

Urologic and Kidney Health

Do you ever leak urine when you sneeze or cough? Have you ever had a urinary tract infection or kidney stone? Do you need to urinate dozens of times a day? Are you at risk of kidney disease? If you answer yes to any of these questions, you are not alone. Urologic and kidney problems are common in women. They can impact your daily life, physical activity, pregnancy, sexual relations, social life, and future health. But most conditions can be treated and, in some cases, cured.

How a woman's urinary system works

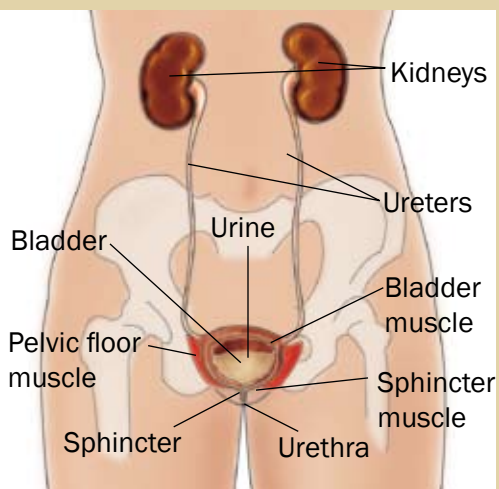
The urinary system is made up of two kidneys, two ureters, the bladder, two sphincter muscles, and the urethra.

- **Kidneys:** Fist-sized, bean-shaped organs that produce urine. They are near the middle of your back, right below your rib cage.
- **Ureters** (YOOR-uh-turz): Thin tubes that take urine from your kidneys to your bladder.
- **Bladder:** A balloon-shaped organ that stores urine.
- **Sphincter** (SFEENK-tur) **muscles:** Round muscles that open and close to let fluid pass in or out of an organ. They keep your bladder closed until it is time to urinate.
- **Urethra** (yoo-REE-thruh): A tube that carries urine out of your body.

The organs, tubes, and muscles in this system all work together to create, store, and move urine out of the body.

What does “urologic” mean?

“Urologic” refers to the field of urology. Urology deals with the urinary system, also called the urinary tract.



Signs of urologic problems

Common symptoms of urologic problems include:

- pain or “burning” when you urinate
- bladder control problems such as leaking urine, dribbling urine after going to the bathroom, and having frequent or intense urges to urinate
- bloody urine
- cloudy, dark, or strong-smelling urine
- a change in your urine color
- having a weak stream of urine
- long-term pressure or pain in your pelvis or lower abdomen
- long-term pain in the back or sides

What to do about urologic or kidney problems

See a doctor right away. You may feel awkward talking about urologic problems, but don't ignore them. Symptoms may worsen over time if the problem isn't treated. See your primary doctor, a urologist, a urogynecologist, or a nephrologist for help. A urologist is an expert in urine and bladder problems. A urogynecologist is an expert in women's urine and bladder issues. A nephrologist is a kidney specialist.

The doctor will ask about your health history and perform a physical exam to look for problems or abnormalities in your urinary tract. After the exam, medical tests may be ordered.

Common urologic and kidney conditions in women

The most common urologic conditions among women are:

Keeping a Bladder Diary

If one of your symptoms is loss of bladder control, start a bladder diary and share it with your doctor. The details can help your doctor make the right diagnosis. In a bladder diary, you track the following by the hour:

- how much you drink
- what you drink
- how many times you urinate
- how much you urinate
- urine leakage or strong urges to urinate
- what you were doing when you had a leak or a strong urge (such as physical activity, laughing, or sitting)

- urinary tract infections
- urinary incontinence

Also common are:

- interstitial cystitis/painful bladder syndrome
- urinary stones
- urinary system cancers

The most serious kidney condition is chronic kidney disease.

Urinary tract infections

Nearly 53 percent of women will have at least one urinary tract infection (UTI) at some point in life. UTIs are serious and often painful. But most are simple to treat. You need to see your doctor for treatment.

Understanding UTIs

What is a UTI?	An infection in the urinary tract
Causes	Most are caused by bacteria that enter the tract through the urethra.
Risk factors	<ul style="list-style-type: none"> • Being sexually active • Previous UTIs • Being pregnant • Being postmenopausal • Using a tube (catheter) in the bladder • Having a kidney stone • Having a weak immune system • Using a diaphragm or spermicide for birth control
Symptoms	<ul style="list-style-type: none"> • A “burning” or pain when you urinate • Pain in your back, sides, or lower belly • Frequent or intense urges to urinate • Trouble urinating • Passing only small amounts of urine • Bloody urine • Dark, cloudy, or strong-smelling urine • Chills or fever
Diagnosis	<ul style="list-style-type: none"> • Urine tests: A clean urine sample is tested for signs of infection and the kind of bacteria causing any infection. <p>For UTIs that come back, the doctor may use:</p> <ul style="list-style-type: none"> • Images of the urinary tract: x-rays, ultrasound, or a computed tomography (tuh-MOG-ruh-fee) (CT) scan • A cystoscopy (siss-TOSS-kuh-pee): a thin tube with lenses and a light used to look inside the bladder
Treatment	<ul style="list-style-type: none"> • Most are treated with antibiotics. • Drink plenty of water to help the antibiotics clear your body of bacteria.
Prevention	<ul style="list-style-type: none"> • Drink plenty of water each day (6–8 glasses). • Urinate when you feel the urge. • Use underpants or pads designed to collect urine instead of an inserted catheter. • After using the bathroom, always wipe front to back. • Urinate after having sex. • Avoid using spermicides or diaphragms if they cause you to have UTIs. • Avoid feminine hygiene products such as deodorant sprays, douches, and powders.
Impact on pregnancy	<ul style="list-style-type: none"> • If you are pregnant and think you have a UTI, see a doctor right away. A UTI can lead to premature delivery and other health risks. • Not all antibiotics can be taken during pregnancy. Your doctor will select the right treatment for you.

Urinary incontinence

Women of all ages have bladder control problems. These problems are called urinary incontinence (UI).

UI is the most common urologic issue among women:

- Between ages 18 and 44, about 24 percent of women have UI.
- More than 13 million Americans experience UI.
- Women are twice as likely to have UI as men.

For many women, UI is minor. For others, it affects their whole lives. Severe UI can lead to infections, skin problems, and sleep disruption. Women with UI might



also avoid social events, feel depressed, avoid having sex, stop traveling, and reduce physical activities.

One survey showed that most women live with UI symptoms for 6.5 years before getting help. Don't wait. Most UI can be improved, and sometimes cured.

Understanding UI

Types of UI and their causes

Stress: Slight urine leakage during physical movement. It often happens when you are physically active, sneeze, laugh, cough, or lift something heavy.

It is caused by weak pelvic floor muscles (which support the bladder). Physical changes resulting from pregnancy, childbirth, and menopause often cause stress on these muscles. A cystocele (SISS-toh-seel), rectocele (REK-toh-seel), or fibroids (FEYE-broidz) can also lead to UI.

- Cystocele occurs when the wall between the vagina and bladder weakens and the bladder sags into the vagina.
- Rectocele occurs when the front wall of the rectum bulges into the vagina.
- Fibroids are noncancerous tumors that grow in the muscle wall of the uterus.

Stress UI is more common in Caucasian women than African American or Hispanic women.

Urge, sometimes called overactive bladder: Frequent, strong, and sudden urges to urinate, even when the bladder isn't full. It can cause you to leak a lot of urine without warning, such as during sleep. Causes include overactive bladder muscles and damage to bladder nerves and bladder muscles.

Functional: When someone has a problem thinking, moving, or communicating, which prevents them from reaching a toilet or from knowing when the bladder is full. Problems can include spinal cord injuries, being immobile, wheelchair use, or Alzheimer's disease.

Overflow: Urine leakage due to a full bladder. It is caused when the bladder doesn't fully empty. It is rare in women.

Mixed: A mix of types—most often stress and urge.

Transient: UI that comes and goes because of a temporary problem.

Understanding UI

<p>Diagnosis</p>	<p>Ways your doctor may diagnose UI:</p> <p>Medical history and symptoms: Your bladder diary will come in handy at this point.</p> <p>A physical exam.</p> <p>Urodynamic (YOOR-oh-deye-NAM-ihk) tests: They measure how much urine your bladder can hold and release.</p> <p>Stress test: You cough strongly and the doctor looks for urine loss.</p> <p>Urine tests: Urine is checked with a microscope for signs of infection and the type of bacteria that may be present.</p> <p>Cystoscopy: A thin tube with a camera on it is put in the urethra to see inside the urethra and bladder.</p> <p>Ultrasound: Sound waves make images of your urinary tract.</p>
<p>Treatment</p>	<p>Your treatment will depend on which type of UI you have. Treatment may include some or all of these options:</p> <p>Pelvic muscle exercises: Used to strengthen pelvic floor muscles, including Kegel exercises. (See page 256 for information on how to do Kegel exercises.)</p> <p>Bladder retraining: Used to increase bladder control. You track the times when you leak or urinate, then plan in advance when you will go to the bathroom. You gradually increase the time between urinating.</p> <p>Medicines: Some help relax or tighten sphincter muscles; some help stop bladder contractions.</p> <p>Electrical stimulation: Small doses of electric pulses can make pelvic muscles stronger. These pulses can be given through the vagina or by using patches on the skin.</p> <p>Pessary (PESS-uh-ree): A removable device put in the vagina to help support vaginal walls and pelvic muscles.</p> <p>Implants/Injections: Substances that add bulk to tissues around the urethra to help close it and stop UI.</p> <p>Implanted devices: A device is placed in the lower back to send mild electrical pulses to the nerves.</p> <p>Surgery: If the bladder droops into the vagina (cystocele), it can be pulled back into place with surgery.</p> <p>Biofeedback: Bladder training that uses electronic devices to help you learn to control the bladder muscles.</p> <p>Catheter: A tube put into the urethra to drain urine. It is used when the bladder can't empty due to physical or nerve damage.</p> <p>Weight loss: Helps with some cases of UI.</p> <p>Diet changes: Certain foods and drinks may increase your need to urinate, such as coffee, alcohol, and caffeinated drinks.</p> <p>If you smoke, quit: It can irritate the bladder, make UI worse, and lead to chronic coughing.</p> <p>Absorbent underwear or bulky pads: Used to catch leaking urine.</p>

How to Do Kegel Exercises

This simple exercise helps make your pelvic floor muscles stronger.

First, find the right muscles. Your doctor, nurse, or physical therapist can help make sure you are doing the exercises the right way.

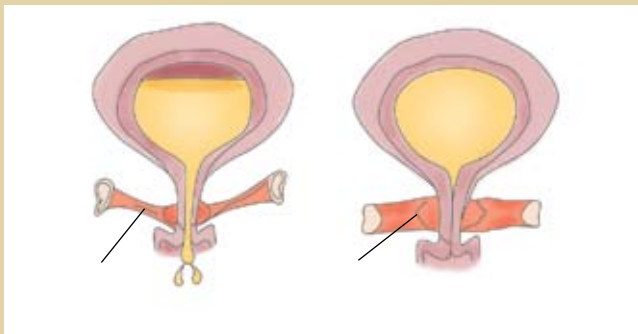
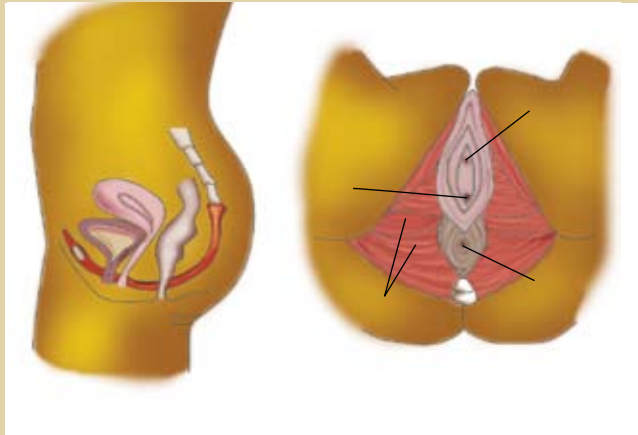
1. Try to stop the flow of urine when you are sitting on the toilet. If you can do it, you are using the right muscles.
2. Imagine that you are trying to stop passing gas. Squeeze the muscles you would use. If you sense a “pulling” feeling, those are the right muscles for pelvic exercises.
3. Lie down and put your finger inside your vagina. Squeeze as if you were trying to stop urine from coming out. If you feel tightness on your finger, you are squeezing the right muscles.

Don't squeeze other muscles at the same time. Be careful not to tighten your stomach, legs, or other muscles or it can put more pressure on your bladder control muscles.

Repeat, but don't overdo it. Find a quiet spot to practice. Lie on the floor. Pull in the pelvic muscles and hold for a count of 3. Then relax for a count of 3. Work up to 10 to 15 repeats each time you exercise.

Do your pelvic exercises at least three times a day. Use three positions for the best results: lying down, sitting, and standing.

Be patient. It may take 3 to 6 weeks to notice any change in bladder control.



Understanding Cystocele

Cystocele (SISS-toh-seel) is also called fallen bladder. It occurs when the wall between the bladder and the vagina weakens and allows the bladder to droop into the vagina. Some studies have shown African American women to have the lowest risk of cystocele and Hispanic women to have the highest.

Common causes of cystocele are:

- childbirth: Labor and delivery can weaken the muscles and ligaments that support and hold the vagina in place.
- strain from lifting heavy objects
- constipation and straining with bowel movements
- lack of estrogen after menopause that weakens vaginal and bladder muscles
- being overweight or obese
- heavy, long-term coughing

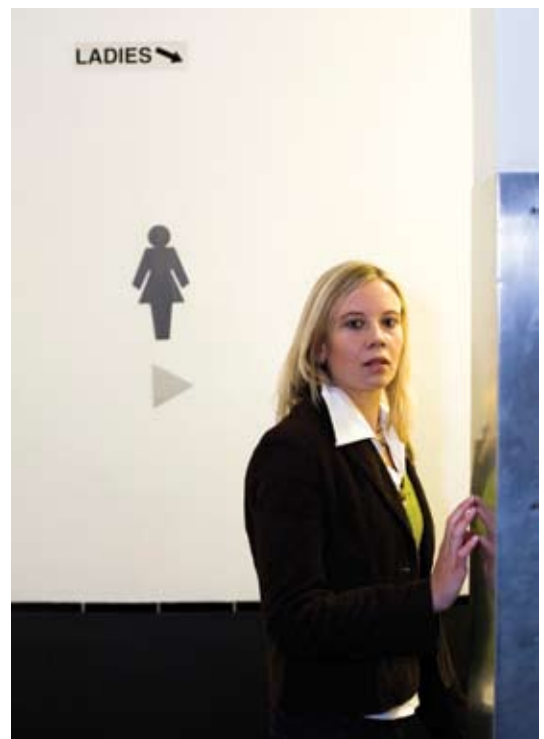
Interstitial cystitis/painful bladder syndrome

Interstitial cystitis (IN-tur-STISH-uhl siss-TEYE-tiss) (IC) is a condition that causes frequent discomfort or pain in the bladder and pelvic region. Symptoms vary from case to case and even in the same woman. You may feel mild discomfort, pressure, tenderness, or intense pain in the bladder and pelvic area. The pain level may change as the bladder fills with urine or as it empties. Women's symptoms often get worse during their periods. It is also called painful bladder syndrome (PBS).

IC/PBS can severely impact daily life and lead to feelings of depression and frustration. It can cause a woman to urinate up to 60 times a day. The urge to urinate can be sudden and intense. It may feel also as if you have a full bladder most of the time, which is painful and uncomfortable.

Women with IC/PBS may want to be near a bathroom at all times. They may avoid travel and social activities. They may avoid sex because it causes pain or they worry about having to urinate often. Some women with IC/PBS have fewer symptoms during pregnancy. Others have more symptoms. Research has not shown that IC/PBS affects fertility or the health of a fetus.

Currently, around 1.2 million American women are estimated to have IC/PBS.



Understanding IC/PBS

Causes	The cause(s) of IC/PBS is still unknown. Research is ongoing.
Symptoms	<ul style="list-style-type: none"> • Urinary frequency • Urinary urgency • Long-term pain, pressure, or discomfort in the bladder and pelvis • Pain when having sex • Ulcers in the walls of the bladder
Diagnosis	<p>Opinions still differ about how and when IC/PBS can be diagnosed. Getting the right diagnosis can take years, because no single test can be used to diagnose IC/PBS.</p> <p>Your doctor will rule out other problems and diseases using:</p> <ul style="list-style-type: none"> • Physical exam • Urine tests to rule out infection and other health problems • Cystoscopy with hydrodistension (HEYE-droh-diss-ten-shuhn) slows stretching of the bladder with liquid. This relieves symptoms in some women. • Bladder biopsy <p>Many other ways to diagnose IC/PBS are being studied.</p>
Treatment	<p>So far there is no cure for IC/PBS. Current treatment aims to reduce symptoms, lower pain levels, and improve quality of life. Many treatments can be used at once.</p> <p>Treatments include:</p> <ul style="list-style-type: none"> • Bladder instillations. The bladder is filled with water or medicine. It can help stretch the bladder and may help lessen pain. • Certain medicines • Over-the-counter pain killers and acid reducers • Nerve stimulation with electric pulses. It helps reduce pelvic pain in some women. • Bladder training to better control when you urinate • Pelvic floor physical therapy to make pelvic floor muscles stronger • Surgery, which is the last resort. Options include making the bladder larger, removing the bladder, putting electrodes into the body for permanent nerve stimulation, and burning or cutting out any ulcers. <p>Dozens of new treatments are being researched.</p>
Coping with IC	<ul style="list-style-type: none"> • Keep a bladder diary. Avoid foods or drinks that seem to increase your symptoms (such as acidic fruits, spicy foods, tomatoes, and coffee). • Learn gentle stretching exercises. • Get emotional support if you need it. (See the resource section on page 263.) • Learn stress reduction techniques. • If you smoke, quit. • Learn bladder training methods to reduce how often you need to empty your bladder.

Urinary stones

Urinary stones may form in the kidneys, bladder, or ureters. Kidney stones are the

most common type. About 5 percent of women will have had at least one stone by age 70.

Understanding Urinary Stones	
What is a urinary stone?	A urinary stone is a hard mass created from substances in urine.
Causes	<p>The four main types of stones and their causes are:</p> <ul style="list-style-type: none"> • Calcium: These are the most common stones. They come from excess calcium in the body. They are made of calcium and oxalate (OKS-uh-layt). • Struvite (STROO-vyt): These may come from having an infection, such as UTI. • Uric (YOOR-ihk) acid: These are less common. They most often stem from chemotherapy, a high-protein diet, or an inheritable disorder. • Cystine (SISS-teen): These are rare. They are caused by a hereditary disease.
Risk factors	<p>Your chance of getting a stone is higher if you:</p> <ul style="list-style-type: none"> • Do not drink enough water and other fluids • Have had a stone before • Have certain diseases that can lead to stones, such as renal tubular acidosis (ASS-uh-DOH-suhss) and irritable bowel syndrome • Take certain medicines • Eat a high-protein diet • Are in your 50s <p>Stones are more common in Caucasian women than in African American women.</p>
Symptoms	<ul style="list-style-type: none"> • Long-term pain in your back, side, or groin • Blood in the urine • Fever and chills • Urine that smells bad or looks cloudy • “Burning” when you urinate • Vomiting (when combined with the other symptoms above)
Diagnosis	<ul style="list-style-type: none"> • CT scan • X-rays • Ultrasound • Intravenous pyelogram (IHN-truh-VEE-nuhss PEYE-el-oh-GRAM) (IVP): x-rays where dye is put in the body to better see the kidneys
Treatment	<ul style="list-style-type: none"> • Drink 2–3 quarts of water in 24 hours. The stone may move on its own with enough fluid. <p>For stones that persist, treatment options include:</p> <ul style="list-style-type: none"> • Shock waves used to break up the stone, called lithotripsy (LITH-oh-TRIP-see) • A small tool with a camera put on it—a ureteroscope (yoo-REE-tur-oh-skohp)—can be put through the urethra and bladder and into the ureter to remove the stone. • Tunnel surgery, where a tunnel is made through the back to the kidney to take out the stone.

Understanding Urinary Stones

Prevention of future stones

To find out what kind of stone you had and prevent future stones:

- Your stone will be tested.
- Your blood will be tested.
- A 24-hour urine sample will be tested.

Prevention tips depend on the type of stone you have. Options include:

- Drink enough water to produce 2 or more quarts of urine a day—about 12 full glasses of water.
- Drink fluid with lots of citrate (such as lemonade).
- For a uric acid stone, eat a low-protein diet.
- For a calcium stone, eat fewer foods with oxalate (such as chocolate, coffee, nuts, cola, and spinach).
- For a calcium stone, avoid calcium pills, but eat enough foods that have calcium naturally to keep your bones healthy.
- Take certain medicine prescribed by your doctor.

Kidney disorders

Chronic kidney disease

Many kidney disorders exist, and the most serious is chronic kidney disease (CKD). CKD is the permanent loss of kidney function.

If you are at risk of, or have, CKD, take steps to prevent or slow down kidney failure. After all, 26 million Americans—1 in 8 American adults—already have CKD, and millions more are at increased risk of developing it.

Understanding CKD

What is CKD?

CKD is a slow and, most often, permanent loss of kidney function. Over time—months to years—CKD may lead to total kidney failure.

Causes

CKD may come from a physical injury or disease that damages the kidneys, such as polycystic kidney disease. Damaged kidneys do not remove wastes and extra water from the blood in the way they should.

Diabetes and high blood pressure are the most common causes of CKD. In fact, diabetes leads to 45 percent of new cases.

Risk factors

- A family history of CKD
- Heart disease
- Being African American, American Indian, or Hispanic

Symptoms

Early CKD has no symptoms. If you are at risk, ask your doctor about being tested for CKD.

Diagnosis

- **Blood test:** A glomerular filtration rate (GFR) test measures how fast your kidneys filter wastes from blood. The rate is based on the level of creatinine (kree-AT-uh-noon). A high level of creatinine is a sign of CKD.
- **Urine test:** The amount of protein in the urine is tested. High levels of protein are a sign of CKD.
- **Blood pressure:** High blood pressure can lead to, or be a sign of, CKD.

Understanding CKD	
Treatment	<p>There is no cure for CKD. But your doctor will help you manage your CKD to try to avoid kidney failure. If the kidneys fail, you will need medical help to live. The two methods for the treatment of kidney failure are:</p> <ul style="list-style-type: none"> • Dialysis: The process of cleaning wastes from the blood with special equipment. • Kidney transplant: A donated kidney is put in your body. You will need to take medicine to keep your body from rejecting the new kidney.
Other health issues	<p>CKD increases your chances of having:</p> <ul style="list-style-type: none"> • Anemia (uh-NEE-mee-uh): Lower than normal number of healthy red blood cells. • Acidosis: When blood acid levels are too high. • Cardiovascular disease: Leads to heart attack and stroke. • Bone problems: CKD can lead to bone mineral imbalance, causing weak bones.
Prevention	<p>If you are at risk of CKD or if you have CKD and would like to keep it from progressing to kidney failure:</p> <ul style="list-style-type: none"> • Control your blood glucose (sugar) level if you have diabetes. • Lower your blood pressure if it is too high. Try to keep it below 140/90 mmHg. If you already have CKD, try to keep it below 130/80 mmHg. • If you have CKD, eat less protein and work with a dietitian to make sure you have a healthy diet. • Take prescribed drugs, such as those for diabetes and high blood pressure.

Urologic Problems and Sexual Relations

If you have a urologic problem, it can affect how you feel about yourself and your desire to have sex. It can also impact your sex drive and physical comfort level. But urologic problems don't need to mean the end of sexual relations.

Talk with your doctor about physical concerns and treatments. There are ways to help make sex more comfortable if you have pain. If you feel anxious or depressed, you can talk with a mental health professional or a support group of other women with the same issues. Knowing you aren't alone and that other women with urologic problems have fulfilling sexual relationships may bring you hope and give you the courage to talk with your partner.

With time and an understanding partner, sex can remain an enjoyable part of your life.

Your urologic and kidney health
 Although urologic and kidney problems are common in women, much can be done to treat them and improve your life. Recognizing symptoms and risks is the

first step to resolving any problems. If you think you have a urologic problem, or are at risk of chronic kidney disease, contact your doctor for treatment. ■

One Woman's Story

After success at four Winter Olympic Games, I hung up my skates to become a motivational speaker and a member of the U.S. Speed Skating Board of Directors, as well as a wife and mother of two.

Like many new mothers, I had no idea that pregnancy could bring about a potentially embarrassing condition: stress urinary incontinence (SUI), the leaking of urine during daily activities. After giving birth to my son, I was so excited to have the chance to run again—until I got about a block away from my house and realized my shorts were soaked. I didn't understand why this had happened to me.

I was upset and embarrassed, and I did not tell my doctor or my family what was happening to me. Instead, I tried to cope by wearing dark shorts, using feminine pads, and limiting my fluid intake.

After one year of fighting this condition by myself, I shared it with my doctor, who said that my pelvic muscles supporting the bladder and urethra became damaged or weakened during childbirth. As a result, my urethra lost its seal and allowed urine to escape with any movement from the diaphragm that put stress on the bladder, such as coughing, sneezing, laughing, or exercising.

I tried different therapies, including Kegel exercises, weights, and electrical stimulation, to strengthen my pelvic muscles, but nothing worked. After the birth of my second child and a consultation with my doctor, I decided to undergo a minimally invasive procedure to treat my SUI that involves the insertion of a “sling” made of a special synthetic mesh tape to hold up the urethra.

After the procedure, I returned home, and within a day or two was back to most of my daily activities. I resumed morning runs, and now one of my favorite activities is jumping on the trampoline in the backyard with my two children. My family has noticed a difference in my attitude.

My experience is similar to many women who have given birth, which is why I want to encourage women to talk to their doctors so they can treat and beat SUI like I did. It's not something you have to learn to cope with. SUI is treatable. And while surgery was the answer for me, there are several other treatment options available to women. The important thing is to talk to your doctor about these options rather than suffer in silence.

Bonnie Blair, winner of five gold medals and a bronze for speed skating at the 1984, 1988, 1992, and 1994 Winter Olympic Games.

**I had no idea
that pregnancy
could bring about
a potentially
embarrassing
condition...**

For More Information...

Office on Women's Health, HHS

200 Independence Ave SW, Room 712E
Washington, DC 20201

Web site: www.womenshealth.gov/faq/urinary.htm

www.womenshealth.gov/faq/Easyread/uti-etr.htm

Phone number: (800) 994-9662,
(888) 220-5446 TDD

National Kidney and Urologic Diseases Information Clearinghouse, NIH

3 Information Way

Bethesda, MD 20892-3580

Web site: www.kidney.niddk.nih.gov

Phone number: (800) 891-5390

American Association of Kidney Patients

3505 E Frontage Rd, Suite 315

Tampa, FL 33607

Web site: www.aakp.org

Phone number: (800) 749-2257

American Kidney Fund

6110 Executive Blvd, Suite 1010

Rockville, MD 20852

Web site: www.kidneyfund.org

Phone number: (800) 638-8299

American Physical Therapy Association

1111 N Fairfax St

Alexandria, VA 22314-1488

Web site: www.apta.org

Phone number: (800) 999-2782

American Urogynecologic Society

2025 M St NW, Suite 800

Washington, DC 20036

Web site: www.augs.org

American Urological Association Foundation

1000 Corporate Blvd

Linthicum, MD 21090

Web site: www.urologyhealth.org

Phone number: (866) 746-4282

Interstitial Cystitis Association

110 N Washington St, Suite 340

Rockville, MD 20850

Web site: www.ichelp.org

Phone number: (800) 435-7422

The National Association for Continenence

PO Box 1019

Charleston, SC 29402-1019

Web site: www.nafc.org

Phone number: (800) 252-3337

National Kidney Foundation

30 E 33rd St

New York, NY 10016

Web site: www.kidney.org

Phone number: (800) 622-9010

Polycystic Kidney Disease Foundation

9221 Ward Parkway, Suite 400

Kansas City, MO 64114-3367

Web site: www.pkdcure.org

Phone number: (800) 753-2873

