

## **Artificial Urinary Sphincter Implantation for Male Urinary Incontinence** **人工尿道括約肌植入術治療男性尿失禁**

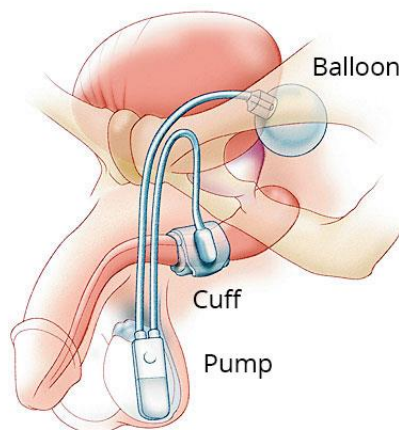
### **Introduction**

The commonest cause of male urinary incontinence is related to the removal or resection of prostate for treatment of benign or malignant disease. In the vast majority of cases, the involuntary leakage is temporary and minor. However, a small proportion of men will continue to have significant leakage of urine, impacting their quality of life.

The artificial urinary sphincter (AUS) is the gold standard treatment for male urinary incontinence. The AUS is particularly effective for more severe form of urinary incontinence. Overall continence rates after AUS placement ranges from 61%-100%.<sup>1</sup> The AUS can be implanted via one or two small incisions and typically involves an overnight stay in hospital.

An artificial sphincter has three parts:

1. A cuff, which fits around the urethra. When the cuff is inflated, it opposes the urethra to stop urine flow or leakage.
2. A balloon, which is placed in the pelvis. It stores fluid to inflate the cuff.
3. A pump, which is placed in the scrotum. The pump relaxes the cuff by moving fluid from the cuff to the balloon.



### **The Procedure**

The surgery can be performed under either general or spinal anesthesia and it takes around one hour. One or two surgical incision is made.

### **Common Risks/Complications:**

1. Revision/Removal of Implant (12-31.2%)<sup>2</sup>
2. Urethral Atrophy (8.2-14%)<sup>2</sup>
3. Cuff Erosion (5.2%-10%)<sup>2</sup>
4. Infection (0.5%-8.2%)<sup>2</sup>
5. Mechanical Dysfunction  
(AUS device survival rate  
90% at 1 year  
74% at 5 years  
57% at 10 years  
41% at 15 years)<sup>3</sup>
6. Urinary Retention<sup>4</sup>
7. Urethral Injury ~5%
8. Haematoma
9. Pain

### **Uncommon Risks with Serious Consequences:**

1. Bladder Injury
2. Bowel Injury
3. Mortality

### **Preparation before the Procedure/ Before the Procedure**

1. You must disclose to the doctor any pre-existing medical condition you may have, for example diabetes, heart diseases or high blood pressure, and any regular medication that you use.
2. You must disclose to the doctor on any history of allergy, including those to rifampin (rifampicin), minocycline HCL, tetracyclines, silicone or fluorosilicone lubricant.
3. Prior to the procedure, you will undergo a series of examinations, such as blood tests, urine test, chest x-ray or other tests as directed by the doctor.
4. You must refrain from eating or drinking at least 6 hours before the procedure to prevent vomiting during and after the procedure.
5. Your doctor will advise you whether to continue your regular medications during the fasting period or may give you other instructions.
6. You may receive preventive antibiotics injection to reduce the risk of wound infection.

### Care after the Procedure/ After the Procedure

1. Do not take shower after the operation and keep wound dressing dry.
2. You may have clips or stitches in your abdomen after the operation.
3. You may have a tube to drain off urine from the bladder for a day or two after the operation.
4. You may have fluid dripping through a line to a vein at your arm; doctor will allow you resume normal diet after post operation assessment when your conditions have improved.
5. Doctor and nurses will monitor closely on your blood pressure, pulse, signs of bleeding and level of pain. You may request for pain relief medication if required.

### Follow Up

1. Recovery time varies from person to person; some men can return to work that does not involve heavy lifting after a few days.
2. You should keep your wound clean and dry whenever possible.
3. You must strictly follow instructions on medication taking, and return for the scheduled follow up appointments.
4. If you have any excessive bleeding, collapse, severe pain or signs of infection at your wound site such as redness, swelling, fever or offensive discharge from your wound, contact your doctor immediately or attend the nearby Accident and Emergency Department.
5. Refrain from sexual intercourse until the AUS can be activated.
6. The device will be activated 6 weeks after the operation. You will use the pump to empty (deflate) the cuff. Squeezing the pump moves fluid from the cuff to the balloon. When the cuff is empty, your urethra opens so that you can urinate. The cuff will re-inflate on its own in 90 seconds.
7. You will need to carry a wallet card that tells health care providers you have an artificial sphincter implanted. You must inform health care providers that the artificial sphincter must be deactivated if you need to have a urinary catheter placed.

### Remarks

This leaflet provides general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the complication risk may be different. Please discuss with your doctor for more information.

**References:**

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2. Suarez OA, McCammon KA. The Artificial Urinary Sphincter in the Management of Incontinence. *Urology.* 2016;92:14-19.
3. Lai HH, Hsu EI, Teh BS, Butler EB, Boone TB. 13 Years experience with artificial urinary sphincter implantation at Baylor College of Medicine. *J Urol.* 2007;177:1021-1025.
4. Hunter W, Andrew P. Surgical Procedures for Sphincteric Incontinence in the Male: Artificial Urinary Sphincter and Perineal sling Procedures. In: Wein AJ, ed. *Campbell-Walsh Urology.* 11th ed. Philadelphia, PA: Elsevier Saunders; 2016:chap 91.