

## ARTIFICIAL URINARY SPHINCTER

### Introduction

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Stress incontinence is the leakage of urine with abdominal pressure, usually triggered by lifting, coughing or sneezing. This is a common condition in females after childbirth but may also occur in men after prostate surgery. Most patients will improve with pelvic floor muscle exercises to recruit and strengthen muscles around the bladder outlet. Some patients continue to have bothersome leakage and may wish to consider surgical treatment when:

1. The leakage is distressing and causes restriction of usual activities due to embarrassment or fear of having accidents in public
2. Being dependent on pads or pull-ups is expensive and inconvenient, especially when travelling, hiking or playing competitive sport

### What are the alternatives?

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#### Sling

A synthetic tape is placed just below the bladder outlet to apply some pressure and change the angle of the urethra. This is mildly compressive but not occlusive and helps increase resistance to reduce leakage. It works best to control mild-moderate losses of up to 300 ml a day.

#### Artificial urinary sphincter (AUS)

This implantable device is highly effective for moderate-heavy leakage of greater than 300 ml a day and has three components:

- (1) The first is a fluid-filled cuff that occludes the urethra circumferentially.
- (2) The second is a small pump that is placed in the scrotum.
- (3) The third is a balloon reservoir to store fluid that travels in and out of the cuff.

To urinate, the pump is squeezed to move fluid from the cuff into the balloon and open the urethra. Fluid returns to the cuff passively over 30-60 seconds to close the channel off.

Sling video (2:31 mins) <https://www.youtube.com/watch?v=nXFTDfFTpwU>

AUS video (1:36 mins) [https://www.youtube.com/watch?v=bA2qd5e\\_fkc](https://www.youtube.com/watch?v=bA2qd5e_fkc)

Living with an AUS (6:12 mins) <https://www.youtube.com/watch?v=ZaMM10BCfvE>

### What do the procedure involve?

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The **AUS** is placed under general anaesthesia through two small incisions in the perineum (area between the scrotum and the anus) and the groin. The cuff, pump and balloon are placed in the body and connected to each other with fine tubing. The device is tested to ensure it is working but left deactivated (switched off) for 6 weeks to allow tissue healing. A catheter is placed into the bladder to drain the urine overnight and removed the next day.

## What are the risks of surgery?

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### Common (>50%)

Minor stinging or burning for 1-2 days after catheter removal  
Bruising, swelling and discomfort in and around the perineum

### Occasional (1-10%)

Infection or gaps in the stitches or wound  
Retention - unable to pass urine due to urethral swelling  
Urethral atrophy - tissue shrinkage resulting in loose cuff and leakage  
Urethral erosion - requires implant removal  
AUS malfunction - usually requires replacement of all components

### Rare (<1%)

Anaesthetic or cardiorespiratory problems requiring intensive care  
Chest infection, clots in the legs and lung, stroke, heart attack, death

## What should I do before surgery?

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- Do not eat, drink, or chew gum for 6 hours before surgery
- If you are on blood thinning medication, discuss this with Dr Ooi
- If you are obese, losing weight makes surgery easier and improves outcomes

## What should I expect after surgery?

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The usual hospital stay is 1 night. Sips of fluid are provided initially, followed by light diet. The nurses will assist with daily activities and remove the urinary catheter the following morning. The AUS will remain deactivated for 6 weeks to allow the tissues to heal and reduce risks of erosion or atrophy.

## Discharge information

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Avoid squatting, straining or lifting for 6 weeks after surgery. Do not soak the area in any baths or swim as this may increase infection risk. Please contact Dr Ooi's rooms, the hospital, ward or nurse manager if you have any concerns, such as excessive pain, bleeding, difficulty emptying your bladder, wound issues, fever or feel unwell. General advice is also available on our website in the Procedures section.

## Appointments

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Dr Ooi will see you 6 weeks after surgery to check your progress and activate the AUS. You may be asked to return a few hours later to ensure you are comfortable passing urine and using the pump. If there is any swelling or pain, Dr Ooi can deactivate the pump and arrange for another trial in a few weeks.

**Perth** - please come with a full bladder so you can do a flow test

**Albany** - please do not come with a full bladder as there is no flow machine