A pelvic floor exercise program starting before prostate surgery improves the recovery of urinary continence

Dec 2019, Wendy Winnall, scientific writer for PCFA

Pelvic floor muscles control the bladder and the flow of urine. Exercising these muscles can help men regain control over urine flow after prostate surgery. New research from Australia has defined an effective pelvic floor exercise program that starts before surgery.

Surgery to remove the prostate gland usually leads to temporary incontinence – loss of control of urine flow. For most men this gradually improves over time. But unfortunately, some men suffer long-term incontinence after their prostate is removed.

Leaking of urine after surgery happens because some of the muscles involved in bladder control are removed with the prostate. Before surgery, it is difficult to predict the amount of urine that will leak. Leaking often happens unexpectedly, together with coughing, sneezing or exercise. Some men even leak urine during orgasm. Urinary incontinence is an issue that disrupts everyday life and causes a great deal of distress to these men and their partners.

One way to improve urinary control is by exercising pelvic floor muscles. The pelvic floor is a round layer of muscles at the base of the pelvis. These muscles support organs such as the bladder and large intestines (bowels). They help to control the bladder as well as erections.

It's important to learn how to exercise the pelvic floor muscles correctly. This will give the best results for improving control over urine flow. PCFA has a brochure that describes pelvic floor exercises for men having prostate surgery. However, seeing a physiotherapist who specialises in pelvic floor muscles will be the best way to learn these exercises.

Research into pelvic floor exercises for men having prostate surgery

Many trials have been run to determine effective pelvic floor exercise programs for men having prostate surgery. Even though randomised controlled trials have been done, the results have been mixed. 45 trials testing pelvic floor exercises for prostate surgery were compared in a rigorous review process in 2015. Some studies support the benefits of pelvic floor exercises, whereas others suggest that urinary continence improves over time with no added benefit of exercise. One of the problems with the past research is mixed methodology. There was too much variation in the type of exercise program, the volunteers

who joined the trials and the way the programs were assessed. For instance, continence (no leakage) was defined as less than 10g leakage, use of 1 pad or less, or 0 g leakage in different studies. In other words, different studies used different definitions of continence, which probably contributed to different results between studies.

This extensive Cochrane review calls for large, rigorous, randomised controlled trials to test pelvic floor exercise programs. They recommend assessing quality-of-life and pad weights to test the success of these programs. Australian researchers have been using these recommendations to determine the best pelvic floor exercise programs to help men having surgery for prostate cancer.

Australian pelvic floor exercise research

A new Australian study has defined a pelvic floor exercise program specifically for men having surgery to remove their prostate. The trial was led by physiotherapist Dr Jo Milios as part of her PhD studies through the University of Western Australia.

Men joining this trial were referred by their urologist before surgery to remove their prostate gland. These men did not have urinary incontinence before surgery and had no previous radiotherapy or hormone therapy.

The Australian trial tested a new pelvic floor muscle training program focused on activating different types of muscles fibres. Both slow-twitch and fast-twitch muscle fibres are specifically targeted. Slow-twitch fibres contract slowly and can be used for long periods of time. Fast-twitch fibres contract quickly. They work at high-speed but tire easily.

The study tested the new training program by comparing it to a similar program performed by a control group. 50 men who volunteered for the study were randomly allocated to the new program. Their results were compared to those from 47 men allocated to the control program. The muscle training programs started five weeks before surgery and continued for 12 weeks afterwards. Both programs started with two sessions of instructions from a physiotherapist for pelvic floor exercises. Men were asked to focus on a muscle called the anterior urinary sphincter, shown in previous studies to promote men’s urinary control. Men were then provided with a daily training program.

Men in the control group were given instructions according to current clinical practice. They performed 3 sets of exercises each day with 10 contractions for each (done in the sitting, standing and lying positions). Men in the new program group performed exercises targeting slow and fast-twitch muscles. They did 6 sets of pelvic floor exercises each day, all in the standing position. Each participant did not know which group they were in.

“Men tend to leak in upright postures, especially during actions such as sit-to-stand and walking. So it makes sense to train men in the postures they will need in the recovery process and long-term. I also combined the traditional slow twitch fibre (long hold) training with the fast twitch training of the pelvic floor muscles in times of stress e.g. cough/sneeze /lifting...essentially, what is required for continence in everyday life.” – Dr Jo Milios

To measure urinary continence (bladder control), men were asked to weigh their pads and report any leakage of urine. Continence (no leakage) was defined as having no increase in pad weight due to urine leakage over a 24 hour period. This was measured at 2 weeks, 6 weeks and 12 weeks after surgery. **There were more men reporting no leakage in the group who used the new exercise program compared to the group using the old program.** At each time interval, the average pad weight was less for men using the new exercise program.

The researchers also used a survey called EPIC-CP to ask the men in the trial how much urinary incontinence was bothering them. At two weeks after surgery the men in the control group reported significantly worse quality-of-life related to urinary issues than the men who used the new exercise program. But at 6 and 12 weeks after surgery the effects on quality-of-life, as measured by this survey, were similar between the two programs.

“For men newly diagnosed with prostate cancer, the research indicates that preparation prior to treatment is the critical difference to minimising the impact of post-operative urinary incontinence. I designed the new protocols based on what I had learnt clinically over 15 years and a cohort of more than 3000 individuals undergoing surgery. By commencing pelvic floor muscle training in a standing position, as soon as possible after a prostate cancer diagnosis, the lead-in time to surgery can be maximised.” Dr Jo Milios

PCFA recommends men planning surgery for prostate cancer consult with a pelvic floor physiotherapist. The results of this study indicate that doing this before surgery may be beneficial.