

Research review

Urinary incontinence in men after formal one-to-one pelvic-floor muscle training following radical prostatectomy or transurethral resection of the prostate (MAPS): two parallel randomised controlled trials

The two main risk factors after radical prostatectomy are stress urinary incontinence (SUI) and erectile dysfunction. A large study by Glazener *et al.* (2011) has shown that an alarming 89% of men who had undergone a radical prostatectomy were incontinent of urine at 6 weeks after surgery. However, the two parallel randomized controlled trials (RCTs) involved in the above authors' research failed to ask these men about the status of their erectile function at this time.

There is evidence from other recent trials that both of these distressing conditions may be alleviated by pelvic floor muscle exercise (PFME). Randomized controlled trials by Sueppel *et al.* (2001), Centemero *et al.* (2009), Tienforti *et al.* (2012) and Patel *et al.* (2013) have all shown a significant improvement in SUI when pre-operative PFMEs are performed. Furthermore, those by Van Kampen *et al.* (2000), Filocamo *et al.* (2005), Overgård *et al.* (2008) and Ribeiro *et al.* (2010) have all demonstrated a significant improvement in this condition when PFMEs are performed after radical prostatectomy. However, Glazener *et al.* (2011) reported no difference between men prescribed PFMEs following radical prostatectomy and those receiving standard care in their trial involving men after prostate surgery.

There are a number of reasons why the men participating in the above authors' RCTs showed no improvement:

- Urologists recruited nurses and physiotherapists to provide the therapy, but few of these therapists were specialist continence physiotherapists who were experienced in treating male incontinence.
- The therapists only had one day of training.
- The participants were given no pre-operative instruction.
- Some of the control group were prescribed PFMEs as part of their standard care, and therefore, there was no pure control group.

- The PFMEs were commenced at 6 weeks after surgery, not earlier, as in one successful trial (Ribeiro *et al.* 2010).
- Only 85% of men attended four clinic appointments in 3 months, not a weekly appointment until dry, as in some trials (Van Kampen *et al.* 2000; Overgård *et al.* 2008; Ribeiro *et al.* 2010).
- At 12 months after surgery, 50% of control subjects were performing PFMEs.

All the men in Glazener *et al.*'s (2011) trials knew about PFMEs, many of the control subjects received PFMEs as part of their standard care, and those who were leaking may have gained information from the Web or other sources. Therefore, there was no true control group in this study and both groups showed similar levels of improvement.

Two recent RCTs have demonstrated that PFMEs can significantly improve erectile function following radical prostatectomy (Lin *et al.* 2012; Prota *et al.* 2012). Prota *et al.* (2012) found that continent men who needed no pads had a 5.4 times higher chance of potency ($P=0.04$).

Those conducting future RCTs are recommended to follow the following advice:

- The research should be led by specialist continence physiotherapists who are experienced in treating men.
- The control group should be pure.
- Pre-operative PFMEs should be included.
- A weekly appointment should be provided for all participants until they are dry.
- The abridged, five-item version of the International Index of Erectile Function questionnaire (Rosen *et al.* 1999) should be included as an outcome measure.

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