

Treating Osteoporosis and Urinary Incontinence in Women with Physical Therapy

By: *Derek Spinney, PT, CSCS*

Osteoporosis and urinary incontinence are two conditions that affect both men and women but are largely associated with the female population. Recent figures estimate more than 52 million Americans either have osteoporosis or low bone mass, of which 35 million are women. Urinary incontinence, defined as a condition in which involuntary loss of urine causes a social or hygienic problem, affects another 15 to 25 million Americans, of which the majority are women.

As we age, our bone growth peaks at age 30 before it begins an age-related decline in mass that increases drastically at menopause. Additionally, peak muscle mass is achieved by our 40s, with age-related loss of muscle beginning at age 50. This muscle loss impacts the smooth muscles of the pelvic floor.

However, both bone and muscle loss can respond to exercise. Specific exercises targeted to maintain bone mass, reduce age-related bone loss, preserve muscle strength, coordination and postural stability, and reduce future risk of falls or fractures, can be performed with very little equipment. Age, fitness level and risk factors should always be evaluated in consultation with your physician before seeing a physical therapist.

Osteoporosis and Exercise

Research has demonstrated the benefits of exercise, including increasing peak bone mass and reducing the risk for falls. Exercise that is particularly beneficial to bone includes high load, weight-bearing and site-specific resistance exercises. Resistance training with weights, elastic tubing, and body weight are routinely considered. Postural exercises for the spine include extension exercises and spine stabilization, perhaps with the use of a stability ball. Further progression to higher-impact weight-bearing exercises includes jumping, step aerobics and stairs, and dancing. Racquet sports can also be considered.

Urinary incontinence and Exercise

Urinary incontinence is not a disease, but may be a symptom of other underlying conditions. Some underlying causes of urinary incontinence may resolve naturally while others may take longer to resolve.

There are several types of urinary incontinence:

- **Stress incontinence**, defined as involuntary loss of urine during physical exertion, accounts for 75 percent of all urinary incontinence and can be caused by a variety of factors including: pregnancy, weak muscles, damaged nerves, lax ligaments and fascia, cancer treatments, and hormone imbalance or decreased estrogen following menopause which can weaken the sphincter muscle.

- **Urge incontinence** is the sudden urge to urinate without the ability to stop the flow, especially when sleeping, drinking, or listening to running water. Also known as spastic bladder, overactive bladder, or reflex incontinence, it is frequently caused by urinary tract infections, injury, illness, or surgery.
- **Mixed incontinence**, which is a combination of stress and urge incontinence, is more common in older women.
- **Functional incontinence** is most common among the elderly who may be unable to control their bladder before reaching the bathroom due to limitations in moving, thinking, or communicating.
- **Latrogenic incontinence** is caused by medications.
- **Overflow incontinence** results from the inability to completely empty the bladder.

Exercises for the pelvic floor muscles have been found to be effective in helping with incontinence. While most skeletal muscle exercises are fairly easy to learn, the muscles of the pelvic floor are often difficult to train. Careful instruction with feedback from a trained clinician is vital to the success of these exercise programs. After being cleared by a physician, a specially trained physical therapist will perform an evaluation. A postural and biomechanical assessment is performed to detect faulty posturing and muscle imbalances that may be a contributing factor to incontinence. Strength and palpation assessments are performed on musculature, both externally and internally, to determine the efficiency of the pelvic floor.

Muscle strengthening and training is the most common physical therapy intervention. Biofeedback, through the use of electrodes placed on the muscles, displays muscle function on a laptop computer and is used to document the individual's baseline measurements of strength and pelvic floor muscle coordination, and to train and exercise the pelvic floor muscles to develop strength, coordination, and properly timed relaxation. Other physical therapy techniques, such as soft tissue and/or joint/visceral mobilizations, and electrical stimulation to increase muscle performance or enhance relaxation, may be performed depending on individual needs.

For more information, please contact Eisenhower Medical Center's Rehabilitation Department at 760-773-2033.

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