**Paper number #324**

**The effectiveness of different routes of catheterization in patients after gynecologic surgery: A systematic review and meta-analysis of randomized controlled trials**

**Presenting Authors**

Meixuan Li1,2,3 Liang Yao3,4 Peijing Yan5 Huijuan Li1,2,3 Yangqin Xun1,2,3 Caiwen Han5,6,7 Cuncun Lu2,3 Kehu Yang1,2,3\*

**Affiliations**

1. Evidence based social science research center,School of Public Health, Lanzhou University, Lanzhou, P.R.China
2. Evidence Based Medicine Center, Lanzhou University, Lanzhou, P.R.China
3. Key Laboratory of Evidence Based Medicine and Knowledge Translation of Gansu Province, Lanzhou, P.R.China
4. Chinese Medicine Faculty of Hong Kong Baptist University, No. 7 of Baptist Road， Kowloon Tong, Hong Kong, P.R.China
5. Institution of Clinical Research and Evidence Based Medicine, The Gansu Provincial Hospital, Lanzhou, P.R.China
6. Department of General Surgery, Gansu Provincial Hospital, Lanzhou, P.R.China
7. Department of Clinical Medicine, Gansu University of Traditional Chinese Medicine, Lanzhou, P.R.China

**Objective/Aim**

Urinary retention is a common complication after surgical procedures that involve the bladder, it may cause bladder atony, detrusor instability and voiding difficulties. Management of postoperative urinary retention usually centered on primary prevention with bladder drainage. The commonly used routes for bladder drainage in gynecologic patients are indwelling urinary catheterization, suprapubic catheterization and intermittent catheterization.We aim to assess the effectiveness of different drainage routes of catheterization (urethral (indwelling or intermittent) or suprapubic) in patients after gynecologic surgery.

**Methods**

PubMed, EMBASE and Cochrane Library were systematically researched from their inception to March 2018. We selected randomized controlled trials, comparing any two drainage routes in patients after gynecologic surgery. A meta-analysis was performed using the RevMan software, and a random-effects model was used to pool the effect size. The GRADE approach was used to rate the quality of evidence.

**Main findings**

20 RCTs met eligibility criteria (N=2295), 9 trials compared indwelling urethral catheterization with suprapubic catheterization, 4 trials compared intermittent catheterization with suprapubic catheterization, 7 trials compared indwelling urethral catheterization with intermittent catheterization. Suprapubic drainage was associated with a reduction in the urinary tract infection (RR 0.46, 95% CI: 0.30–0.70, *P*=0.0004) and rate of recatheterization (RR=2.95, 95% CI: 1.22–7.11, *P*=0.02) compared with indwelling urinary catheterization. Intermittent catheterization could reduce symptomatic urinary tract infection compared with the suprapubic (RR=2.33, 95% CI: 1.23–4.43, *P*=0.01) and indwelling catheterization group (RR=2.79, 95% CI: 1.09–7.14, *P*=0.03). There was no difference in other aspects (duration of catheterization, hospital stay, complication rate and catheter-related pain) among the three drainage routes.

Conclusions**:** This review suggests that suprapubic drainage and intermittent catheterization may be more superior than indwelling urethral catheterization in reduction of urinary tract infection and rate of recatheterization. Further high-quality, more randomized trials are needed to determine which route is most appropriate for catheterization.