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# Elimination of Iatrogenic Ureteral Injuries During Robotic Gynecologic Surgery: A Short Study

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## Abstract

Iatrogenic ureteral injuries, which occur more than half of the time during gynecologic surgery, can be fatal for both patients and doctors. To prevent ureteral damage, gynaecologists have used a variety of procedures such as cystoscopy, ureteral stents, and LED ureteral stents. The rise in popularity of robotic surgery involves not just a re-evaluation of old procedures, but also the development of new ones tailored to the robotic modality. One of the most recent advancements in minimally invasive surgical procedures is gynecologic robotic surgery. Our gynaecological surgeons can treat a variety of disorders affecting a woman's reproductive systems using a narrow, illuminated scope and miniature equipment controlled by a robotic system. In a robotic surgery, the surgeon is unable to receive tactile feedback and must rely solely on visual cues. Intraureteral indocyanine green and subsequent visualisation under near-infrared fluorescence appears to be a potential strategy for preventing ureteral injuries during robotic gynecologic surgery, both initially and later.

**Keywords:** Ureteral Injuries • Gynaecologic • Robotic Surgery

## Introduction

The Latin phrase primum non nocere, which means "first does no harm," comes to mind when thinking about iatrogenic injuries. When doctors mistakenly harm the ureters, they are violating this fundamental precept, and as urologists, we are frequently called upon to correct that error in general practise. Iatrogenic ureteral injuries and their therapy, albeit uncommon, are an important element of general urologic practise and a specialty in our field. The ureter is vulnerable to injury during any gynaecological surgery, not only because of its close proximity to pelvic organs like the rectosigmoid and the utero-cervical junction, but also because of the biological variability of its location, as it travels from the kidney under the ovarian vessels, crosses over the external iliac arteries and the pelvic brim to travel loosely attached to the medial leaf of the pelvic side-wall peritoneum. The ureter is most vulnerable to injury during several steps of pelvic surgery including the level of the pelvic brim when the ovarian vessels are secured and transected, during the securing and transection of the uterine arteries, near the ureterovesical junction during the dissection of the bladder from the cervix and upper vagina, or during the closure of the vaginal cuff following hysterectomy. The ureter is most vulnerable to injury at the level of the pelvic brim when the ovarian vessels are secured and transected, during the securing and transection of the uterine arteries, near the ureterovesical junction during the dissection of the bladder from the cervix and upper vagina, or during the closure of the vaginal cuff following hysterectomy. Contusion, devascularisation, kinking, and laceration, as well as the use of clips, suture-ligation, and transection, are all mechanisms for ureteral injuries. Because ureteral damage can have serious consequences, it has sparked a lot of interest in preventing it. The use of preoperative ureteral catheterization to identify the ureters and prevent iatrogenic damage has long been advocated. The authors found an incidence of injury of less than 1% in each group and no statistical difference in injury rate in a recent randomised trial comparing preoperative ureteral catheterization with no catheterization for major gynecologic surgeries [1]. Preoperative stenting has been indicated by some writers to enhance the risk of ureteral damage [2]. Other researchers have suggested that ureteral catheters may cause the ureter to be displaced into an ectopic anatomical position, increasing the risk of intraoperative damage [3]. While these stents are costly and need specialised equipment, the authors argue that the expense of even a single ureteral damage over the course of a surgeon's career outweighs the cost of the equipment. Since 2005, gynecologic surgeons have used robots to aid with female reproductive procedures [4]. Incisional port site pain, pain from the peritoneum being inflated with carbon dioxide, visceral pain, and shoulder tip pain are all common side effects of robotic surgery. Traditionally, surgeons approach the area for therapy with a single lengthy incision. During laparoscopic surgery, surgeons use a few small incisions to hold and manoeuvre a scope and equipment. The primary distinction between robotic surgery and laparoscopy is how surgeons control the surgical equipment [5]. A console at which the surgeon uses hand controls to manipulate the scope and tools while viewing the scope's images on a screen is part of a robotic surgical system. The equipment is held by robotic arms on a robotic trolley. A camera that allows for three-dimensional views of the surgical site. Instruments that translate the surgeon's hand movements into accurate micro-movements in order to perform surgery and other procedures. The surgeon, seated at the console, performs even the most delicate and intricate surgeries with extreme precision through small incisions. The robotic system is not programmable and does not move on its own; it is entirely under the surgeon's control. The assistant surgeon, who stands beside the patient on the operating table and manually manipulates an accessory port to assist with activities like delicate suturing, is a crucial component of the process.

## Conclusion

Less blood loss and transfusions, less postoperative pain and discomfort, less scarring, lower risk of infection, more precise surgery, quicker recovery and return to work, shorter hospital stays, and so on are some of the advantages of robotic surgery over open and laparoscopic surgery. It may be expensive for ordinary people because a single robot costs around $2 million. Some of the attachments for the arms are thrown away. Robotic surgery is also more expensive than standard laparoscopic surgery. As a result, more study may be required, and gynaecological disorders are on the rise. As a result, we attempt to aware on the areas where all people have benefited from robotic surgery.

## References

1. Chou, MT., Wang CJ, and Lien RC. *Int Urogynecol J Pelvic Floor Dysfunct* 20(6) (2009): 689-693.
2. Shingleton H. “Repairing injuries to the urinary tract: update in general surgery”. *Contemp Ob Gyn* 23 (1984): 76-90.

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3. Falk H. “Urologic Injuries in Gynecology”. *Philadelphia* (1949).

4. Schimpf, M., and Wagner J. “Robotic-assisted laparoscopic distal ureteral surgery”. *JSLS* 13 (2009): 44-49.

5. Keith, MP., and Gilliland WR. “Polymyalgia rheumatic and breast cancer”. *J Clin Rheumatol* 12 (2006): 199-200.

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