

# CLAHRCBITE

Brokering Innovation Through Evidence

## Preventing post-operative urinary retention



Being unable to pass urine after surgery (post-operative urinary retention or 'PO-UR') affects four out of every 10 surgical patients. It is particularly common in older people having hip or knee replacement surgery.

PO-UR is managed by catheterisation: inserting a tube to drain the bladder. This invasive method can lengthen hospital stay and lead to more problems such as infections and damage to the bladder.

It can be incapacitating, undignified, distressing and uncomfortable. Some people leave hospital with a tube still in place.

There are many triggers for PO-UR. Some relate to the individual, such as age and gender. Others relate to the type of surgery, anaesthetic or pain killers.

This project came from an idea by patient contributor Nick, who submitted it through the CLAHRC West open call in 2016.

As a patient, Nick experienced post-operative urinary retention, requiring catheterisation, after three different common non-urgent surgical procedures. He has worked as a researcher alongside the rest of the project team in a pioneering form of co-production.

We reviewed the literature to identify the factors influencing whether a patient will develop urinary retention and what can be done to prevent and treat it.

## What did we find?

We found being older, male, and having previous urinary problems or long-term enlargement of the prostate gland seriously restricting the ability to urinate ('benign prostatic hyperplasia') were associated with PO-UR. Reducing fluids and using a catheter during surgery were associated with a lower risk of PO-UR.

We found that giving tamsulosin (a drug used to help men with prostate disease) before surgery, can reduce the number of people who develop PO-UR. All the studies of tamsulosin were in men and none were in UK settings, so more studies are needed to see if similar effects are found in women and in UK settings.

We also found that replacing or avoiding morphine in the anaesthetic, administering the anaesthetic in certain ways, and getting patients up and moving as soon as possible after their operation reduced the chance of developing PO-UR. For people who developed PO-UR, a small number of studies also suggested that a hot pack or warm gauze and a warm coffee could help.

Based on the results of our review, we developed an intervention to reduce the risk of developing PO-UR – the 'PO-UR prevention package'. This package involves providing hospital staff with training and advice to:

- Avoid using morphine or reduce the dose, wherever possible
- Change other aspects of the anaesthesia or analgesia to reduce the risk of PO-UR
- Get people moving as soon as possible after their operation
- Reduce fluids so far as is safe, before and during the operation
- Provide a hot caffeinated drink and hot pack placed on the abdomen about two hours after the operation



## What next?

We are planning a new study to find out whether introducing the 'PO-UR prevention package' and giving tamsulosin before surgery will reduce the number of people who develop PO-UR.

The main outcomes we'll be looking at for this study are:

- whether patients have a catheter before leaving hospital
- how long the catheter stays in
- how long they need to remain in hospital and whether they go home catheterised

Reducing PO-UR should improve patient experience and dignity, reduce their time in hospital and speed recovery after surgery, alongside saving money for the NHS.

## Find out more

[clahrc-west.nihr.ac.uk/POUR/](http://clahrc-west.nihr.ac.uk/POUR/)

## About CLAHRC West

We conduct applied health research, support the translation of research evidence into practice, and provide training to increase access to equitable, appropriate, and sustainable health and care across the West.