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## Surgery in Motion

# Robot-assisted Sacrocolpopexy for Pelvic Organ Prolapse: Surgical Technique and Outcomes at a Single High-volume Institution

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## Abstract

**Background:** Pelvic organ prolapse (POP) represents a common female pelvic floor disorder that has a serious impact on quality of life. Several types of procedures with different surgical approaches have been described to correct these defects, but the optimal management is still debated.

**Objective:** To describe our surgical technique of robot-assisted sacrocolpopexy (RASC) for POP and to assess its safety and long-term outcomes.

**Design, setting, and participants:** A retrospective review of the medical records of 95 consecutive patients who underwent RASC for POP at our centre from April 2006 to December 2011 was performed.

**Surgical procedure:** RASC with use of polypropylene meshes was performed in all cases using a standardised technique with the da Vinci Surgical System (Intuitive Surgical, Sunnyvale, CA, USA) in a four-arm configuration.

**Outcome measurements and statistical analysis:** Clinical data were collected in a dedicated database. Intraoperative variables, postoperative complications, and outcomes of RASC were assessed. A descriptive statistical analysis was performed.

**Results and limitations:** Median operative time was 101 min. No conversion to open surgery was needed. One vaginal and two bladder injuries occurred and were repaired intraoperatively. Only one Clavien grade 3 postoperative complication was observed (bowel obstruction treated laparoscopically). At a median follow-up of 34 mo, persistent POP was observed in four cases (4.2%). One mesh erosion occurred and required robot-assisted removal of the mesh. Ten (10.5%) patients complained de novo urgency after RASC, which resolved in the first few weeks after surgery. No significant de novo bowel or sexual symptoms were reported.

**Conclusions:** Our technique of RASC for correction of POP is safe and effective, with limited risk of complications and good long-term results in the treatment of all types of POP. The robotic surgical system facilitates precise and accurate placement of the meshes with short operative time, thereby favouring wider diffusion of minimally invasive treatment of POP.

**Patient summary:** We studied the treatment of patients with vaginal prolapse by using a robot-assisted surgical technique to fix the vaginal wall with a synthetic mesh. This technique was found to be safe and effective, with limited risk of complications and good long-term results.

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