in Class	Activities	Desired Outcomes
Breath of Life (one breathing technique per class)	10 min	Diaphragmatic breathing Alternate nostril breathing <i>Ujjayi</i> breath	Relaxation and stress reduction leading to decreased depressive symptoms
Body Proper	20 min	Physical poses and yoga <i>asanas</i> that stretch and work all joints while in the chair	Strengthen and stretch muscles around joints Increase flexibility of muscles and joints Strengthen and tone body core muscles Improve balance
Warrior in the Body	5 min	Physical poses and yoga <i>asanas</i> that stretch and work all joints while in the chair: stork pose, cobra pose, tree pose, locust post, half-moon pose, table pose	Improve balance Improve balance
Mind-Body Connection	10 min	Tense and relax Total body-guided relaxation Guided visualization	Teach body awareness Release stress and tension Produce feelings of rejuvenation

Sit 'N' Fit Yoga¹⁴

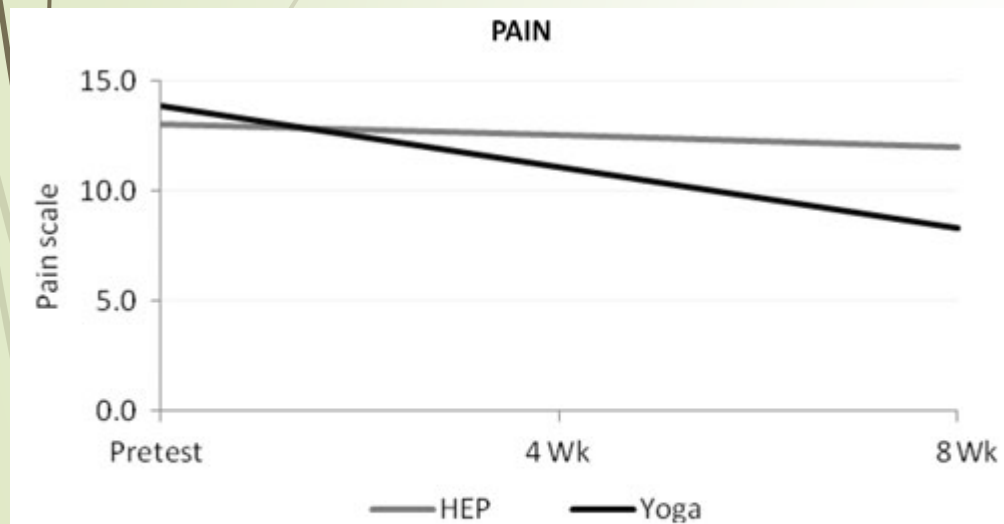


FIGURE 1. Linear trends for pain across time; pretest refers to baseline data. HEP indicates Health Education Program; Yoga, chair yoga.

- ▶ Study examined the effects of chair yoga in decreasing pain, improving physical function, and improving psychosocial well-being
- ▶ There was a significant decrease in gait speed and significant improvement in balance in participants in both the chair yoga and HEP groups
- ▶ The study results accord with results of previous standing yoga studies that examined balance and gait speed in older adults
- ▶ Improvement in balance may help older adults to reduce risk of falls and fracture, as well as fear of falling
 - ▶ 38 participants were recruited at a senior center
 - ▶ After the 8-week intervention sessions were completed, participants in the chair yoga intervention were asked to continue the yoga program at home at least twice a week (45 minutes each time) and to document the number of times the yoga program was practiced at home


8 Week Iyengar Hatha Yoga Program¹⁵

- ▶ An 8-week Iyengar Hatha yoga program specifically tailored to elderly persons and designed to improve lower-body strength and flexibility
 - ▶ Participants attended two 90-minute yoga classes per week and asked to complete at least 20 minutes of directed home practice on alternate days
- ▶ Measures: Peak hip extension, average anterior pelvic tilt, and stride length at comfortable walking speed
 - ▶ 13 women, 6 men completed study, participants age range 62 to 83 (average 70.7±6.1y)
- ▶ Age-related declines in gait function, reduced hip extension, and associated changes in stride length and pelvic tilt likely contribute significantly to the increased risk for falls and fall-related injuries associated with gait impairment in older adults
 - ▶ Major cause of morbidity and mortality in elderly populations
- ▶ Dynamic hip extension showed significant increase over time, accompanied by significant improvements in both stride length and anterior pelvic tilt,
 - ▶ Supports hypothesis tailored yoga program associated with improvement in these gait parameters.
- ▶ Changes in hip extension and anterior pelvic tilt also demonstrated strong, linear, dose-response associations with both duration and frequency of home yoga practice,
 - ▶ Suggests a direct, causal relationship between yoga practice and change in these gait parameters
- ▶ Program was well-received, safe, and enjoyable for participants
- ▶ Adherence to the protocol was excellent
- ▶ Together, observations suggest age-related changes in these key gait parameters can be modified with low-intensity, short-term interventions and tailored yoga programs may be an attractive, inexpensive, and effective intervention for improving gait function in certain elderly populations

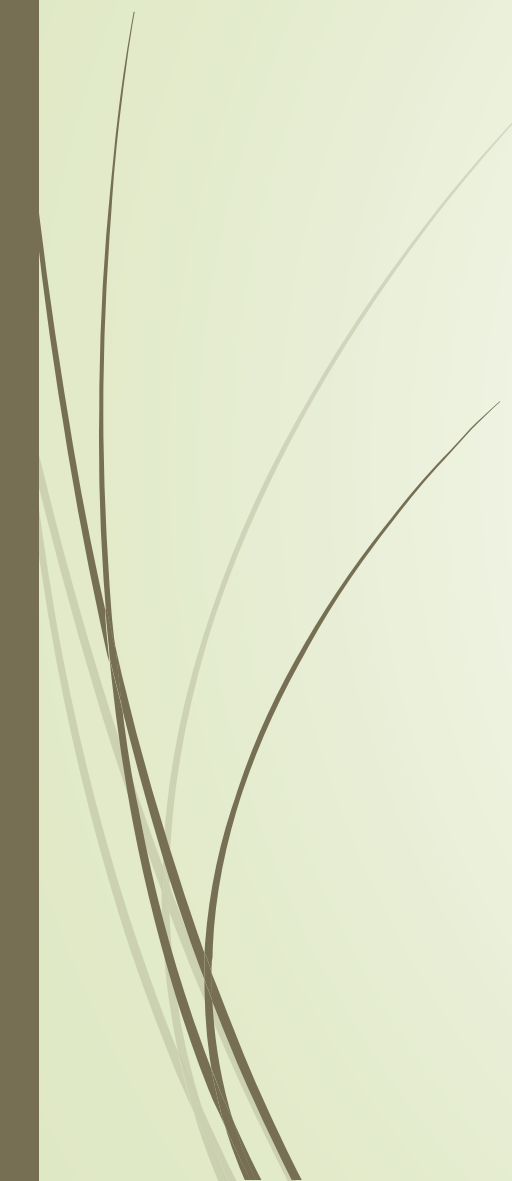


Review Yoga on Physical Functioning and Health Related Quality of Life in Older Adults¹²

- ▶ Small studies with mixed methodological quality
 - ▶ Yoga may be superior to conventional physical activity interventions in elderly people
 - ▶ The precision of the estimates remains low
- ▶ Larger studies are necessary to define better the intersection of populations, settings, and interventions in which yoga is most beneficial



Yoga and Health Problems in the Elderly: An Evidence-based Review¹⁰

- ▶ Regular practice of Yoga can be considered as an effective intervention in improving multiple planes
 - ▶ Physical - reduces heart rate, blood pressure, blood glucose, oxidative damage, fatigue, weakness, fear of fall, and improve heart rate variability, baroreflex sensitivity, insulin sensitivity, physical functions, mobility, flexibility, and urinary incontinence
 - ▶ Mental - reduces depression, anxiety
 - ▶ Emotional - reduces anger, stress, tension and improve self-efficacy
 - ▶ Social – improve life satisfaction
 - ▶ Vital - improved vitality, better quality of sleep and quality of life
- 



The Roles of Exercise and Yoga in Ameliorating Depression as a Risk Factor for Cognitive Decline⁸

- ▶ Review discusses efficacy of exercise and yoga to ameliorate depression and thereby reduce the risk of cognitive decline and potentially prevent dementia. Potential mechanisms of change, treatment implications, and future directions
- ▶ Mid- and late-life depression are associated with an increased risk of dementia
 - ▶ Alzheimer's disease is almost doubled
 - ▶ Risk of vascular dementia is almost tripled
- ▶ One study demonstrated significant improvements in depressed mood, well-being, and self-efficacy for a group of older adults (65–92 years), compared to either a control or exercise group
- ▶ Similarly, yoga improved mental/emotional wellness in a small group of older adults (66 years)
- ▶ These studies suggest that yoga may have beneficial effects at any age
- ▶ Longitudinal studies are needed to determine whether there is a crucial period for prevention of cognitive decline
- ▶ Paucity of longitudinal follow-up studies investigating the long-term effects of yoga



Systematic Review/Meta-analysis for multiple comorbidities

- ▶ Systematic review³ of randomized controlled trials examining yoga programs for individuals with heart disease, stroke, and COPD compared with usual care
- ▶ Ten studies (431 individuals, mean age 56 ± 8 y) included, comparable in design and components, irrespective of the chronic disease
- ▶ Standardized mean difference for the mean change in exercise capacity was 2.69 (95% confidence interval, 1.39–3.99), for HRQL was 1.24 (95% confidence interval, 0.37 to 2.85)
- ▶ Symptoms of anxiety reduced after yoga in individuals with stroke
 - ▶ Not observed in individuals with COPD
- ▶ The effect of yoga on symptoms of depression varied across studies with no significant effects compared with usual care
- ▶ Conclusions: Yoga programs have similar designs and components across chronic disease populations
 - ▶ Compared with usual care, yoga resulted in significant improvements in exercise capacity and a mean improvement in health-related quality of life (HRQL)
 - ▶ Yoga programs may be a useful adjunct to formal rehabilitation programs



Mind–Body Interventions for Chronic Pain in Older Adults: A Structured Review⁷

- ▶ Eight mind–body interventions for older adults with chronic nonmalignant pain
- ▶ Objectives: To evaluate the feasibility, safety, and evidence for pain reduction in older adults with chronic nonmalignant pain in the following mind–body therapies: biofeedback, progressive muscle relaxation, meditation, guided imagery, hypnosis, tai chi, qi gong, and yoga
- ▶ Methods: A manual search of references from retrieved articles was also conducted. Of 381 articles retrieved through search strategies, 20 trials that included older adults with chronic pain were reviewed
- ▶ Results: Fourteen articles included participants aged 50 years and above, while only two of these focused specifically on persons aged ≥ 65 years
 - ▶ An additional six articles included persons aged ≥ 50 years
 - ▶ There is some support for the efficacy of progressive muscle relaxation plus guided imagery for osteoarthritis pain
 - ▶ There is limited support for meditation and tai chi for improving function or coping in older adults with low back pain or osteoarthritis
 - ▶ In an uncontrolled biofeedback trial that stratified by age group, both older and younger adults had significant reductions in pain following the intervention. Several studies included older adults, but did not analyze benefits by age. Tai chi, yoga, hypnosis, and progressive muscle relaxation were significantly associated with pain reduction in these studies
- ▶ Conclusion: The eight mind–body interventions reviewed are feasible in an older population. They are likely safe, but many of the therapies included modifications tailored for older adults. There is not yet sufficient evidence to conclude that these eight mind–body interventions reduce chronic nonmalignant pain in older adults



My Study: Feasibility of a Yoga Intervention for Elderly in an Elder Living Community (UMRC)

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none">✓ Men and women aged 65 or over✓ Report chronic (>3months) clinically relevant pain, defined as a score of ≥ 3 on a 0-10 numeric pain scale, at least 3 of 7 days per week✓ Current resident of United Methodist Retirement Community with records available regarding medication use over the previous 10 weeks	<ul style="list-style-type: none">✗ Persons who have not lived at the facility long enough to analyze medical records✗ Have any medical condition or lack of physical capabilities that would prohibit safe participation in yoga exercise program.✗ No regular yoga practice (regular yoga practice defined as ≥ 1 practice session/week).✗ Cannot provide informed consent for this study.


CRC Yoga Study Timeline of Events

Week Activity	-2 to 0	1	2	6 to 8	11 to 13	21-23
	Data collection #0: screening and consent	Data Collection (Baseline)	Class 1: Yoga intervention begins	Data collection #2 After 5 th yoga class	Data collection #3 After 10 th yoga class	Data collection #4 10 weeks follow-up
Informed Consent and ARPHI ¹	X					
Sociodemographics	X					
Medication and Health History		X			X	X
Comorbidities		X				
Drug Diary (independent living only)		X	X	X	X	
BPI ¹		X		X	X	X
Michigan Body Map		X		X	X	X
PROMIS Sleep Disturbances 8-item		X		X	X	X
PROMIS Physical function 10 item		X		X	X	X
Promis Fatigue 8 Item		X		X	X	X
HADS ¹		X		X	X	X
Adverse Events ²			X	X	X	X
Feasibility questions					X	X



Assessments Used for Our Yoga Feasibility Study

- ▶ Pain assessed using the Brief Pain Inventory (BPI) and Michigan Body Map (MBM)
- ▶ Depression/anxiety status assessed using the Hospital Anxiety and Depression Scale
- ▶ PROMIS measures will be used to assess Fatigue, Sleep, and Physical Functioning
- ▶ In addition, questions on adverse events, as-needed pain medication use, and experiences with yoga thus far (including whether they practice at home, how often, satisfaction with yoga, etc...) will be recorded and analyzed



My Team and I hope to prove that a Modified Yoga Practice can Improve Pain, Depression, Function, Sleep and overall QOL in Elders requiring higher level of care (Assisted Living) as well as benefit Independent Living Elders of this Community

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THANK YOU FOR YOUR ATTENTION

QUESTIONS?

