6 Surgical Treatment for Men with Stress Urinary Incontinence

The underlined terms are listed in the glossary.

If you suffer from stress urinary incontinence (SUI), your doctor may recommend surgical treatment to improve or cure your condition.

Common surgical options for SUI are:

- Slings
- Artificial compression devices (balloon insertion)
- Artificial Urinary Sphincter (AUS)
- Bulking agents

The aim of all procedures is to make you continent. How this is done varies. Together with your doctor you can decide which approach is best for you, based on:

- Your age
- The severity of your urinary incontinence
- How bothersome your symptoms are
- Your general state of health

This section offers general information and situations can vary in different countries.

Sling implantation

Slings provide support to the pelvic floor muscles and help the urethra to better resist the pressure of a full bladder. Sling implantation aims to cure SUI by compressing the urethra or repositioning the urethra in relation to the bladder neck. The goal of both techniques is to prevent urine leakage.

There are various types of slings, like two armed-slings, four-armed slings, and adjustable ones. Slings can be synthetic, or made of human or animal tissue. You can discuss with your doctor which option is best for you.

Which type of sling is recommended for you depends on your individual situation and needs. It also depends on the availability of different types of slings in your hospital and your surgeon's experience with them.

How are slings implanted?

For the procedure you usually receive spinal anaesthesia, but in some cases you may be recommended general anaesthesia. First the doctor inserts a catheter to make sure that your bladder is completely empty during surgery.

The doctor then makes an incision in the perineum to insert the sling. In two-armed slings, the ends of the sling are put in position on both sides of the urethra, shaping the sling like a hammock. Then, the ends of the sling are attached to tissue either just above the pubic bone, or around the groin **(Fig. 1)**. In four-armed slings, two ends of the sling are attached to the groin, while two others are attached to tissue around the pubic bone **(Fig. 2)**.

For adjustable slings, the doctor will make additional incisions in your lower abdomen to insert an adjusting device in the body **(Fig. 3)**. Several adjustable systems exist. Each type of sling has specific characteristics, results, and possible complications. Ask your doctor about his or her experience with the sling suggested to you.

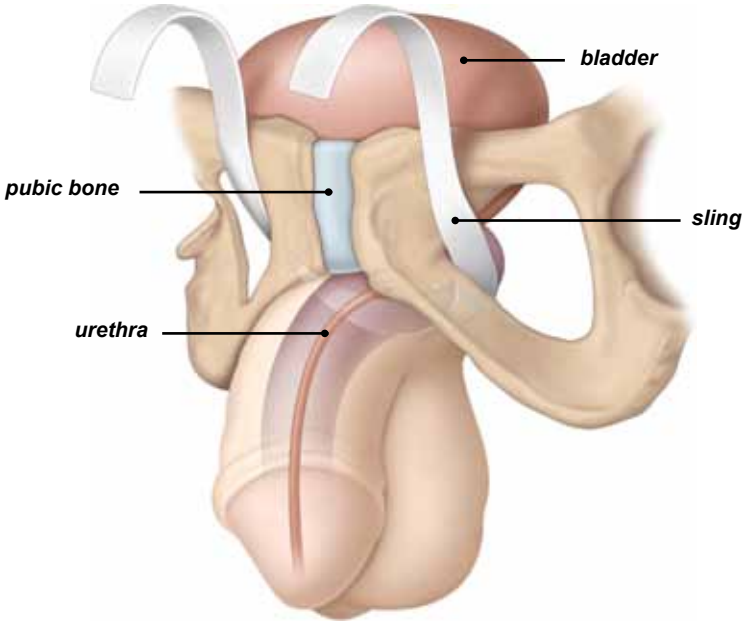

Fig. 1: A common type of retropubic two-armed sling.

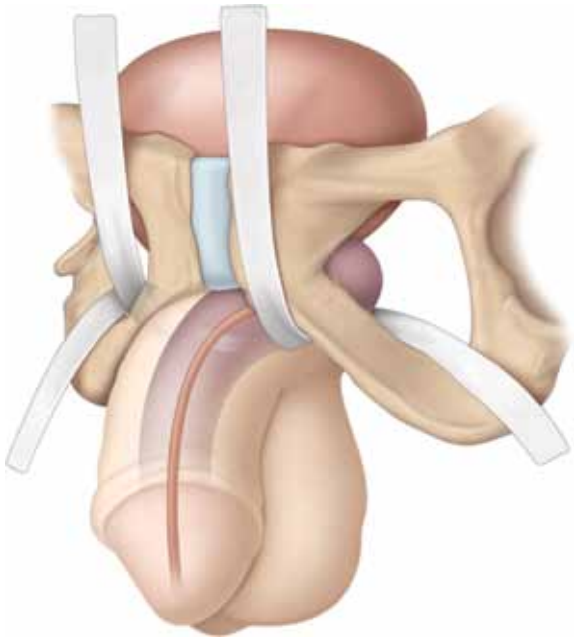

Fig. 2: A common type of four-armed sling.

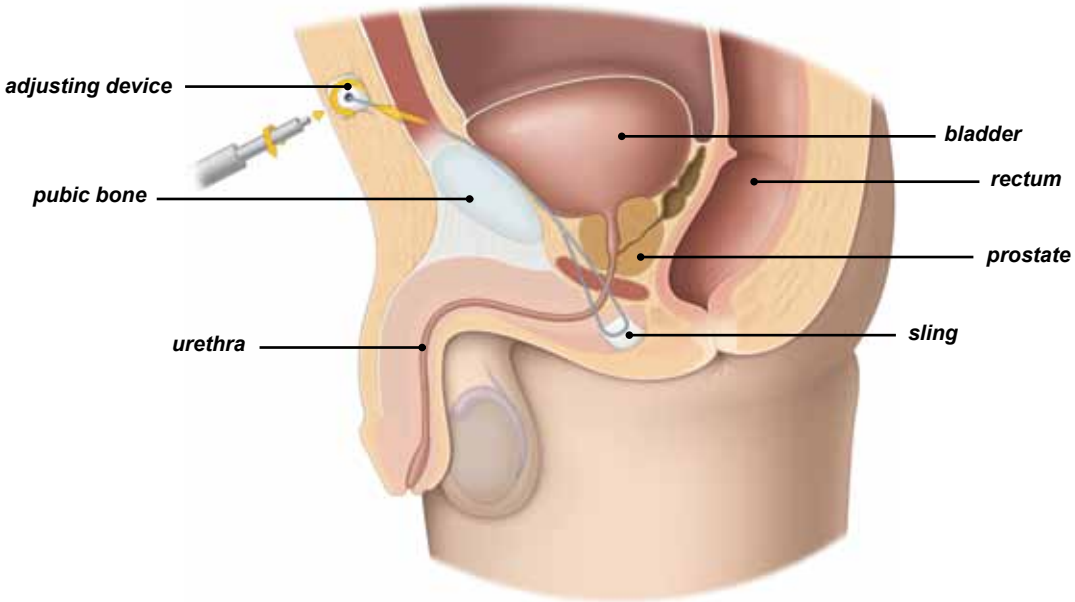

Fig. 3: A common type of adjustable sling.

When should I consider a sling?

Slings can be considered in case of mild to moderate urinary incontinence after prostatectomy. They are also recommended when other surgical treatments are not possible, or if you do not want to undergo major surgery.

A sling can be a good option after other procedures have failed. Discuss with your doctor what the best option is for you.

How do I prepare for the procedure?

Before the surgery the doctor will ask for a urine sample to make sure you do not have a urinary tract infection. If you have an infection, your doctor will prescribe antibiotics before, during, and after the operation.

Your doctor will advise you in detail about how to prepare for the procedure. If you need general anaesthesia, you must not eat, drink, or smoke for 6 hours before surgery. If you are taking any prescribed medication, discuss it with your doctor. You may need to stop taking it several days before surgery. Your doctor will advise you on when you can start taking it again.

How long will it take me to get back to my daily activities?

The doctor will generally remove the catheter within 24 hours after the surgery and monitor your recovery. Usually you can leave the hospital a few days after the procedure. If you have problems urinating or there is much post void residual urine in the bladder, you may have to stay longer. The recommended length of hospital stay varies in different countries.

After any surgery, your body needs time to fully recover. It can take up to 6 weeks for the wound to completely heal. During this time you may experience pain in the pelvic area, or feel pain when you urinate. Your doctor can prescribe medication to deal with these symptoms.

Your wound will be checked as well. Usually stitches that dissolve and disappear are used.

Recommendations for 4-6 weeks after the surgery:

- Drink 1-2 litres every day, especially water
- Do not lift anything heavier than 5 kilograms
- Do not do any heavy exercise
- Take showers instead of baths
- Avoid thermal baths, or going to the sauna
- Adapt your diet to prevent constipation

You need to go to your doctor or go back to the hospital right away if you:

- Develop a fever
- Are unable to urinate
- Have heavy blood loss or pain
- Have significant blood in the urine
- Notice the wound starts to bleed or leak transparent fluid, or it hurts

Advantages

- High chance of curing stress urinary incontinence
- Long-term solution
- Fast recovery
- Does not have a negative effect on possible future surgical treatment

Disadvantages

- Risk of injury to the urethra during surgery
- Very low risk of injury to the bowel or blood vessels in the pelvic area
- Risk of temporary urinary retention after surgery
- Risk of urgency urinary incontinence
- Risk of bruising or bleeding in the abdomen
- Risk of urinary tract infection
- Risk of erosion or infection of the sling
- Risk of recurrence of urinary incontinence
- Risk of needing another surgery in case the sling is not effective

Artificial compression devices (balloon insertion)

Artificial compression devices, also known as balloons, are a common treatment for mild to moderate SUI. They compress the urethra just below the bladder neck so that it can better resist the pressure of a full bladder. The goal of the balloons is to reduce urine leakage during activities such as sneezing, coughing, running, or lifting.

The artificial compression device consists of a balloon which can hold fluid, a small titanium port, and a tube that connects the port to the balloon **(Fig. 4)**. The port allows the doctor to regulate the amount of fluid in the balloon. Two balloons are inserted on either side of the urethra during a minimally-invasive procedure.

When should I consider balloon insertion?

Balloons can be considered in case of mild to moderate urinary incontinence. They are also recommended when other surgical treatments are not possible, or if you do not want to undergo major surgery.

How are balloons inserted?

For the procedure you usually receive general anaesthesia, but in some cases you may be recommended spinal anaesthesia. First the doctor inserts a catheter to make sure that your bladder is completely empty during the surgery.

The doctor then makes an incision in the perineum. Using x-ray for guidance, the doctor places the first balloon on one side of the urethra, under the prostate. If you have had radical prostatectomy, the doctor places the balloon right under the bladder neck. This is then repeated with the second balloon on the other side of the urethra.

Finally, the doctor positions the titanium ports in the scrotum and connects them to the balloons. This is done so that the volume of the balloons can easily be adjusted after surgery.

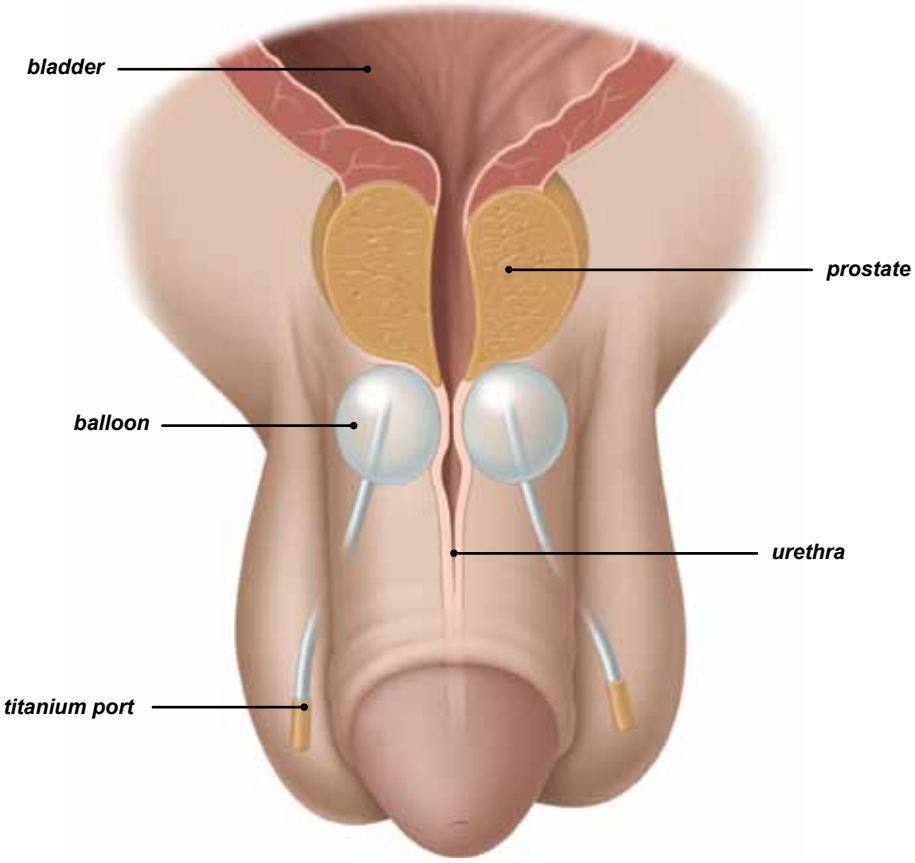

Fig. 4: An artificial compression device (balloons) compressing the urethra.

How do I prepare for the procedure?

Before the surgery the doctor will ask for a urine sample to make sure you do not have a urinary tract infection. If you have an infection, your doctor will prescribe antibiotics before, during, and after the operation.

Your doctor will advise you in detail about how to prepare for the procedure. You must not eat, drink, or smoke for 6 hours before surgery to prepare for the anaesthesia. If you are taking any prescribed medication, discuss it with your doctor. You may need to stop taking it several days before surgery. Your doctor will advise you on when you can start taking it again.

How long will it take me to get back to my daily activities?

The doctor will generally remove the catheter immediately after the surgery and monitor your recovery. Usually you can leave the hospital a few days after the procedure. If you have problems urinating or there is much post void residual urine in the bladder, you may have to stay longer. The recommended length of hospital stay varies in different countries.

After any surgery, your body needs time to fully recover. It can take up to 6 weeks for the wound to heal completely. During this time you may experience pain in the pelvic area, or feel pain when you urinate. Your doctor can prescribe medication to deal with these symptoms.

Recommendations for 4-6 weeks after the surgery:

- Drink 1-2 litres every day, especially water
- Do not lift anything heavier than 5 kilograms
- Do not do any heavy exercise
- Take showers instead of baths
- Avoid thermal baths, or going to the sauna
- Adapt your diet to prevent constipation

You need to go to your doctor or go back to the hospital right away if you:

Develop a fever

- Are unable to urinate on your own
- Have heavy blood loss or pain
- Have significant blood in the urine
- Notice the wound starts to bleed or leak transparent fluid, or it hurts

Advantages

- Chance of improvement of stress urinary incontinence
- The volume of the balloons can be adjusted

Disadvantages

- Risk of injury to the urethra or the bladder during surgery
- Very low risk of injury to the bowel or blood vessels in the pelvic area
- Risk of temporary urinary retention
- Risk of urgency urinary incontinence
- Risk of bruising or bleeding in the abdomen
- Risk of urinary tract infection
- Risk of erosion of the device leading to infection of the bladder, rectum, or urethra
- Risk of recurrence of urinary incontinence
- Risk of needing another surgery in case the device is not effective

Artificial Urinary Sphincter implantation

Artificial urinary sphincter implantation, or AUS, is a common treatment for moderate to severe stress urinary incontinence. With the help of a hand-controlled pump, the AUS allows you to control your bladder by compressing and releasing a cuff around the urethra. The goal of the AUS is to reduce urine leakage during activities such as sneezing, coughing, running or lifting.

When should I consider an AUS?

AUS is generally recommended in case of severe urinary incontinence, or if sling implantation has failed to cure or improve your condition. AUS has a long-lasting effect and improves your quality of life.

You have to be able to manually control the pump. Before the surgery is scheduled, the doctor or nurse will sit down with you to discuss how the device works and to make sure you feel comfortable using it.

The doctor will do some tests to make sure that there are no contraindications for getting an AUS. As part of this assessment, you will need a cystoscopy, and a pad test. You can read more about these in the leaflet Assessment and Diagnosis of Urinary Incontinence.

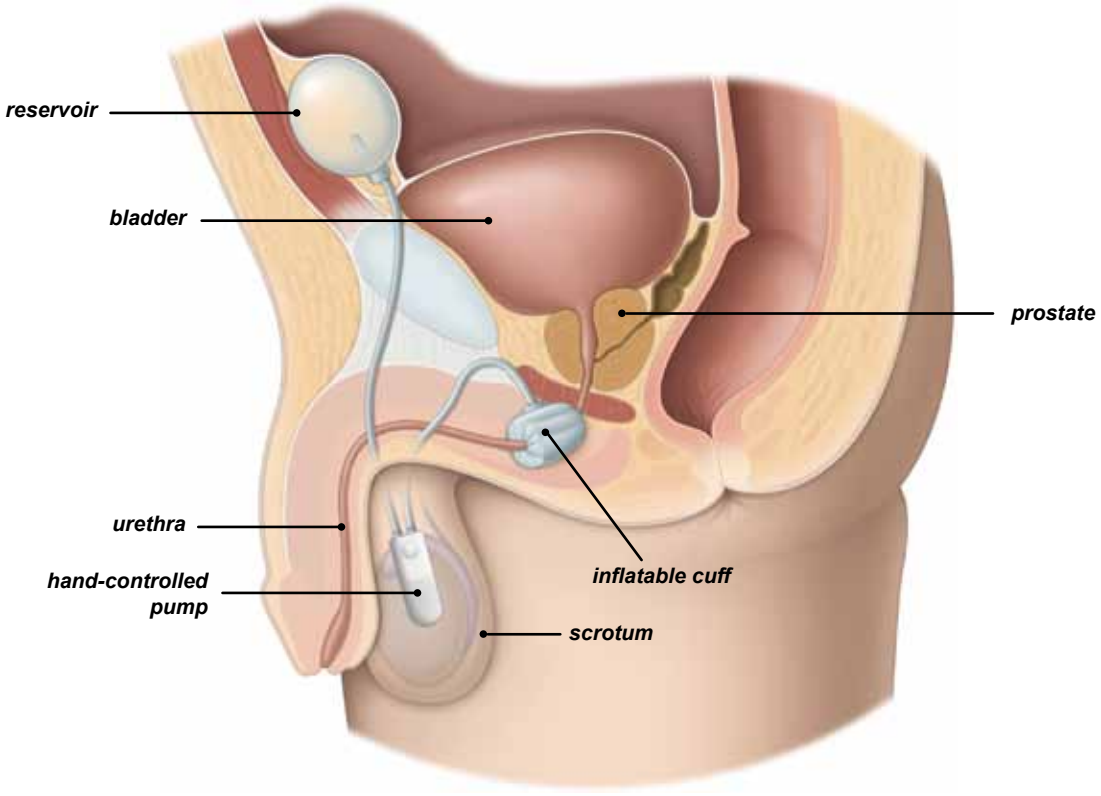

Fig. 5: AUS implantation in the male lower urinary tract.

How is the AUS implanted?

For the procedure you usually receive spinal anaesthesia, but in some cases you may be recommended general anaesthesia. First the doctor inserts a catheter to make sure that your bladder is completely empty during the procedure.

The doctor makes an incision in the perineum to place the cuff around the urethra. Then the doctor inserts the reservoir through a second incision in the lower abdomen. Finally, the pump is positioned in the scrotum, and is connected to the other two elements of the device **(Fig. 5)**. The cuff is left open until the doctor activates it a few weeks later.

How do I prepare for the procedure?

Before the surgery the doctor will ask for a urine sample to make sure you do not have a urinary tract infection. If you have an infection, your doctor will prescribe antibiotics before, during, and after the operation.

Your doctor will advise you in detail about how to prepare for the procedure. If you need general anaesthesia you must not eat, drink, or smoke for 6 hours before surgery. If you are taking any prescribed medication, discuss it with your doctor. You may need to stop taking it several days before surgery. Your doctor will advise you on when you can start taking it again.

How long will it take me to get back to my daily activities?

The doctor will generally remove the catheter the day after the surgery and monitor your recovery. You may have to take antibiotics to prevent an infection. If you are able to urinate without any problems and there is not much residual urine in the bladder, you will be discharged from the hospital a few days later. The length of hospital stay can vary in different countries.

After you leave the hospital, your body still needs time to fully recover from surgery. Because of this, the AUS will not be activated until your lower urinary tract has completely healed. This means that in the weeks after the procedure you will continue to have urine leakage. During this time you may also experience pain in the pelvic area, or feel pain when you urinate. Your doctor can prescribe medication to deal with these symptoms.

The doctor will schedule an appointment to activate the device 4-6 weeks after surgery.

During the recovery period your doctor may recommend to:

- Drink 1-2 litres every day, especially water
- Not lift anything heavier than 5 kilograms
- Not do any heavy exercise
- Take showers instead of baths
- Avoid thermal baths, or going to the sauna
- Prevent constipation by adapting your diet
- Avoid sexual activity
- Avoid cycling or horseback riding. After AUS implantation, you will need a specifically designed seat to prevent the pump from accidentally activating during these activities

You need to go to your doctor or go back to the hospital right away if you:

- Develop a fever
- Are unable to urinate on your own
- Have heavy blood loss or pain
- Notice the wounds start to bleed or leak transparent fluid, or hurts
- Notice swelling, pain, or redness in the scrotum

Advantages

- High chance of curing stress urinary incontinence
- Long-lasting effect

Disadvantages

- Very low risk of injury to the urethra, rectum, or the bladder during surgery
- Very low risk of injury to the bowel or blood vessels in the pelvic area
- Very low risk of temporary urinary retention after surgery
- Very low risk of urgency urinary incontinence
- Very low risk of recurrence of stress urinary incontinence
- Risk of bruising or bleeding in the abdomen
- Risk of urinary tract infection
- Risk of infection of the device
- Risk of erosion of the AUS into the urethra
- Risk of mechanical failure of the device
- More invasive than sling implantation
- Requires the ability to operate the device and to manually control the pump
- You will remain incontinent until the device is activated 4-6 weeks after surgery

Injections with bulking agents

If you suffer from SUI, your doctor may recommend treatment with bulking agents. These are injected into your urethral wall so that the urethra is compressed and can better resist the pressure of a full bladder **(Fig. 6)**. The bulking agent is injected as a liquid that then hardens into a spongy material to strengthen the urethral wall. Bulking agents can consist of synthetic materials such as bovine collagen, or be made of human tissue. The effect of the procedure will wear off with time.

When should I consider a bulking agent?

Injection with bulking agents is recommended if you are unfit for other treatments, or you prefer to be treated with bulking agents.

How are bulking agents applied?

For the procedure you usually receive local anaesthesia, but in some cases you may be recommended general anaesthesia. First the doctor inserts a catheter to make sure that your bladder is completely empty during the procedure. Then the doctor uses an endoscope to guide a needle into the wall of the urethra. The doctor injects the bulking agents on both sides of the urethra.

How do I prepare for the procedure?

Before the procedure, the doctor will ask for a urine sample to make sure you do not have a urinary tract infection. If you have an infection, your doctor will prescribe antibiotics.

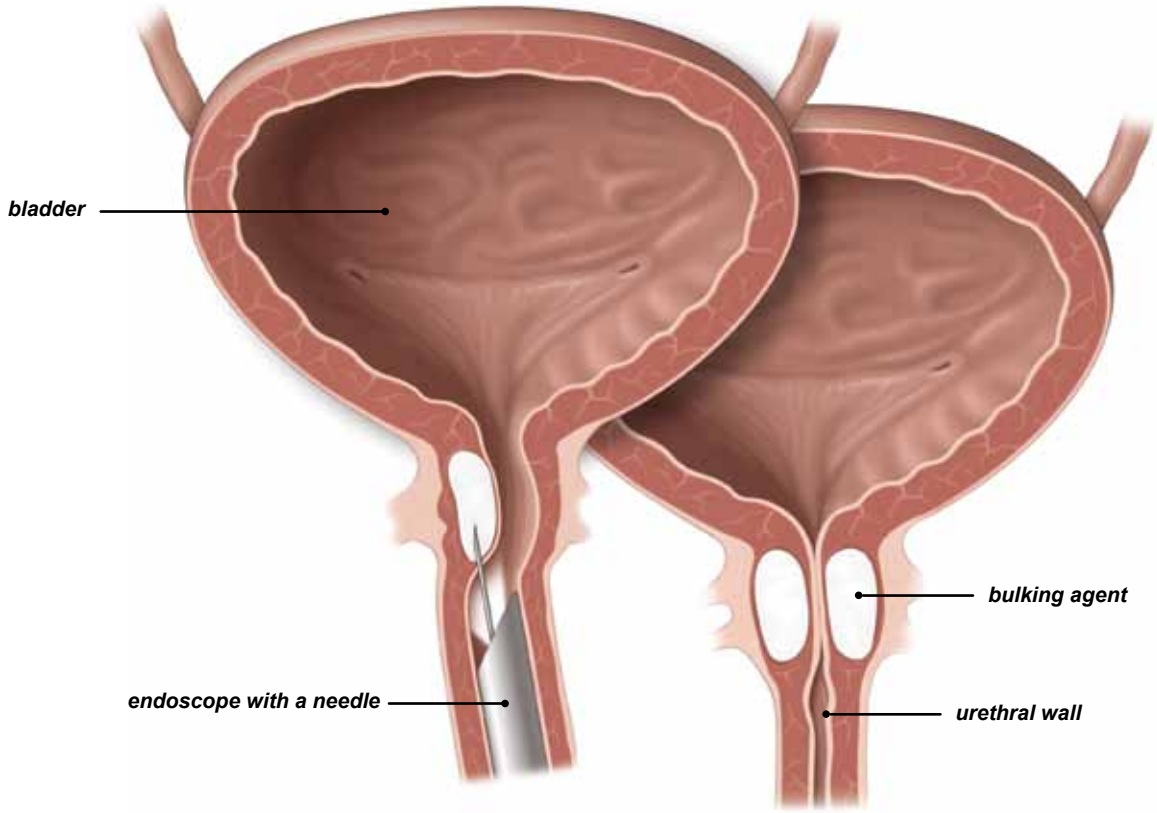

Fig. 6: Bulking agents are injected into the urethral wall.

How long will it take me to get back to my daily activities?

The doctor will generally remove the catheter shortly after the procedure. If you are able to urinate without any problems and there is not much residual urine in the bladder, you will be discharged from the clinic.

For 3-4 weeks your doctor may recommend to:

- Drink 1-2 litres every day, especially water
- Not lift anything heavier than 5 kilograms
- Not do any heavy exercise
- Avoid thermal baths, or going to the sauna
- Prevent constipation by adapting your diet
- Avoid sexual activity

You need to go to your doctor or go back to the hospital right away if you:

- Develop a fever
- Are unable to urinate on your own
- Have heavy blood loss or pain

Advantages

- Minimally invasive procedure
- Usually no need for general anaesthesia
- Often performed in outpatient setting
- Does not have a negative effect on possible future surgical treatment

Disadvantages

- Temporary effect
- Risk of infection of the urethral wall
- Risk of temporary urinary retention

This information was updated in November 2014.

This leaflet is part of EAU Patient Information on Urinary Incontinence. It contains general information about diagnosis and assessment of the condition and available treatment options. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider. No leaflet can replace a personal conversation with your doctor.

This information was produced by the European Association of Urology (EAU) in collaboration with the EAU Section of Female and Functional Urology (ESFFU), and the European Association of Urology Nurses (EAUN).

The content of this leaflet is in line with the EAU Guidelines.

You can find this and other information on urological diseases at our website: http://patients.uroweb.org

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