

# INPLASY PROTOCOL

To cite: Liu et al. Meta-analysis of the influence of perioperative pelvic floor muscle training on postoperative urinary control during radical prostatectomy. Inplasy protocol 202250092. doi: 10.37766/inplasy2022.5.0092

Received: 14 May 2022

Published: 14 May 2022

**Corresponding author:**  
Kai Yu

114179105@qq.com

**Author Affiliation:**  
The First Affiliated Hospital of Jilin University, China.

**Support:** Project of Jilin, China.

**Review Stage at time of this submission:** Preliminary searches.

**Conflicts of interest:**  
None declared.

## Meta-analysis of the influence of perioperative pelvic floor muscle training on postoperative urinary control during radical prostatectomy

Liu, ZJ<sup>1</sup>; Yu, K<sup>2</sup>; Hu, R<sup>3</sup>; Jian, TT<sup>4</sup>; Chen, SM<sup>5</sup>; Bu, F<sup>6</sup>; Lu, J<sup>7</sup>.

**Review question / Objective:** To investigate whether perioperative pelvic floor muscle exercise can have a good cure rate of postoperative urinary incontinence of prostate cancer compared with conventional nursing.

**Condition being studied:** Prostate cancer, as one of the most serious diseases in elderly men, has been increasing in incidence year by year in recent years, and has become the first incidence of male urinary system and related malignant tumors. Patients with early prostate cancer can better control the progression of the disease and prolong their survival time through radical prostatectomy. However, during radical prostatectomy, it is inevitable to cause damage to the surrounding tissues and pelvic floor muscles, resulting in certain complications, among which the most common complication is urinary incontinence in patients after radical prostatectomy. Urinary incontinence often adversely affects the physical and mental health of patients, aggravates the psychological burden of patients, and prolongs the postoperative recovery time. This study will investigate whether pelvic floor muscle exercise can improve postoperative urinary incontinence in patients after radical prostatectomy.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 May 2022 and was last updated on 15 May 2022 (registration number INPLASY202250092).

### INTRODUCTION

**Review question / Objective:** To investigate whether perioperative pelvic floor muscle exercise can have a good cure rate of postoperative urinary incontinence of

prostate cancer compared with conventional nursing.

**Rationale:** A meta-analysis was conducted to investigate the effect of pelvic floor muscle exercise on postoperative urinary

incontinence of patients after radical prostatectomy.

**Condition being studied:** Prostate cancer, as one of the most serious diseases in elderly men, has been increasing in incidence year by year in recent years, and has become the first incidence of male urinary system and related malignant tumors. Patients with early prostate cancer can better control the progression of the disease and prolong their survival time through radical prostatectomy. However, during radical prostatectomy, it is inevitable to cause damage to the surrounding tissues and pelvic floor muscles, resulting in certain complications, among which the most common complication is urinary incontinence in patients after radical prostatectomy. Urinary incontinence often adversely affects the physical and mental health of patients, aggravates the psychological burden of patients, and prolongs the postoperative recovery time. This study will investigate whether pelvic floor muscle exercise can improve postoperative urinary incontinence in patients after radical prostatectomy.

## METHODS

**Search strategy:** PubMed, Embase, Cochrane, Web of Science, Sinomed, CNKI, VIP, Wanfang and other databases were systematically searched for randomized controlled trials on the influence of perioperative pelvic floor muscle training on postoperative urinary control during radical prostatic surgery for prostate cancer. The retrieval time was from the database construction to April 30, 2022. English search terms include: Tumor of prostate, Prostatic cancer (PCa), radical Prostatectomy, uracratia, urinary.

**Participant or population:** The study patients mainly included European Association of Urology, who were eligible for radical prostatectomy in EAU guidelines without distant metastasis, preoperative urinary incontinence, and other primary diseases such as essential hypertension (hypertension), diabetes, nephrotic syndrome, etc.

**Intervention:** Pelvic floor muscle training.

**Comparator:** Usual care.

**Study designs to be included:** RCT, randomized controlled trials.

**Eligibility criteria:** european association of urology, EAU.

**Information sources:** Through the retrieval of PubMed, Embase, Cochrane, Web of Science, Sinomed, CNKI, VIP, Wanfang and other databases and systems, all literature on the influence of perioperative pelvic floor muscle training on postoperative urinary control during radical prostate cancer surgery was retrieved. The retrieval time was from the database construction to April 30, 2022.

**Main outcome(s):** The number of urinary incontinence patients in the pelvic floor exercise group and the non-pelvic floor exercise group.

**Additional outcome(s):** This study shows that pelvic floor muscle training has a significant effect on postoperative urinary control in a short period of time, and can restore urinary control ability in a short time. However, with the gradual recovery of tissues around the surgical site after surgery, the final urinary control result of the experimental group does not have a better control rate due to pelvic floor muscle training. That is, perioperative pelvic floor muscle training during radical prostatectomy can improve the recovery rate of urinary control, but may not improve the recovery rate of urinary control.

**Quality assessment / Risk of bias analysis:** A meta-analysis was conducted to investigate the effect of pelvic floor muscle exercise on postoperative urinary incontinence of patients after radical prostatectomy. The risk of bias for literature quality assessment was evaluated by Revman5.3, and the risk assessment criteria of bias in the Cochrane collaboration network were used to evaluate the included literatures: ①

whether random allocation method was used; (2) Whether there is hidden allocation scheme; (3) Whether patients and doctors participating in the blind method; (4) Whether researchers involved in recording the results were blind; (5) Whether the result data is complete; (6) Whether to report research results selectively; (7) Other sources of bias.

**Strategy of data synthesis:** The included data were statistically analyzed using Review Manager 5.3 software. The primary outcome measure was the number of urinary incontinence recovered or the rate of urinary incontinence recovered. For dichotomous variables, dichotomous data were expressed by relative risk (RR) and 95% confidence interval (CI), the test level was  $P=0.05$ . Heterogeneity was determined by Q test and  $I^2$  results.  $I^2$  is the percentage of variation caused by heterogeneity. If  $I^2 < 50\%$  and  $P \geq 0.1$ , it indicates that there is no heterogeneity between the original studies, so that the fixed-effect model can be summarized and analyzed. When  $I^2 \geq 50\%$  and  $P \leq 0.1$ , there is moderate to high heterogeneity between the original studies, which needs to be summarized and analyzed by random effects model. With high heterogeneity, we need to conduct sensitivity analysis on the included literature and find the source of heterogeneity. If the heterogeneity is due to clinical studies, subgroup analysis can be performed; if heterogeneity still exists, descriptive studies can only be performed.

**Subgroup analysis:** None.

**Sensitivity analysis:** None.

**Country(ies) involved:** China.

**Keywords:** Radical prostatectomy; Pelvic floor muscle training; Urinary control; Meta-analysis.

**Contributions of each author:**

Author 1 - Zejun Liu.

Email: 379421128@qq.com

Author 2 - Kai Yu.

Email: 114179105@qq.com

Author 3 - Rui Hu.

Email: 1743013280@qq.com

Author 4 - Tengteng Jian.

Email: 572908477@qq.com

Author 5 - Sunmeng Chen.

Email: 572908477@qq.com

Author 6 - Fan Bu.

Email: 1534609540@qq.com

Author 7 - Ji Lu.

Email: 1073702869@163.com