



## Urinary Incontinence

Urinary incontinence is the involuntary leakage of urine. Although it becomes more common as people get older, incontinence is not normal at any age. Low levels of estrogen can decrease muscle tone and result in decreased urinary control of the bladder and urethra. Many types of urinary incontinence are possible. Many types of therapy are also available. The two most common types, genuine stress incontinence and urge incontinence, and their treatments, will be discussed here. Mixed incontinence is a combination of stress and urge incontinence.

### Normal Urination:

Urine is produced by the kidneys and passes into a muscular sac called the urinary bladder. The urethra is the tube that leads from the bladder to the outside of the body. A ring of muscles, called the urinary sphincter, surrounds the urethra. As the bladder fills with urine, the sphincter muscles are contracted and the bladder muscle stays relaxed. This allows the bladder to fill with urine and prevents urine from leaking out.

When the bladder is almost full, sensory nerves in the bladder send signals to the brain, letting the person know that the bladder is almost full. Additional nerve signals cause the bladder muscles to contract, which pushes urine into the urethra. At the same time, other nerves signal the sphincter muscles to relax, which allows the urine to be released. Most people empty their bladder every three to five hours during the day and once during the night.

The four most common causes of urinary incontinence are:

- The bladder contracts when the person is not ready to urinate, called urge incontinence. This is the most common cause of incontinence.
- The sphincter does not close properly or does not stay closed when there is increased pressure (as with a cough or sneeze), allowing urine to leak. This is called stress incontinence, and is a common reason for incontinence in women, especially women who have had children.
- The bladder is too weak to empty completely, causing leakage when the bladder is overly full. This is called overflow incontinence, and is uncommon.
- The urethra is obstructed, preventing urine from draining completely, which can also lead to overflow incontinence. This can occur with a large cystocele.

### Risk Factors for incontinence:

The frequency of urinary incontinence increases with age, and it affects women more than men. About 10 to 30 percent of women up to age 64 have urinary incontinence. In those age 65 and older, 15 to 30 percent of people have incontinence.

Urinary incontinence also has been associated with a number of conditions, including obesity (in women), high impact physical activities, heart failure, lung problems, smoking, chronic cough, depression, constipation, pregnancy, vaginal delivery, and problems with mobility.

Stress incontinence is most likely to occur in women who have had one or more children. With childbirth the tissue of the vagina is stretched and the underlying elastic tissue is broken. Prior to menopause the muscles of the vagina can be exercised to increase the tone and decrease the amount

of urine loss. After menopause, atrophy, or thinning of the estrogen sensitive tissues results in reduced sphincter control. Other changes with menopause include a decrease in the support of the pelvic organs. When stress is put on the bladder due to coughing, sneezing, laughing or jogging a momentary loss of control can result in a small amount of leakage. Stress incontinence can worsen during the week prior to menstruation. Lowered estrogen levels at that time lead to lower muscular pressure around the urethra and increased leakage. Stress incontinence also increases at menopause.

Urge incontinence can also be a problem for some women. It is usually described by women as a feeling of a sudden and uncontrollable need to urinate. It often occurs within an hour of having emptied the bladder. Women often urinate frequently during both the day and night due to the irritability of the bladder.

To determine what type of incontinence is present, a complete history and physical exam should be performed by your gynecologist. Your doctor may also ask for a diary of your urinary patterns and a questionnaire which includes caffeine and alcohol consumption as well as medication usage. Further evaluation may include urinalysis, urine culture and urodynamic testing. Urodynamic testing evaluates the bladder volume, function and voiding pattern. Cystoscopy, or looking inside the bladder, is also performed when appropriate.