



CHEK POINTS for Fitness Professionals

Swiss Ball Training for Older Adults

With the Baby Boomer generation aging, many trainers are finding themselves with an older clientele base. While there are many exercise programs for older adults in operation today, most focus on the use of fixed axis machines. Though increasing muscle mass and strength by such means may improve aesthetics and metabolism, there is little if any improvement in the ability to perform movements required for daily activities.

Adults over 65 are more susceptible to injuries due to falling. Research suggests that falls among older adults result from problems with gait, balance and neurological and musculoskeletal disabilities. Lack of exercise, muscle wasting, poor posture, muscle weakness, diminished generalized motor skills and poor nutrition also contribute to loss of balance and falls among older individuals. All of these can be easily and effectively addressed by a skilled exercise or rehabilitation professional.

The Swiss ball is an excellent tool to incorporate into a balance-training program for older adult clients. A study performed at Andrews University demonstrated a statistical as well as perceived improvement in balance among adults (aged 65-85 years) through the use of a home exercise program using the Swiss ball.

If we are to be truly effective at improving balance in older clients, we must adhere to the concept of bio-motor integration (10), which indicates that all movements performed unsupported while on the feet require

an integrated combination of the following bio-motor abilities: strength, endurance, power, coordination, flexibility, agility and balance.

Performing any exercise on a fixed axis machine disrupts bio-motor integration, immediately excluding the integration of strength with balance, coordination of the motor system as a whole, agility and pattern specific flexibility.

Furthermore, we must also respect the fact that balance is not only a learned skill. Careful clinical observation shows that like static and dynamic posture, balance is movement pattern specific. In addition, the central nervous system knows nothing of muscles, only of movements! With that in mind, trainers should focus balance training and strength training efforts on restoration of the ability to perform the key movements most likely to be associated with falling in the elderly, which commonly are: gait, stepping or climbing stairs, squatting to get in and out of chairs, bed and cars, dynamic, non-specific movements such as getting in and out of the bath tub/shower and bending to get groceries out of shopping carts and the trunk of a car, often in inclement weather.

Seated Posture Trainer

To start, have your client just sit on the ball, until they feel comfortable enough to begin other exercises. A good exercise to begin clients with is the Seated Posture Trainer. Performing this exercise with a five pound head bag (soft diver's weight) allows the client to develop an increased

sense of proprioception while learning proper seated postural alignment. As they become more confident, one foot is lifted off the ground, shifting their center of gravity and necessitating a righting response. In short order, posture, balance and confidence are improved!



Supine Lateral Ball Roll

Although it looks hard, the Supine Lateral Ball Roll is only challenging in proportion to how far the client deviates laterally on the ball. This excellent exercise requires integration of the upper and lower extremities via the trunk, serves to improve stability and balance and has a functional carryover to gait and any pushing or pulling activity that requires integration of the anterior and posterior muscle systems of the body. Activation of the extensor muscles from shoulder to contralateral hip aids in strengthening the muscles across the apex of the thoracic curvature, improving posture. With just a short period of coaching, the client becomes much more confident on the Swiss ball.

Exercise Order

When designing a program to improve balance and functional strength for the elderly client, it is very important to always sequence exercises from the most neurologically complex – most physically demanding – most important relative to their deficits, to the least complex and least demanding to each given client. Clinical experience shows that the nervous system takes as much as five times longer to recover from a bout of exercise (particularly when neurologically complex) than the muscular system, thus the traditional bodybuilding approach to exercise can become quite detrimental to motor skills development, which is neurologically based.

How To Perform the Supine Lateral Ball Roll

- Lying over a Swiss ball with your head and shoulder blades comfortably supported by the ball, raise your hips so your body is level and place a dowel rod across your chest held by your arms extended to the sides
- Place your tongue on the roof of your mouth and holding your body in perfect alignment, begin shuffling your feet as you slowly roll to one side; when you reach the point where you feel like you will lose your perfect alignment, stop, hold for one second and slowly return back to the starting position.
- Repeat the process to the other side and alternate sides 6-8 times.



Items to Remember

- Keep your feet in alignment with your body except for the shuffling necessary to roll laterally
- It is important to only go as far as you can while maintaining perfect alignment with hips up and arms level
- A partner is helpful to give you feedback as to how well you are maintaining perfect form

See Paul Chek's article *Balance Training for the Elderly* in *Personal Fitness Professional*, May 2003 (www.fit-pro.com).

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