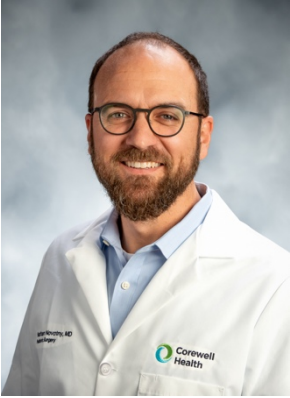


## AI in Medicine

Future of Healthcare by AI



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Speech Title 1	da Vinci SP™ Robotic Platform in Pediatric General Surgery: Improved Single-Site Surgery (Proposed)	

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Abstract( 200 words) :

**Introduction:** Single-port robotic surgery (SPRS) provides a single-incision alternative to multiport robotic surgery (MPRS), preserving benefits such as enhanced visualization, dexterity, and ergonomics while reducing the number of incisions. Earlier single-site platforms were limited by instrument mobility and steep learning curves. The da Vinci SP® system addresses these limitations with independently articulated robotic arms that improve precision and maneuverability.

**Methods:** We retrospectively reviewed ten adolescent patients who underwent SPRS using the da Vinci SP® system at our institution between 11/24 and 8/25. Perioperative and postoperative outcomes were assessed, with follow-up in clinic within three weeks.

**Results:** Procedures included cholecystectomy (n=7), femoral hernia repair (n=1), and ovarian cystectomy (n=2). All procedures were completed via a single 1.8-2.5 cm umbilical incision without additional ports or conversion to open. The mean age was 16.4 years (range 14-18), and mean weight was 60.8 kg (range 45.5-77.6). Console times ranged from 21 to 54 minutes (mean 37). All patients were discharged immediately and experienced no postoperative complications.

**Conclusion:** The da Vinci SP® system appears to be a safe and feasible option in adolescent patients, offering a hidden incision and minimal pain. It is an attractive alternative in select cases. Further research is warranted to assess long-term outcomes and cost-effectiveness.



Speech Title 2	Mid Career Development of an Early-Adopting Minimally Invasive Pediatric Surgeon
<p>Abstract( 200 words) :</p> <p><b>Introduction:</b> Pediatric surgery encompasses a wide range of rare conditions, often with small patient volumes. As a result, surgeons often rely heavily on techniques developed decades ago. This presents both an opportunity to preserve established practices and a mandate to innovate.</p> <p><b>Methods:</b> A non-systematic review of a single surgeon’s operative cases over 15 years was conducted. Cases involving non-standard approaches or notable innovation were selected for presentation.</p> <p><b>Results:</b> The review identified cases performed across three continents, ranging from routine operations such as hernia repair and pyloromyotomy to complex cases involving premature infants with multiple congenital anomalies. Innovations included context-specific modifications driven by cost constraints as well as industry-developed techniques offering less-invasive alternatives to traditional approaches.</p> <p><b>Conclusion:</b> Pediatric surgery is uniquely positioned for innovation due to its uncommon and varied conditions and the relative lack of industry-driven solutions, given the small patient population. It is therefore the responsibility of pediatric surgeons to ethically apply general surgical principles to develop and adapt techniques that deliver the best possible care to each infant, child, and adolescent.</p>	