

OP030

### THE EFFECT OF NEURAXIAL ANESTHESIA ON URINARY CATHETER REMOVAL AFTER CESAREAN DELIVERY – A COMPARISON BETWEEN SPINAL AND EPIDURAL ANESTHESIA: A SYSTEMATIC REVIEW

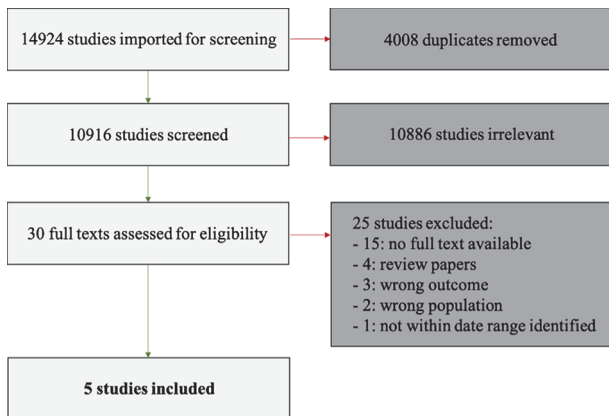
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**Background and Aims** Cesarean delivery(CD) is a common procedure with potential complications. Enhanced Recovery After Surgery(ERAS) guidelines recommend immediate removal of urinary catheters after CD. However, there's limited evidence supporting this practice. Prolonged catheterization increases the risk of urinary tract infections(UTIs) and other complications, while premature removal can lead to urinary retention. Anesthetic type, such as spinal or epidural, may influence urinary retention. This systematic review aims to compare the effect of neuraxial anesthesia on urinary catheter removal after CD, focusing on spinal and epidural anesthesia. **Methods** This systematic review follows Cochrane Collaboration and PRISMA guidelines. Eligible studies include randomized controlled trials(RCT), cluster-RCT, controlled non-randomized clinical trials, cluster trials, case reports, observational cohort studies (controlled/uncontrolled), cross-sectional studies, commentary, or letters to editors. A comprehensive search was conducted in PubMed/Ovid Medline, EMBASE, Scopus, and The Cochrane Library databases from July2010-July2022. Data extraction involved study characteristics, anesthetic practices, and outcomes such as catheterization duration, urinary retention, and urinary tract infection. **Results** Out of 10,916 papers initially identified, five studies were included in this systematic review (figure 1). Although this review showed that neuraxial anesthesia in CD leads to higher rates of urinary-retention and longer catheterization duration, no direct comparison between spinal and epidural anesthesia was found (table 1). The heterogeneity in study populations, anesthetic methods, and definitions of urinary retention precluded quantitative comparisons.



Abstract OP030 Figure 1 Study selection process

### Abstract OP030 Table 1 Summary of included articles from the systematic review

Publication Details	Study Methods	Outcomes of Interest
<p>Liang et al. 2015 <i>The Journal of Obstetrics and Gynaecology</i> Title: Voiding dysfunction in women following caesarean delivery</p>	<p><b>Design:</b> Observational <b>Sample size:</b> n=403 <b>Region:</b> Taiwan <b>Site:</b> Chang Gung Memorial Hospital <b>Population:</b> Elective caesarean &gt;30 weeks GA, excluded spinal anaesthesia, multiple pregnancies, prior extensive uterine/or uterine surgery, pre-eclampsia, or insulin dependent diabetes. <b>Interventions:</b> Epidural anaesthesia (n=202) vs. Spinal anaesthesia (n=201) <b>Objective:</b> Assessed differences in postpartum voiding difficulty and obstructive symptoms three months postpartum on basis of patient characteristics and obstetric parameters</p>	<p>Postpartum urinary retention incidence: Epidural: 10.9% (n=20/186) Spinal: 15.6% (n=32/205) Risk ratio: 1.43 (95% CI 1.14-1.78) No statistically significant differences in urinary retention between groups Adjusted for 1000 women: 36 additional urinary retention cases (95% CI 18-54) Report: 15.7%, 4.3%, 12.8%</p>
<p>Dhillon et al. 2023 <i>Journal of Peri-Anaesthesia Nursing</i> Title: Prolonged caesarean delivery and urinary retention associated with spinal anaesthesia</p>	<p><b>Design:</b> Retrospective quasi-experimental three-group design <b>Sample size:</b> n=150 <b>Region:</b> Rhode Island <b>Sites:</b> Women &amp; Infants Hospital <b>Population:</b> Elective caesarean &gt;37 weeks GA, patients &lt; 39 years old, primary and repeat caesarean, excluded &lt; 20 years, emergent caesarean, multiple gestations, previous delivery, no spinal anaesthesia, concurrent neurological disease (stroke, polyneuropathy, cerebral palsy, multiple sclerosis, spinal tumours, diabetes, alcoholic neuropathy) <b>Interventions:</b> Epidural spinal anaesthesia (n=50), Spinal anaesthesia (n=50), 20mg spinal anaesthesia (n=50) <b>Objective:</b> Compared postpartum urinary retention incidence between three groups</p>	<p>No clinically significant differences in incidence of urinary retention between three groups Group 1 (Epidural): 12.0% (n=6/50) Group 2 (Spinal): 14.0% (n=7/50) Group 3 (20mg Spinal): 10.0% (n=5/50) Report: 12.7%, 4.3%, 12.7%</p>
<p>Ighodze et al. 2021 <i>Women's Health</i> Title: Eight hour versus 24h urinary catheter removal following elective caesarean section for reducing significant bacteraemia: A randomised controlled trial</p>	<p><b>Design:</b> Randomised controlled trial <b>Sample size:</b> n=300 <b>Region:</b> 16-16, Nigeria <b>Site:</b> Okefiemi Awolowo University Teaching Hospital <b>Population:</b> Elective caesarean under spinal anaesthesia between 34-40 weeks GA, excluded preoperative significant bacteraemia or UTI, non-operative bladder injury, conversion to general anaesthesia <b>Interventions:</b> Spinal anaesthesia, no medications or dosage specified <b>Intervention:</b> 8-hour catheter removal <b>Control:</b> 24-hour catheter removal <b>Objective:</b> Urinary tract infections (UTI) and secondary outcomes were rate of significant bacteraemia (P&lt;0.05 48h postoperative), and acute urinary retention (P&lt;0.05 48h postoperative) (requiring re-catheterisation). Secondary outcomes were average time to first void, time to ambulation, length of stay, and satisfaction</p>	<p>Reported no difference in rates of urinary tract infections (UTI) between groups Group 1 (8h): 11.3% (n=12/106) Group 2 (24h): 11.7% (n=12/103) Report: 11.3%, 11.7%, 11.3%</p>
<p>Paan et al. 2010 <i>International Journal of Gynecological Obstetrics</i> Title: The impact of anaesthesia and mode of delivery on the urinary bladder in the postpartum period</p>	<p><b>Design:</b> Observational <b>Sample size:</b> n=112 <b>Region:</b> Birmingham UK <b>Site:</b> Birmingham Women's Foundation Trust <b>Population:</b> Women undergoing vaginal delivery &amp; epidural and women undergoing elective caesarean section under general anaesthesia (n=57) or 34-42 weeks GA, excluded pre-existing urinary tract infection, urinary tract infection of UTI, cord prolapse or clamping catheter (perineum haemorrhage or suspected bladder trauma) <b>Interventions:</b> Spinal anaesthesia (n=32) and Epidural anaesthesia (n=25) <b>Objective:</b> Urinary tract infection (UTI) and secondary outcomes were rate of significant bacteraemia (P&lt;0.05 48h postoperative), and acute urinary retention (P&lt;0.05 48h postoperative) (requiring re-catheterisation). Secondary outcomes were average time to first void, time to ambulation, length of stay, and satisfaction</p>	<p>Reported no difference in rates of urinary tract infections (UTI) between groups Group 1 (Spinal): 11.3% (n=12/106) Group 2 (Epidural): 11.7% (n=12/103) Report: 11.3%, 11.7%, 11.3%</p>
<p>Liang et al. 2010 <i>The Journal of Obstetrics and Gynaecology Research</i> Title: Effects of postoperative analgesia on postpartum urinary retention in women undergoing caesarean delivery</p>	<p><b>Design:</b> Prospective non-randomised <b>Sample size:</b> n=150 <b>Region:</b> Taiwan <b>Site:</b> Chang Gung Memorial Hospital <b>Population:</b> Elective caesarean women undergoing epidural anaesthesia, excluded twin pregnancies, active labour pain, multiple gestations, and medical disorders <b>Interventions:</b> Epidural anaesthesia with morphine (n=75) and Epidural anaesthesia with morphine and fentanyl (n=75) <b>Objective:</b> Postpartum urinary retention (P&lt;0.05 48h postoperative) and secondary outcomes were rate of significant bacteraemia (P&lt;0.05 48h postoperative), and acute urinary retention (P&lt;0.05 48h postoperative) (requiring re-catheterisation). Secondary outcomes were average time to first void, time to ambulation, length of stay, and satisfaction</p>	<p>Reported no difference in rates of urinary tract infections (UTI) between groups Group 1 (Morphine): 11.3% (n=12/106) Group 2 (Morphine + Fentanyl): 11.7% (n=12/103) Report: 11.3%, 11.7%, 11.3%</p>

**Conclusions** This study reveals insufficient studies comparing epidural and spinal anaesthesia regarding urinary catheterization duration after CD. Further research is needed to investigate and differentiate the effects of epidural and spinal anaesthesia on urinary catheterization duration in this context.

### OP031 EMPOWERING PATIENTS IN SAFER OBSTETRIC ANAESTHESIA CARE USING A REGIONAL ANAESTHESIA ALERT BRACELET AT THE COOMBE WOMEN AND INFANTS UNIVERSITY HOSPITAL, DUBLIN

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**Background and Aims** • 'Straight-leg raising (SLR) should be used as a screening method to assess motor block at 4 h from the last dose of epidural/spinal local anaesthetic' OAA/AAGBI (1) • The Regional Anaesthesia Alert Bracelet (RAAB) is a patient safety initiative introduced at CWIUH, the first site in the Republic of Ireland, created by Dr. Rachel Mathers.(2) • A simple yellow wristband is attached to the patients arm following neuraxial anaesthesia or analgesia (NA) with the time to SLR noted. • The RAAB empowers and engages patients to improve safety by fostering a culture of partnership to minimize harm. (3) **Methods** • Prospective data collection following patient and staff education on application of RAAB for all patients undergoing NA • Written questionnaire completed by 100 patients to reflect patient experience wearing a RAAB • Documented anaesthetic registrar bleeps to monitor increase in workload **Results** 77 patients self-screened 4 hours following NA 97 patients reported active involvement in their healthcare 94 patients reported reassurance by wearing the bracelet 100 patients reported that wearing the bracelet did not cause anxiety 100 patients would wear the wristband again for the same