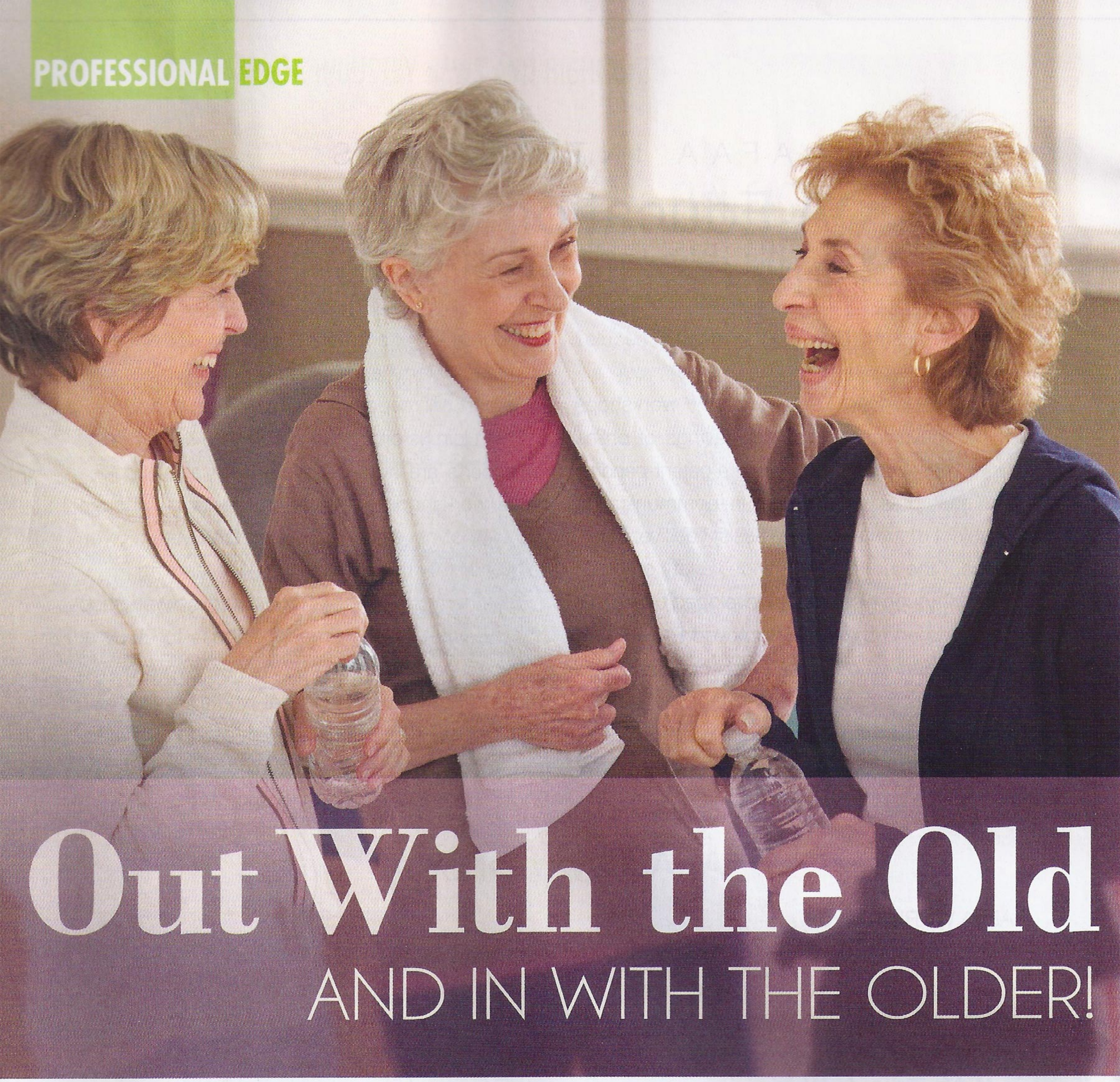


Out With the Old

AND IN WITH THE OLDER!

Research-Based Strategies for Training the Active Aging Exerciser

BY LAWRENCE BISCONTINI, MA

The American Geriatrics Society recommends that fitness facilities offer a strong group exercise program for the baby boomer market, which roughly spans the wide age range from individuals born in 1946 (like Liza Minnelli) to 1965 (Michelle Obama). To keep abreast of the current research for integrating functional training for participants at the older end of this spectrum, here appear many research-based take away training tips for clients and classes.

No single rules apply to this population. Cammy Dennis, AFAA provider and wellness director of On Top of the World Communities, based in Ocala, Fla., claims that "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 and the efficacy of their success."

Bernadette O'Brien, AFAA certified group exercise instructor based in New Jersey, agrees, and suggests using the term "chronologically enriched" individuals instead of just labeling the group as "seniors." "Even though the

participants may enter [class] with similar chronological ages, they all have different functional, biological and psychological ages. We have to train all four aspects of their age."

Aspects of Aging

These four types of age are biological, psychological, functional and social (Schuffham et al.). Biological age refers to age at a cellular level, such as the amount of healthy antioxidants accumulated in the blood. Routine physicals reveal aspects of biological age. Functional age refers to a specific population's ability to achieve all movements necessary for daily life. For functional age pointers, try wiifit.com/body-test/. Psychological age and social age refer to cognition and self-efficacy, two of the most significant terms for this population's overall health. For assistance with these two, try www.realage.com.

Training Considerations

O'Brien includes exercises for training all of the aforementioned ages. "Because I'm 82, my students respect that I can relate to the issues that they have. While they all need something different with the plethora of different physical issues, I always operate from a list of tips." Such practical advice from O'Brien and this author appear in Figure 1.

Training requires teacher sensitivity to general musculoskeletal, hormonal and neurologic issues affecting this age group. To be sure, the major muscles trained vary little from classes taught to younger participants, but instructors must be aware of slight changes to programming necessary for this market because of issues that follow.

Physiological Issues and Suggested Exercise Protocol

At a *musculoskeletal* level, since many common issues include osteoarthritis (inflammation of joints due to wear and tear), osteoporosis (bone loss), gout (inflammation of joints caused by deposits of urates), loss of muscle mass, fractures and falls, warm-ups should extend to 25% of total class time.

At a *hormonal* level, since prevalent concerns involve diabetes (impaired production or utilization of insulin), menopause, thyroid dysfunction, high blood cholesterol and an overall slower metabolism, classes should include a combination of cardiovascular, strength and flexibility movement patterns (Kramer et al.).

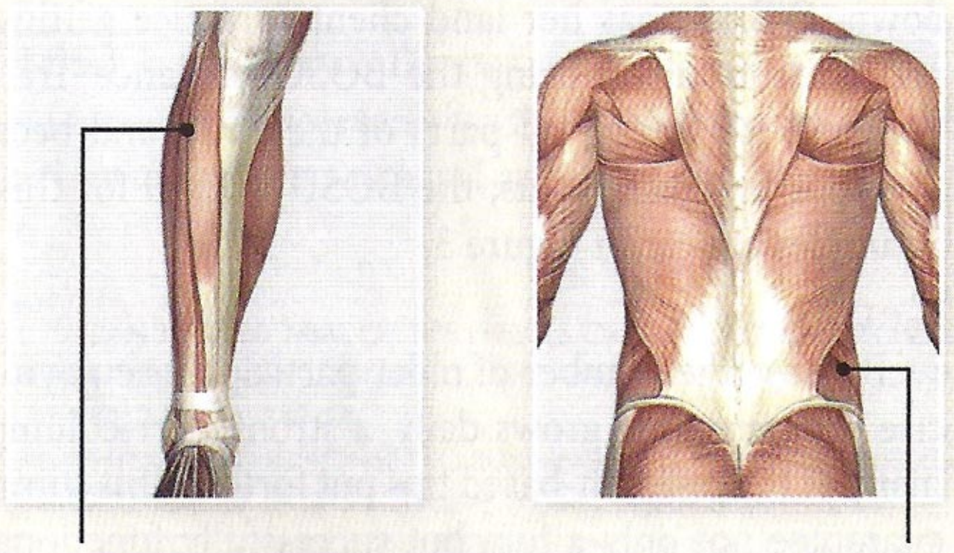
Some common *neurologic* issues include dementia (Alzheimer's or other types), Parkinson's disease, strokes, poor vision, hearing impairment, balance problems and sleep issues, so mental training, such as memory games, and gait training prove useful (Danner). Appropriately intense workouts have been shown to increase sleep quality in this population, which in turn promotes greater hormone generation (www.medscape.org/viewarticle/502825). Most importantly, research available from the Centers for Disease Control (CDC) validates the need for all classes for this age group to include fall prevention strategies in programming.

From a biomechanical standpoint, most resources for baby boomers advocate an overall, multi-joint strength training protocol following the AFAA and ACSM standards and guidelines. According to the *Journal of American Geriatrics Society (JAGS)*, instructors should include exercises that strengthen two important muscle groups for this population, the tibialis anterior and the quadratus lumborum, seen in Figure 2.

Figure 1: Eight Tips to Training the Chronologically Enriched

- Be especially aware of common areas of complaint: joints (including spine) because of arthritis, torn meniscuses and ligaments, and lower back areas. Encourage slow spinal rotation, especially cervical.
- Promote: comfortable, hip opening movements for those with hip replacements.
- Avoid: lying flat in a supine position without head support. This generally is unwelcomed for high blood pressure, and eye and ear issues.
- Gauge intensity: Use the RPE 6 to 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 the 'Happy Birthday' song, but not sing it comfortably").
- Incorporate: memory, visual effect, vestibular and gait challenges with reaction "games" in every class (e.g., Use arm movements that cross the midline of the body like figure 8s as this supports brain health).
- Always include: some aspects of T'ai Chi/Chi Gong with this population because every movement combines balance, slow speed, multi-joint openings, and fall prevention strategies (Danner, Tsang).
- Train: sagittal plane movements first, then frontal and transverse, to be the most functionally transferable from how we walk (sagittal) to more complicated planes of movement in fall prevention strategy.
- Train this group: with the BOSU® Balance Trainer instead of the usual chair, which offers more functional, comfortable ways to help them with fall prevention and getting up and down (Wolf et al.).

Figure 2: Tibialis Anterior and Quadratus Lumborum



Tibialis Anterior

Quadratus Lumborum

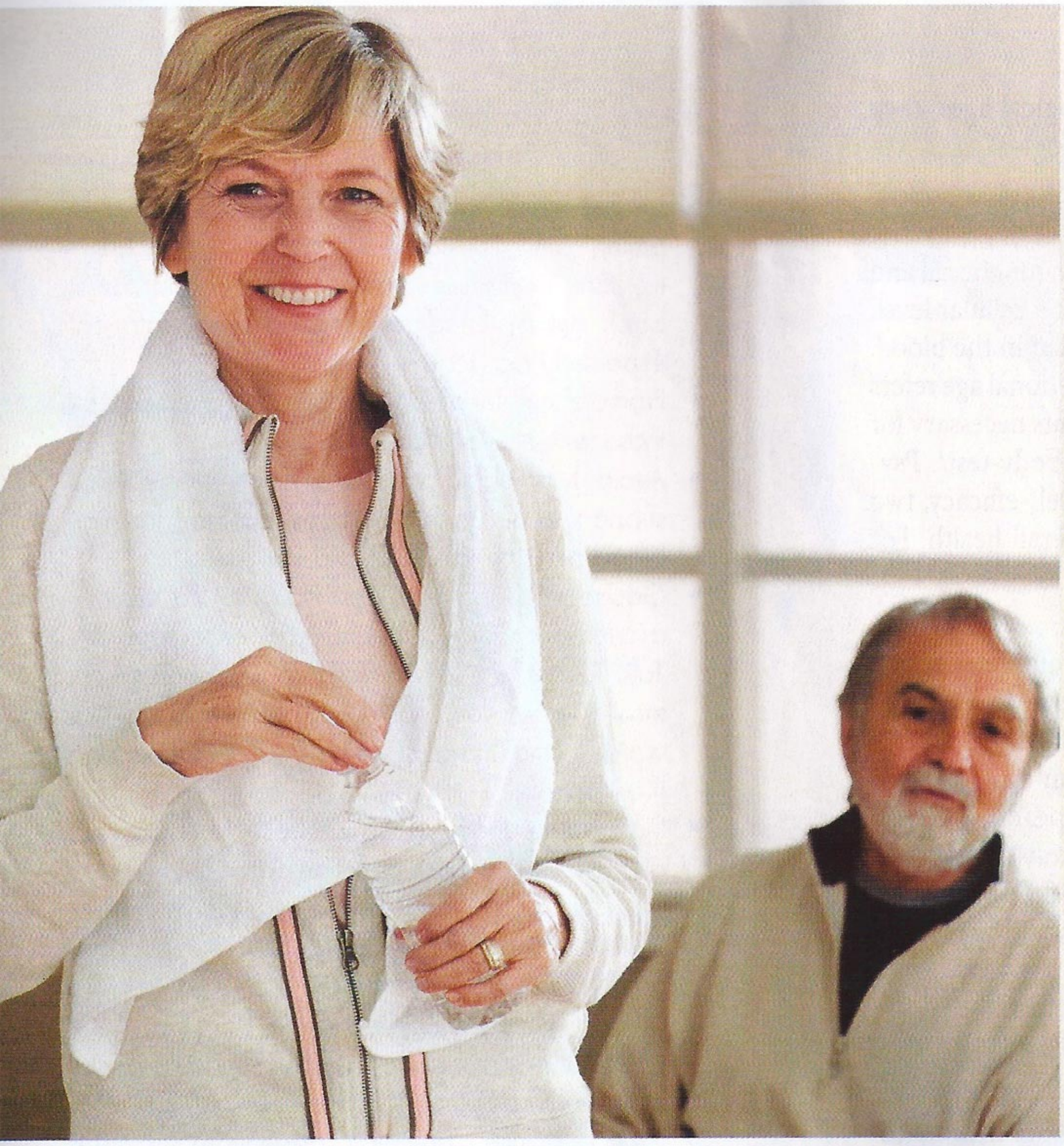


Figure 3: Functional Exercise Using BOSU

- **Lunging:** Standing to the left of the BOSU, stagger the feet to a comfortable lunge stance with left foot forward. With hands out to the sides like airplane wings, lower the back knee to the BOSU surface. Return to standing position and repeat other side.
- **Sitting:** Stand in front of the BOSU with arms reaching forward for counterbalance. Slowly lower glutes toward the BOSU until sitting comfortably. To stand, turn around on BOSU and push self upwards until standing.
- **"Catch Yourself":** Standing behind the BOSU, gently push right foot into the top of the BOSU, letting all of the body weight follow. Return to the start position and repeat with the other leg. With practice, the goal is to start to "fall" forward with the body and catch oneself at the last possible moment.

Strengthening the anterior tibialis helps prevent falls because as seniors start to stumble, this is the muscle that can react quickly, pulling up the toes to avoid a fall. Simple exercises include toe raises when seated or standing, with or without resistance.

Strengthening the quadratus lumborum helps prevent falls because, as the true lateral flexor of the hip, it helps stabilize the rib-to-pelvis relationship in the frontal plane as a person walks forward in the sagittal plane. Simple exercises include hiking up one hip while standing (inferior lumbar lateral flexion). When these muscles do their role effectively, they help minimize shuffling (*JAGS*).

Research recommends having clients work these, and all, muscles in a variety of positions, all while helping seniors face their two most important fears: both *getting* down and *falling* down. O'Brien has her land clients practice getting to the floor and back up again using the BOSU® Balance Trainer, claiming "Because it's soft on all parts of the body, and because it brings the floor up closer to us, the BOSU is ideal for this population." Examples appear in Figure 3.

Get Results

Because the number of older participants enjoying group exercise programming grows daily, a strong curriculum that includes many of the research-based tips put forth in this summary can help guarantee not only a fun, but successfully functional program in fall prevention and their overall health. **AF**

LAWRENCE BISCONTINI, MA, *has been training older adults since first starting his fitness career in 1983. His charity of choice, The Sisters of Saint Joseph Villa, includes a physical therapy wing where he often volunteers his time to teach both chair and standing-based classes to this population. He and Bernadette O'Brien have posted many of the practical tips outlined in this article at www.findLawrence.com. O'Brien's Facebook group, called "Aqua Stars America," is open to all interested in finding out more about her successful strategies in training this age group on land and aqua.*

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