Do I Need to Have Surgery for Urinary Incontinence?

Excerpts from *The Incontinence Solution: Answers for Women of All Ages*, by William H. Parker, MD, Amy E. Rosenman, MD and Rachel Parker (Simon and Schuster, 2002)

Can Surgery Be Used to Treat Incontinence?

Some women try medications and exercises for relief of incontinence but still are plagued by bothersome symptoms. For these women, surgery may provide much needed relief. Surgery is most effective when stress incontinence is a major component of the incontinence, and it may help if some urgency accompanies stress incontinence. It is not likely to be effective for pure urgency or urgency incontinence.

One of the goals of surgery for the treatment of incontinence is the restoration, by a number of proven techniques, of the bladder and urethra to their normal position. Most women who have given birth vaginally have some degree of loosening, stretching and even tearing of the supporting ligaments of the vagina, bladder and rectum (see chapter 4). This weakening of the supporting ligaments usually begins unnoticed and without any symptoms and remains that way for the majority of women for their entire lives. But for some women, changes that occur as a result of the lengthening and stretching cause significant incontinence that interfere with their daily lives. Incontinence never jeopardizes a woman's health, but it does play havoc with a woman's ability to live and enjoy her life. For those women, surgery can restore a sense of basic good health and a return them to a life free of worry and wetness.

What Kinds of Surgery Can Treat Stress Incontinence?

As described in chapter 1, stress incontinence occurs when the normal support structures of the pelvic organs weakens to the point where the position of the bladder and urethra changes when you laugh, cough, sneeze or do many activities for that matter. This weakness allows the force of a cough to push urine out of the bladder. If the bladder tests show that you have stress incontinence, a surgical procedure can be used to help hold the urethra and bladder in the correct alignment and prevent the loss of urine.

What Is an Abdominal Bladder Suspension?

The typical way to correct the position of the urethra and bladder is with an operation known as an abdominal bladder suspension. This operation pulls the bladder and urethra back to a normal position, supported behind the pubic bone, and holds them there. The surgery is done through an abdominal, bikini-type incision. The tissue around the urethra and near the bladder opening is stitched to the ligaments attached to the pubic bone. This operation is called a Burch procedure, named after the doctor who developed it.

Another variation of this procedure is called a Marshall-Marchetti-Krantz (MMK) procedure, named after the three doctors who developed this operation. With this procedure, rather than placing the stitches into the ligament, the stitches are placed directly into the covering on the pubic bone. However, in rare cases, a difficult-to-treat inflammation, or even infection, may occur where the sutures are placed into the bone. This problem does not occur with Burch procedures. So while some gynecologists successfully use the MMK procedure, most gynecologists now prefer the Burch procedure to correct stress incontinence.

With either the Burch or MMK abdominal suspension procedures, the sutures are fixed to a solid object and stay in one place. This security and immobility makes these repairs strong

and long lasting. The long-term success (5 years) for curing incontinence with an abdominal bladder suspension procedure is excellent, about 80%.

What is the Recovery Like After an Abdominal Bladder Suspension?

An abdominal bladder suspension operation is performed in the hospital with anesthesia, either epidural or general (asleep). We often find that, in addition to repairing the bladder, other repairative surgery of the supporting structures of the vagina and rectum may also need to be performed at the same time. The bladder suspension procedure itself takes about one hour. Most women spend about two to three days in the hospital, usually because they need pain medication to help with the discomfort from the bikini incision. Most doctors leave a catheter in the bladder for a few days, or even weeks, after surgery to help drain the bladder until you are able to urinate easily.

Since the abdominal incision needs time to heal, some activity is restricted. For the first week, you can get up for meals, to go to the bathroom, take short walks. You will be fatigued, and simple activities will make you tired. After the first week you will feel stronger and be able to take longer walks and need less rest. After about two weeks, some women start doing some work at home or, if they must, go to work for a few hours a day. It takes about six weeks for most of the healing to take place. Most doctors recommend that you do not exercise or lift anything heavier than **15 pounds** for **three months**. This allows the formation of strong scar tissue that will continue to hold the bladder in the proper position. After surgery, you probably should **never** lift anything heavier than about **20 pounds**. You don't want the force of lifting to stretch and weaken the repair work.

What is a Laparoscopic Bladder Suspension?

A laparoscopic bladder suspension technique, akin to the Burch procedure, was devised in the early 1990's. The goal of laparoscopic bladder surgery is to perform the same operation with laparoscopic instruments as would be performed with standard abdominal surgery. The laparoscopic Burch is performed through small incisions and has the advantages of less post-operative discomfort and a faster recovery. However, the procedure requires special training and skills on the part of your doctor, and not all gynecologists perform it. The laparoscope is a small telescope that is passed through a one-half inch incision in the navel. Two or three smaller incisions (1/4 inch) are made above the pubic hairline and the operating instruments are placed through these incisions. The telescope and operating instruments are placed into the space around the bladder and specialized instruments are used to place the sutures to suspend the bladder to the ligaments near the pubic bone, just as is donew.

ith a Burch procedure

The use of the laparoscope with this operation is relatively new, so being long-term success rates are not yet available. However, a well- planned American study found that the success rate after 5 years was 90%, just as good as that for the abdominal suspension procedures.

The laparoscopic bladder suspension operation takes about one and a half hours to perform. It is performed under general anesthesia in a hospital or outpatient surgery center. It is very likely that as continued encouraging information about success rates is published and more gynecologists are trained to perform the laparoscopic bladder suspension, the procedure will become more available.

What is the Recovery Like After a Lararoscopic Burch Procedure?

Most women can go home the same day they have the laparoscopic Burch procedure. Since the incisions are small, there is minimal pain, and you can be up walking within a few hours. Most women do not require a catheter in the bladder, and can urinate by themselves right after surgery. You can be back to most normal activities within 7-10 days. However, as with all bladder operations, you will need to allow the sutures to heal and scar tissue to form so that the repair work will hold. This takes three months, so no strenuous exercising or heavy lifting (more than 15 pounds) during that time.

What is a Sling Procedure?

The sling procedure takes a different approach to preventing incontinence. This procedure places support material directly under the urethra and attaches it up to the connective tissue (fascia) of the abdominal muscles. There are many variations of this operation and some doctors prefer to attach the supporting material to the ligaments near the pubic bone. The supporting material rests under the urethra like a firm hammock. When a cough or sneeze pushes the urethra down, it's forced against the sling, and the urethra is closed off. The sling procedure is often used for women who have had previous incontinence surgery that has failed because of excess scar tissue formation (ISD- see page 1). It also recommended for women with a weakened urethral sphincter that does not close properly, especially when the urethra moves a lot with straining.

The surgery starts with a small incision made in the vagina, just below the urethra. Small tunnels (about ½ inch wide) are then made in the connective tissue on either side of the urethra and into the space just behind the pubic bone. The sling is placed under the urethra at this point, and the ends of the hammock are brought up to the connective tissue on top of the abdominal muscles and fastened. There are a number of materials that can be used to make the sling. Some doctors prefer to use a synthetic, nylon-like material, while others choose fascia, the strong tissue that surrounds muscle, removed either from the patient or sterilized, irradiated fascia from a cadaver donor.

The success rate of the sling is very good, but like most incontinence procedures, not perfect. Long-term success rates (after 5 years) are about 85%. One potential, but relatively uncommon, problem with this surgery is that the sling may compress the urethra too much and block the flow of urine. Although this is rare, a small incision under the urethra can be made and one side of the sling can be cut. This usually gives the urethra more room and solves the problem. Another rare problem may develop if the urethra is blocked too much. The bladder may become over-active. Often this problem can be controlled with medications. Most women have no problems following a sling procedure, and those women who do still feel much better than before they had surgery when they were frequently incontinent.

What is the Recovery Like After a Sling Procedure?

Since the sling procedure is performed through the vagina, recovery is relatively short, and there is little discomfort. Some women have some temporary swelling that presses on the urethra and they may need a catheter for one to two weeks until the swelling goes down. Usually women are up and around the day after surgery and can start walking immediately. As with all incontinence surgery it is important to let the sutures heal completely, which takes about 12 weeks. So, for three months you should not lift anything heavier than about 15 pounds.

What is TVT?

The tension-free vaginal tape procedure, or TVT, is a new procedure first developed in Sweden in 1995. This procedure is similar to the sling in principle it forms a hammock under the urethra that bolsters it when you laugh, cough, exercise, or strain in any other way.

This procedure has been performed on over 150,000 women in Europe and 20,000 in the United States, and the initial results are excellent. The success rate so far is 85% after 3 years. Surgery takes about 30 minutes and may be performed with local or epidural anesthesia. Most women can leave the hospital within a few hours. Patients can urinate without problems immediately after surgery.

A thin strip of supporting tape is used to form a hammock under the urethra. The tape is made of a synthetic nylon-like mesh that grips the surrounding tissues and holds itself in place without sutures until scar tissue grows into the mesh. Like the sling, the procedure is performed through a small incision in the vagina directly below the urethra. A loose hammock is made beneath the urethra, and the ends of the hammock are pulled up through two very small (1/2 inch) incisions made side by side in the skin just above the pubic bone. The tape is carried up to the abdominal wall with an instrument that avoids the need for the surgeon to make a tunnel. It's faster and easier to perform than the sling. Once the tape is placed properly below the urethra, the extra material is trimmed, and the incisions on the skin's surface are closed.

Because the procedure is new, long-term outcomes (5-10 years) and risks are still being determined, but the results to date have been excellent. While the TVT was initially developed for stress incontinence, it has also been used with some success for ISD combined with stress incontinence. It is likely that this procedure will be useful for many women with incontinence, and we have been impressed with the results in our own practice.

What is the Recovery Like After TVT?

Recovery is very rapid following TVT. The small incisions, the one in the vagina and the two above the pubic bone, only cause mild discomfort for a few days. Since the surgery can be performed under local or epidural anesthesia with mild sedation, there is none of the grogginess people sometimes feel after general anesthesia. Our patients are usually walking around within a few hours and go home from the hospital shortly thereafter. However, as is true with all incontinence surgery, it is important to limit strenuous activity for three months to allow all the healing to take place.

What is an Anterior Repair?

An anterior repair, or cystocele repair, was one of the first operations developed to support the bladder and urethra to prevent incontinence. The operation supports the bladder from underneath but does not correct the loss of support experienced with the extra pressure of a cough or exercise. The anterior repair is performed through a vaginal incision just under the bladder and uses stitches to pull together the strong vaginal tissue for support. This replaces the bladder and urethra closer to their original positions. Unfortunately, this operation does not work very well for incontinence, with only 37% of women having long-term cures (5 years). Many doctors still use this operation for incontinence even though it is no longer state–of–the–art. An anterior repair is a very good procedure for putting a dropped bladder back into place to relieve bulging of the bladder (see cystocele, chapter 8). It also is helpful for women who are unable to empty their bladder because of the urine that collects in the bulging portion. But, if leakage is a problem, we perform a bladder suspension operation, sling or TVT in order to successfully treat stress incontinence.

What is a Vaginal Bladder Suspension?

This operation was designed to be an alternative to the abdominal suspension. It uses sutures to hoist the bladder and urethra back up to a more normal position by attaching the sutures to strong fascia above the abdominal muscles. As the name suggests, the operation is performed through an incision in the vagina, rather than with an abdominal incision. A small vaginal incision is made around the urethra exposing the supporting tissues of the urethra. Through this vaginal incision, stitches are placed in the supporting tissue, the fascia, next to the bladder and urethra. The ends of these long sutures are then threaded through the end of a long, narrow instrument and pulled back through a small (1 inch) incision over the pubic bone. The sutures are then tied to the layer of strong fascia on top of the abdominal muscles.

Where the Burch procedure attaches the urethra to an immovable pubic ligament, most vaginal suspension operations attach the urethra to connective tissue and muscles that move when you move and, therefore, can stretch or break the sutures. The stretching can loosen the repair work and make the surgery less effective over time. For that reason this operation is less effective over the long run, with cure rates in the 45% range after 5 years. Although some doctors still perform this procedure, we eliminated it in our own practice because it is not effective over time.

What is the Recovery Like After a Vaginal Bladder Suspension?

Because these procedures don't involve a large abdominal incision, recovery is quicker and less painful than with the abdominal suspension. Surgery is also shorter, lasting about forty minutes. This operation may be a reasonable choice for some women, especially older, frailer women who might benefit from a quicker recovery. There is less discomfort because the vaginal incision is small, and the abdominal incision is very small. There can be slightly more swelling around the urethra immediately after this operation, so often a catheter is left in place to drain the bladder for a few days and up to a few weeks.

Most women spend one night in the hospital after a vaginal bladder suspension. They are able to eat the same day as surgery. Since there is only minimal discomfort, they can be up walking the same day. Walking is the best exercise during the recovery period – it is not too strenuous, but gets most of the muscles in your body going again and keeps your circulation moving. However, the sutures still need to heal, and the bladder still needs to form strong scar tissue to hold it in the proper position. Therefore, exercise other than walking and lifting more than 5 pounds still needs to be restricted for three months.

Can Collagen Injections be Used to Treat Incontinence?

Yes, now there is a new and effective treatment for one type of incontinence, ISD (see Chapter 1), which has changed the lives of many women who have leaked for years. ISD may follow incontinence surgery that caused excessive scarring or damaged nerves near the urethra. As a result, the urethra does not close properly and leaking occurs. Collagen is a natural substance that adds strength and elasticity to most of the tissues of the body. When taken from cattle and purified for medical use, it has the consistency of thick glue and can be administered by injection. You are probably familiar with the use of collagen by injection since it is commonly use by dermatologists to soften wrinkles in the skin.

The use of collagen for treating incontinence is a simple procedure performed in the doctor's office or hospital, either with local or general anesthesia. We place a small telescope into the urethra and pass a small needle through the telescope. The surgeon guides the needle to the portion of the urethra very close to the opening of the bladder. When the collagen is injected into this tissue, it solidifies quickly and causes the urethral lining to bulge inwardly, making

the urethra close off at this point. The partial blockage of the urethra by the bulging collagen helps the urethra stay closed during a cough or with exercise.

This procedure takes only about 15-30 minutes, and the patient goes home the same day. Some women may need to do self-catheterization for a few days until the swelling around the urethra goes down. A few women may note irritation with urination for a day or so, and, rarely, a bladder infection may occur. No long-term side effects have been reported. You can pick up your life where you left off a few days after the procedure. Because about 2% of women can have an allergic sensitivity to the collagen, we inject a small amount of collagen into the skin on the forearm a month before the scheduled procedure. If we don't see redness or swelling, we know it is safe to go ahead with the collagen injection procedure.

How Successful are Collagen Injections?

Collagen injections bring excellent results, with 80% of women having some relief of their symptoms and about 50% of women able to stay dry. The success of collagen injections should be apparent immediately after injection. However, we often find a series of 2 or 3 injections, performed over the course of a few months, is needed to provide these good results. The effectiveness of a series of collagen treatments can last for up to two years. Unfortunately, the collagen dissolves over time, and re-injections usually become necessary. However, if leakage does recur, re-injection can easily be performed. A number of new materials are being developed that are designed to last longer than collagen and, therefore, should avoid the need for re-injections.

Although collagen is appropriate for only a small number of women, it is enormously important because it is often successful for women who have prior surgical failures who are the most difficult to cure. These women are understandably very grateful for this new technique. Many were our most unhappy patients, but with collagen, they are now dry and satisfied.

What is Interstim?

Interstim is a surgical method to control symptoms from a hyperactive bladder. Interstim works by electrically stimulating the spinal cord nerves and causing them to relax. Although this is a surgically implanted device, it does not involve surgery on the pelvic organs or muscles. However, since it uses a permanently implanted device, it should only be considered for women who have tried and failed all other attempts to correct their bladder spasms. In many people with a hyperactive bladder, the nerves that control the bladder are being activated on their own, without any signals from the brain. As a result, the bladder is almost always in spasm. This unrestrained noise occurs between the spinal cord and the bladder in ways that are poorly understood. Your nerves carry impulses in the form of a weak electrical signal. These signals can be interrupted by the stronger electrical signals provided by the Interstim.

The first part of the Interstim procedure is the temporary placement of a small wire near the base of the spine. We then use a temporary device, about the size of deck of cards, to stimulate the wire to see if the device is effective in decreasing or eliminating the over-activity of the bladder. If it is effective, then we implant a permanent wire and device.

How Successful are these Bladder Operations?

Millions of women are significantly happier because of bladder surgery of one type or another. There is an excellent American study that followed women for 5 years after three different operations performed for stress incontinence. The women who had abdominal bladder suspensions had the best five-year success rate; about 80% were still dry. About 45% of the women who had vaginal needle bladder suspensions were still dry after five years, and the

women with anterior bladder repairs had success rates in the 35% range. Sling surgery has a high cure rate, around 90%, for women who have had a previous bladder operation that has failed. The procedure has a short recovery period. However, urgency may sometimes follow the operation. TVT is very effective, with success rates around 90% after three years. However, longer-term success rates are not yet available.

In addition to success rates, certain procedures may be more appropriate for your particular situation and not another. However, in our own practice we have stopped performing anterior repairs and vaginal needle procedures for the treatment of incontinence because of the low success rates. It is best to discuss with your doctor which operation is best for you.