

The use of the porcine model as part of a structured -procedure specific- robotic training program in pediatric urology

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Introduction & Objectives: Robotic-assisted surgery is the newest technique in minimally invasive surgery. Offering the precision of traditional open surgery and the shorter recovery time of minimally invasive surgery, robotic-assisted surgery is widely adopted in adult urology. Use of the robotic technology in the pediatric population has gained some popularity over the last years, creating a need for experienced laparoscopic pediatric urologists to become familiar with the robotic platform.

This video demonstrates the use of the porcine model as part of a structured -procedure specific- robotic training program in pediatric urology.

Materials & Methods: A robotic course designed for pediatric urologists familiar with laparoscopy was created in order to practice on live porcine models. The two main robotic models available on the market (Da Vinci Xi and Da Vinci Si) were used to practice standard pediatric urology surgical procedures. Dual console was used by the proctors to guide the attendees through the procedures. Identical procedures were repeated two days on on row to monitor progression and to gain confidence about the procedures. The proctors were experienced robotic surgeons familiar with porcine models.

Results: Each porcine model was used by two attendees, exchanging roles (console surgeon or bed-side assistant) guided by a proctor. The porcine model was placed in a decubitus position to allow training in the pelvis, maximizing the variety of possible procedures. Bilateral Extravesical Lich-Gregoire ureteric reimplantation, bladder auto-augmentation (detrusorotomy), Ureteric anastomosis and bladder neck reconstruction with fascial sling procedures were performed by the attendees with a self-reported feeling of improving skills.

Conclusions: Introduction of the robotic platform in the pediatric population might be facilitated by a structured training program. Live porcine models used to practice standard pediatric urology procedures seems to be adequate to gain confidence for practicing these procedures in children, as self-reported by the attendees.