

# pt connection

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## *Urinary Incontinence - UI*

### INTRODUCTION

Urinary incontinence (UI) is defined by the International Continence Society as “a condition in which involuntary loss of urine is a social or hygienic problem.” Any leaking or “just a little” leaking is not normal and represents the start of incontinence, which usually gets progressively worse. UI affects 15-25 million Americans, approximately 15% of adults. Women are twice as likely as men to suffer from UI, secondary to structural and muscular gender differences. Additionally, UI affects 50% of nursing home residents. Costs of UI total \$27.9 billion per year, which includes \$14 billion in non-medical costs (pads, laundry, and care taking) and \$13 billion in medical costs. Of these medical costs, only 8% is spent on evaluation, while 92% is related to UI sequelae such as falls, UTI, skin breakdown, prolonged acute care stays, and increased SNF admissions.

### WHAT IS URINARY INCONTINENCE?

Urinary Incontinence means you lose urine when you don't want to. Along with leakage, there may be other symptoms:

**Urgency:** A strong desire to urinate, even when the bladder is not full. This is sometimes accompanied by pelvic discomfort or pressure.

**Frequency:** Urinating more than six to eight times a day or more than once every two hours (with normal fluid intake).

**Nocturia:** Awakening from sleep because of the urge to urinate. This can vary with age and is not necessarily abnormal unless it occurs regularly more than two or three times a night.

Many things can contribute to urinary incontinence:

- Bladder Infection
- Pregnancy and childbirth
- Chronic illness / cough
- Medications
- Neuromuscular disorders
- Cigarette smoking
- Hormonal changes of menopause
- Obesity
- Weak pelvic floor muscles
- Constipation
- Urinary tract abnormalities
- Stress
- Caffeine intake

Although incontinence is not necessarily a natural part of aging, it can be the result of many years of changes in your body, especially women. Childbirth, improper lifting of heavy objects at work and at home, chronic constipation, or post-menopause are all factors over time which can contribute to a weakening of the pelvic floor muscles leading to poor bladder control.

## ANATOMY OF THE PELVIC FLOOR

The bladder's job is to store and empty urine. When the bladder becomes full, nerves signal the brain, giving you the urge to urinate.

When you urinate, your sphincter relaxes and the detrusor muscle (bladder muscle) contracts to squeeze urine out of the bladder. The urine leaves your body through a tube called the urethra. Strong sphincter and pelvic floor muscles help keep the urethra closed until you're ready to urinate. (See Figure 1)

Urinary incontinence may be related to a dysfunction of these pelvic floor muscles. These muscles, the pubococcygeus and iliococcygeus are collectively called the levator ani muscle group. The pubococcygeus originates on the internal surface of the pubic bone and attaches on the dorsal side of the anorectal junction. The iliococcygeus originates at the pubic bone (near obturator internus) and inserts at the coccyx. The levator ani is innervated by branches of the pudendal plexus and lower sacral levels. In close association with the levator ani is the coccygeus muscle which both originates and inserts into the coccyx. It also receives innervation from the pudendal plexus and sacral levels 4 and 5. The levator ani and coccygeus support the pelvis and pelvic organs, facilitate sphincter control, and fix the trunk with the upper body movements.

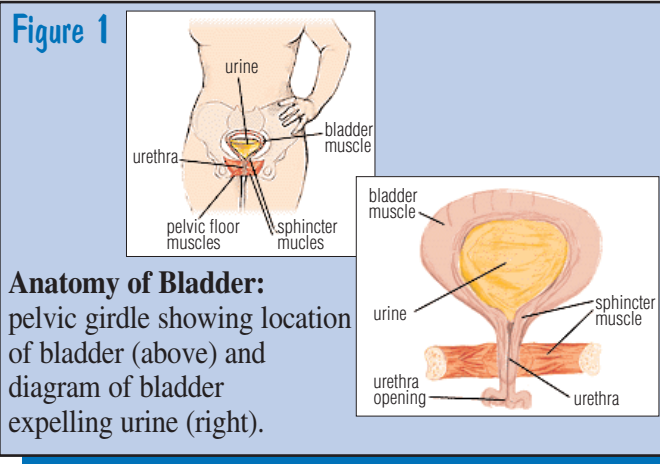
## INCONTINENCE CATEGORIES

Once a thorough examination has been performed and the cause of the problem has been identified, incontinence can usually be grouped into one of two general categories: urge incontinence and stress incontinence.

**Urge incontinence** relates to urine loss that occurs with a strong desire to urinate with a few seconds to minutes of warning. It can be triggered by situational factors such as hearing running water or even arriving home at your front door after a workday. Urge incontinence is usually caused by hyperactivity of the bladder and is frequently associated with weakness of the pelvic floor muscles.

**Stress incontinence** relates to the involuntary loss of urine during physical exertion such as coughing,

Figure 1



**Anatomy of Bladder:** pelvic girdle showing location of bladder (above) and diagram of bladder expelling urine (right).

sneezing, or lifting. This is due to high pressure in the pelvic and thoracic cavities created by physical exertion accompanied with weakness and lack of control

of the pelvic floor muscles.

## EVALUATION

Prior to physical therapy treatment for UI, patients must be screened by the physician and have a gynecological exam within 6 months of the physical therapy appointment. During the evaluation, the client will be asked a series of questions regarding medical history, medication use, childbirth history, and details of UI symptoms. Next, the physical therapist will perform a musculoskeletal evaluation to screen the low back, pelvis, and abdominal wall. Then the therapist will conduct a pelvic floor muscle assessment in order to determine if there is any pain or muscle weakness. Finally, the therapist will discuss her findings with the client to determine the client's goals and establish what form of treatment should be undertaken.

## TREATMENT

There are several treatment options for urinary incontinence presently available in the realm of physical therapy. These methods can be utilized alone, or in conjunction with pharmaceutical or surgical treatment.

Behavioral therapy can be used to treat incontinence and has been effective in 80% of UI cases. This method includes: bladder retraining, muscular reeducation, biofeedback, electrical stimulation, and lifestyle changes.

- **Bladder retraining** - The client keeps a bladder diary including the type and amount of fluid intake, voiding times and volumes, if and when leakage occurs, and whether an urge to void was present. Using this information, the physical therapist can analyze whether appropriate fluid intake is present

and identify triggering situations that may be precipitating the incontinence episodes. Clients are then advised to modify their fluid intake to ensure adequate hydration and avoid bladder irritants such as caffeine, carbonated beverages, artificial sweeteners, etc. Next, the physical therapist teaches the client how to properly perform Kegel exercises for the pelvic floor in order to gain control over the bladder (Figure 2). For instance, when a patient experiences a strong urge to void, he or she should stand still or sit down and contract the pelvic floor while breathing deep to overcome the urge to void.

- **Muscular reeducation** - For those clients found to have pelvic floor weakness or poor awareness of how to contract the pelvic floor, muscular reeducation is an effective treatment utilized by physical therapists. Clients may use a mirror for visual feedback, tactile cues by the therapist, and/or vaginal weights to increase awareness of the pelvic floor. Such exercises can be performed while lying down (gravity eliminated plane) and then advanced to a standing position (against gravity) and finally progress to functional activities.

- **Biofeedback** - In clients with poor sensation, partial denervation, hypertonicity, or poor awareness of their muscles, biofeedback is a tool utilized by physical therapists to aid the client in appropriate contractions for the pelvic floor. Biofeedback can be used externally with small electrodes placed on the pelvic floor muscles or internally, using a small, internal, plastic electrode. Upon placement of the electrodes, the client can then visualize the output of electrical activity in the muscles where the electrodes are placed. The physical therapist directs the client to either relax or contract the pelvic floor muscles, depending on the goals of the session. By utilizing

biofeedback, clients quickly learn how to appropriately contract the pelvic floor and also avoid substituting accessory muscles (such as abdominal, gluteals, hip muscles) for pelvic floor contractions.

- **Electrical stimulation** - For patients with very weak pelvic floor muscles, this modality can be used to “jump start” the muscle activity by pulling in muscle fibers that a voluntary contraction cannot. Using a small internal electrode, current is delivered via the electrode to enhance muscle recruitment and quality of contractions. Clients then can truly “feel” their pelvic floor muscles contracting and can then attempt to mimic the contraction produced.

- **Lifestyle Changes** - Changes that will help the bladder be less irritable include:

1. Lifting and moving correctly
2. Bracing the pelvic floor muscles when you cough, laugh, or sneeze
3. Avoiding common bladder irritants
4. Keeping a bladder diary to promote normal urinating habits
5. Exercising correctly and avoiding improper sit-up techniques

## CONCLUSION

As illustrated above, physical therapists trained in women’s health can deliver many conservative treatment options for patients with urinary incontinence. Success of physical therapy treatment of UI is currently reported to be approximately 80% recovery during 4 to 8 visits over an 8-week period of time. Treatment results are heavily dependent upon clients performing the home exercise program issued by the physical therapist. However, with close communication between the client and physical therapist, UI can be successfully managed so that clients may be able to perform and enjoy activities important to them without fear of urinary leakage.

**Figure 2**





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# NEWS *briefs*

Ms. Jodi DeBlassio, PT and Ms. Kelly Hohn, PT have begun to treat UI dysfunction. If you feel that you have symptoms of UI, please make an appointment with your physician. Your physician can discuss treatment options and determine if physical therapy can help lessen your UI symptoms. To make an appointment, please call 1-888-279-4107.

OSPTA continues to emphasize patient satisfaction and clinical outcomes. For the 4th quarter, patient satisfaction was 98%. Our clinical pathways were met

70% of the time. For all diagnoses, the average number of visits was 9.42. Our patient's functional status improved 50%, their perceived improvement was 73%, and they experienced a 58% reduction in their pain.

OSPTA welcomes Ms. Nicole Stanko, PT, and Ms. Dana Krise, PTA to our OSPTA family. Congratulations to Ms. Terra Russell, PTA on passing the state boards.

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