OUT WITH THE OLD: AND IN WITH THE OLDER!

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Mission: “wellness without walls™”

I. INTRODUCTIONS
1. Nämaste! (“My inner peace meets, greets, and salutes your inner light”)
2. Gratitude
3. Introducing Bernadette O’Brien
4. This program is really about making COLs: C___________ of L___________.
5. Instead of “seniors” let’s call this population: __________________________
6. The “old school” method of training “seniors:”
7. 2013: Daily _____ people turn age 65 in North America and the largest growing population segment is _________________________________.
8. Baby Boomers (46-64) and Generation X (64-81), and Generation Y (1978+)
9. There are no rules, only recommendations. “The heterogeneous nature of older adults requires that we train this population according to capability rather than age. If we set stringent exercise guidelines based on age alone, we limit opportunity & the efficacy of their success.” Cammy Dennis, Senescence Expert
10. Terms:
   a. Senescence
   b. Neuroplasticity
   c. Self-Efficacy
   d. Gait
   e. Plane Approaches: Sagittal, Frontal, Transverse
   f. Eccentric Training and Deacceleration: T’ai Chi, as follows

II. THEORY & RESEARCH

INTRODUCTION: A Look at Age: SENESCENCE as a HETEROGENOUS GROUP
1. Chronological Age: 365-day cycles since birth, “0”
2. Functional Age: for executing Activities of Daily Life (ADLs) check out http://wiifit.com/body-test Takeaway: Pelvic Floor control, Memory games
3. Biological Age: physical functions at cellular level (e.g. antioxidants). check out realage.com; “People who exercise regularly with task-dependent exercises have lower biological ages than people of the same chronological age who do not exercise.” Shephard, R.J. (1997). Aging, Physical Activity and Health. Champaign, Ill: Human Kinetics. Takeaway: Games
5. Social Age: what is expected and accepted of a particular group. Takeaway: group dynamics, teams, and pets

SYMPTOMS:
1. International Council on Active Aging (icaa.cc): age 50
2. Physical Awareness:
   A. Musculoskeletal: osteoarthritis(inflammation of joints due to wear and tear), osteoporosis (bone loss), gout, loss of muscle mass, fractures & falls. Takeaway: longer warm-up relative to total timeframe of class, up to 25% of total time; balance training, encourage hydration because this population fears drinking and is often dehydrated 24/7. Dehydration and decreased balance performance can be directly related (http://www.medscape.org/viewarticle/502825).

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B. **Hormonal**: Diabetes (impaired control of blood glucose), menopause, thyroid dysfunction, high blood cholesterol, slower overall metabolism; **Takeaway**: cardiovascular and strength exercise, awareness of barefoot suggestions

C. **Neurologic**: dementia (Alzheimer or other types), Parkinson’s disease, strokes, poor vision, hearing impairment, balance problems, and sleep issues. Benzodiazepines. **Takeaway**: memory games like phone numbers, grocery lists, muscle lists, up to 7 items and restate every 5-7 minutes during class. Appropriately intense workouts have been shown to increase sleep quality in this population, which in turn promotes greater balance and hormone generation (http://www.medscape.org/viewarticle/502825) 2 Muscular Strength & Resistance Areas: 1. anterior tibialis and 2. quadratus lumborum

D. **Visual**: macular degeneration, glaucoma, cataracts, diabetes and hypertension related eye disease. **Takeaway**: include visual & vestibular tracking exercises during entire routine; keep head above the heart; bright colors for teachers. FONT.

E. **Cardiovascular** disease: heart attacks, congestive heart failure, irregular heart rhythm (atrial fibrillation), high blood pressure (hypertension), atherosclerosis (hardening and narrowing of blood vessels) and peripheral vascular disease or peripheral artery disease (poor blood flow as a result of narrow blood vessels **Takeaway**: cardiovascular and strength exercise as well as appropriate time allotment during position changes like floor to standing for blood pressure to readjust; decreasing visceral/abdominal fat can reverse Type 2 diabetes

MOVEMENT: Functional movement to increase biological and psychological age. “Exercise is optional but movement is essential.”

a. NEAT: Non Exercise Activity Thermogenesis; examples: walking on escalator, parking farther from the front door of grocery store, getting up every 20-30 minutes of sitting or during all commercials.

b. pedometers as motivators, like Nike Fuel Band at www.nike.com

MEALS: Consider motivating this population to document meals via:

a. free sites such as fitday.com, myfitnesspal.com, and my-calorie-counter.com
b. motivate with open-ended questions such as:
   1. What is my need to eat now?
   2. How can I plan for tomorrow’s meals?
   3. What are my best choices?

III. PRACTICAL

1. WITHOUT THEM:
   A. FACTORS AFFECTING BALANCE:
      a. ENCOURAGE HYDRATION
      b. ENCOURAGE SLEEP

2. WITH THEM:

   SUGGESTIONS:

   A. Instructors: wear bright colored clothing. Students: sunglasses as appropriate

   B. Terminology: “ladies and gentlemen” over “you guys”

   C. Be especially aware of common areas of complaint: joints (including spine) because of arthritis, torn meniscus & ligaments, and lower back areas. Encourage slow spinal rotation, especially cervical.

   D. Hip Replacements: promote hip opening movements

   E. Lying flat in a supine position generally is contraindicated for high blood pressure, eye & other issues of pressure.

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F. Train SAGITTAL plane first, then FRONTAL and TRANSVERSE, to be the most functionally transferrable from how we walk into the studio to how we train them in fall prevention strategy.

G. Incorporate memory, visual affect, vestibular, and gait challenges as much as possible. SEPARATELY AND INTEGRATED.

H. Cardio: Intensity: Use the RPE 6-20 scale if available and appropriate, and encourage the Talk Test (E.g.: “When you are working at your most intense, you should still be able to say the words to ‘Happy Birthday’ song, but not sing it comfortably”).

I. Balance & Eccentric Deacceleration: Chi Gong (building blocks) and T’ai Chi (Yang 24 Form Choreography)

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FUNCTIONAL MOVEMENTS & PATTERNS
THEME: Stability & Mobility with Pelvic Floor Awareness

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WARM-UP: Establish MENTAL & VISUAL TASKS/GAMES called “Walkie-Talkie,”

1. SLOW SAGITTAL HEEL & TOE TAPS W/ARMS
2. SLOW FRONTAL HEEL & TOE TAPS
3. MARCHING IN A CIRCLE CLOCKWISE & COUNTER-CLOCKWISE, LOOKING down & up
4. MARCHING “OUT AND IN” WITH FIGURE 8 ARMS and HIP ROCKS
5. “ROCKING HORSE ELEVATORS”: SAGITTAL (Jags, Woolley)
6. MARCHING W/VISUAL TRACKING ARMS WITH DIFFERENT FINGERS (V.A.)
7. FINGER/WRIST/SHOULDER WARMUPS UNILATERAL & BILATERAL “BACKSTROKES”
8. 3 SPINAL RHYTHMIC LIMBERING STRETCHES:
   a. BACK RHYTHMIC SAGITTAL MOVEMENTS
   b. BACK RHYTHMIC FRONTAL MOVEMENTS
   c. BACK RHYTHMIC TRANSVERSE MOVEMENTS

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CLASS: (Emphasize Pelvic Floor Recruitment throughout)

1. SQUATTING VS HINGING
   PROGRESSION:
   a. REACHING
   b. WITH ROTATION

2. GETTING DOWN AND UP
   a. TODDLER REACHING
   b. LUNGING (STEPPING FORWARD) WITH HANDS ON FORWARD THIGH
   PROGRESSION: a. WITHOUT ARMS
   b. WITH ROTATION
   c. [BOSU BALANCE TRAINER: SITTING, LUNGING, HINGING to KNEELING]

3. MUSCULAR STRENGTH & ENDURANCE:
   ANTERIOR TIBIALIS:
   a. WITHOUT EQUIPMENT: STANDING TOE RAISES
   b. WITH EQUIPMENT: BANDS, BOSU

   QUADRATUS LUMBORUM:
   a. Standing hip hikes
   b. Standing lateral flexion
   c. A + b
   d. Standing hip rocks from warmup
   e. [from floor: side-lying plank variations]

4. GAIT & FALL PREVENTION WITH LABILE TRAINING (Shod or Barefoot):
   A. WEIGHT TRANSFERERENCE IN SAGITTAL PLANE WITH PAUSES
   a. Arms out, step inline with space between feet
   b. Arms out, step inline with heel to toes
   c. Without arms, step inline w space between feet
   d. Without arms, step inline with heel to toes
   e. “catch yourself” drills w/ and w/o arms

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B. WEIGHT TRANSFERENCE IN FRONTAL PLANE
   a. Arms out, step to side, return
   b. Without arms, step to side, return
   c. “catch yourself” drills in frontal plane

CIRCLE GAIT TRAINING SAGITTAL PLANE HEEL-TOE WALKING FIGURE 8
(BOSU BALANCE TRAINER: “BOSU MOBILITY & STABILITY FOR ACTIVE AGING”)

5. T’AI CHI/CHI GONG
   A. SAGITTAL:
      a. PAINT THE WALL
      b. ROOSTER LIFTS ONE HEEL or LEG
      a + b
   B. FRONTAL PLANE
      a. GATHER THE CHI/FLYING BIRD
      b. ROOSTER LIFTS BOTH HEELS
      c. a + b
      d. OPEN AND CLOSE THE DOOR (EYES CLOSED)
   C. TRANSVERSE
      a. WISE OWL GAZES BACKWARDS


7. “BETTY’S FAB 4”: PROGRESSIONS OF STABILITY/MOBILITY COMBINATIONS
   a. PLANKS WITH UNILATERAL HIP FLEXIONS (weight & gait)
   b. BILATERAL & UNILATERAL BRIDGES (gait improvement)
   c. RECIPROCAL DEAD BUGS (reaction w/verbal and tactile cues)
   d. SIDE- LYING HIP LIFTS WITH ROTATION (THREAD THE NEEDLE) “Lift, Twist, Untwist, Lower” (quadratus lumb.)

SENESECT TIPS FROM:

1) PHYSIOLOGICAL BENEFITS OF PHYSICAL ACTIVITY FOR OLDER PERSONS:
   IMMEDIATE Benefits:
   Glucose levels: Physical activity helps regulate blood glucose levels
   Catecholamine Activity: Both adrenalin (epinephrine) and noradrenalin (norepinephrine) levels are stimulated by physical activity.
   Improved Sleep: Physical activity has been shown to enhance sleep quality

   LONG-TERM Effects:
   Velocity of Movement: Behavioral slowing is a characteristic of advancing age. Individuals who are regularly active can often postpone age-related declines. Takeaway: reaction time work.
   Aerobic/Cardiovascular Endurance: Training for improvements.
   Resistive Training/Muscle Strengthening: Has a significant impact on muscles & bones
   Flexibility: Exercise that stimulates movement throughout the range of motion
   Balance/Coordination: Helps prevent and/or postpone age-associated declines in balance and coordination that are a major risk factor for falls.

2) SOCIAL BENEFITS OF PHYSICAL ACTIVITY FOR OLDER PERSONS:
   IMMEDIATE Benefits:
   Enhanced Social and Cultural Integration: Physical activity programs enhance social and intercultural interactions & empowerment.

   LONG-TERM Effects:
   Enhanced Social Age Integration: More likely to contribute to the social milieu with formation of New Friendships: Stimulates new friendships and acquaintances. Widened Social and Cultural Networks Enhanced Intergenerational Activity and Partner Work: Provides opportunities for intergenerational contact, thereby diminishing stereotypical perceptions about elderly.

Summary:
   Homework: FB: Aqua Stars America
   Resources: icaa.cc, complete bibliography available
   Take-Home Message:

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