

## REVIEW OF RCTS USING PELVIC FLOOR EXERCISES TO RESTORE PELVIC FLOOR FUNCTION IN MEN

### Hypothesis / aims of study

The male pelvic floor muscles have many functions. They support the abdominal contents, are active during breathing, maintain urinary and faecal continence, increase local blood supply and are active during sexual intercourse. It was hypothesised that weak pelvic floor muscles would compromise these functions in some men and lead to urinary and faecal incontinence and sexual dysfunction and that pelvic floor muscle strengthening would restore normal function.

### Study design, materials and methods

An extensive computerised literature search of randomised controlled trials from 1980 to 2005 was undertaken to ascertain if pelvic floor muscle exercises had merit as a conservative treatment to restore normal pelvic floor function in men. Methodological rigor was assessed using the ICS hierarchy of evidence. Only level 1 and 2 studies were included. The evidence for the effect, the effect size, clinical significance, methodological quality, type of intervention, frequency and duration of training, short and long term effects, psychosexual issues and recommendations based on the evidence were reported for each trial.

### Results

No RCTs specifically addressed men with urge incontinence. Four level 2 RCTs were identified which used pelvic floor muscle exercises to treat urinary incontinence before and after radical prostatectomy compared to a control group. Of these, only one RCT identified a significant difference between the groups to the continence outcomes post surgery. Four level 2 RCTs were identified which compared pelvic floor exercises to a control group in the treatment of urinary incontinence after radical prostatectomy. Of these, only one RCT found a significant difference in continence outcomes between the groups. One level 2 RCT was identified which used pelvic floor muscle exercises before and after TURP compared to a control group. At 3 weeks post TURP there were significantly fewer urinary incontinence episodes in the active group. Two level 2 RCTs were found which compared pelvic floor exercises with a control group for men with post-micturition dribble. Both RCTs showed a significant improvement in the active group. Of these, one RCT advised a strong post-void pelvic floor muscle contraction to empty the bulbar urethra. No RCTs were found which used pelvic floor exercises solely for men with faecal incontinence. Two level 2 RCTs which used pelvic floor exercises for erectile dysfunction were found. Both RCTs showed a significant return to normal erectile function in the active group. No RCTs were found which used pelvic floor exercises for ejaculation difficulties.

### Interpretation of results

Level 2 evidence showed that early return to urinary continence was found in some men following pelvic floor exercises before and after TURP and before and after radical prostatectomy and also in some men with post-micturition dribble. A return to normal erectile function was found in some men following pelvic floor exercises.

The trials for men with post-prostatectomy urinary incontinence which found no difference between the groups were of varying methodological quality. Trials used small sample sizes and some trials gave the control group a list of pelvic floor exercises which compromised the treatment effect. Some trials used biofeedback to enhance the effect of pelvic floor exercises, although this effect was inconclusive. One trial recruited some men a year after radical prostatectomy. The duration of training prior to prostatectomy was only minimal and in some trials absent. The treatment protocol varied and in some trials failed to include advice to guard the pelvic floor muscles during activities which increased intra-abdominal pressure. It was not stated in most trials whether maximal pelvic floor muscle contractions were taught to gain muscle strength and hypertrophy plus some less intensive, sustained contractions for endurance. Not all trials used digital anal grades to record pelvic floor muscle strength and therefore, no trial was able to link weak pelvic floor muscles to

failures. The days to continence were not always measured by validated outcome measures, pad tests, urinary diaries or validated quality of life questionnaires. The long-term effects of pelvic floor muscle exercises for men more than a year after prostatectomy are unknown but men should be advised to continue some functional pelvic floor muscle exercises for life. Psychosexual issues were not addressed in the RCTs for post-prostatectomy urinary incontinence but addressed in the RCTs for erectile dysfunction. Future studies should report results based on ICS and CONSORT recommendations.

#### Concluding message

Weak pelvic floor muscles compromised normal pelvic floor function and led to urinary incontinence and erectile dysfunction. Strengthening the pelvic floor muscles was shown to significantly improve post-prostatectomy urinary continence, post-micturition dribble and erectile function. It would be prudent for all men to exercise their pelvic floor muscles to maintain normal pelvic floor function.