

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 removal or resection of prostate for the 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 on their quality of life.

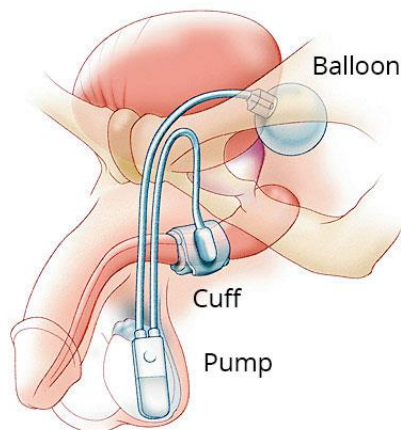
The artificial urinary sphincter (AUS) is the gold standard of treatment for male urinary incontinence. The AUS is particularly effective for the more severe type of urinary incontinence. Overall continence rates after AUS placement range from 61%-100%.¹ The AUS can be implanted via one or two small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

The Procedure

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

An artificial sphincter has three parts:

1. A cuff, which fits around the urethra. When the cuff is inflated, it closes off 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.



Common Risks/Complications:

1. Revision/Removal of Implant (12-31.2%)²
2. Urethral Atrophy (8.2-14%)²
3. Cuff Erosion (5.2%-10%)²
4. Infection (0.5%-8.2%)²
5. Mechanical Dysfunction
(AUS device survival rate
90% at 1 year
74% at 5 years
57% at 10 years
41% at 15 years)³
6. Urinary Retention⁴
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 inform the doctor of any medical condition, for example diabetes, heart diseases, high blood pressure and any medications you take.
2. You must inform the doctor of any allergy history, for example rifampin (rifampicin), minocycline HCL, tetracyclines, silicone or fluorosilicone lubricant
3. You will have a series of checkups before the operation including blood tests, urine test, chest x-ray or other tests prescribed by the doctor.
4. You must not eat or drink anything at least 6 hours before the procedure to avoid vomiting during and after the procedure.
5. Your doctor will tell you whether you should continue with your regular medications during the fasting period or may give you other instructions.
6. You may be given 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. Keep 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 put you back to normal diet when your conditions have improved.
5. Doctor and nurses will watch closely on you blood pressure, pulse, signs of bleeding and level of pain, tell them if you need pain relief.

Follow Up

1. Recovery varies from person to person; some man can go back to work that does not require heavy lifting after a few days.
2. You should keep your wound clean and dry.
3. You must follow instructions strictly on taking medication, see the doctor as scheduled to check on your health.
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, see your doctor immediately or attend the nearby Accident and Emergency Department.
5. No sexual intercourse until activation of AUS.
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 is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information please contact your doctor.

Reference:

1. Van der Aa F, Drake MJ, Kasyan GR, Petrolekas A, Cornu JN. The artificial urinary sphincter after a quarter of a century: a critical systematic review of its use in male non-neurogenic incontinence. *Eur Urol.* 2013;63:681-689
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.