



The atlas of supine single port extraperitoneal access

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ABSTRACT

Introduction: The introduction of Single-Port (SP) platform opened the field to new surgical options, allowing to perform major urological robot-assisted procedures extraperitoneally and with a supine patient positioning (1-3). Nevertheless, a comprehensive description of different supine access options is still lacking (4-6). In this light, we provided a step-by-step guide of SP extraperitoneal supine access options also exploring preliminary surgical outcomes.

Materials and methods: Transvesical access was performed by a transversal incision 3cm above the pubic bone, after the anterior abdominal sheet incision, the bladder was insufflated with a flexible cystoscope and the detrusor muscle was incised at the level of the bladder dome. Similarly, the extraperitoneal access was carried out with a 4cm incision above the pubic bone, once visualized the preperitoneal space the prevesical fat was gently spread. The Low Anterior Access was performed with a 3cm incision at the McBurney point, the abdominal muscles were then spread. A gentle dissection was used laterally to develop the retroperitoneal space.

Results: Overall, sixteen different procedures were performed with supine extraperitoneal access on 623 consecutive patients. No intraoperative conversions occurred. The median access time was 16 (IQR 12-21), 11 (IQR 7-14) and 14 (IQR 10-18) minutes in case of transvesical, extraperitoneal and low anterior access, respectively. Notably, 81.5 % of patients were discharged on the same day with a postoperative opioid free rate of 73%.

Conclusion: The Atlas provides a comprehensive step-by-step guide to successfully perform all major urological SP procedures extraperitoneally and with supine patient positioning.

CONFLICT OF INTEREST

None declared.

REFERENCES

1. Soputro NA, Kaouk J. Single-port robot-assisted radical prostatectomy. *World J Urol.* 2024;42:245. doi: 10.1007/s00345-024-04914-5.
2. Cannoletta D, Pellegrino A, Pettenuzzo G, Pacini M, Sauer RC, Torres-Anguiano JR, et al. Single-Port Transvesical Vesico-Vaginal Fistula Repair: An Initial Experience. *Int Braz J Urol.* 2024;50:502-3. doi: 10.1590/S1677-5538.IBJU.2024.0146.
3. Pellegrino AA, Chen G, Morgantini L, Calvo RS, Crivellaro S. Simplifying Retroperitoneal Robotic Single-port Surgery: Novel Supine Anterior Retroperitoneal Access. *Eur Urol.* 2023;84:223-8. doi: 10.1016/j.eururo.2023.05.006.
4. Moschovas MC, Brady I, Noel J, Zeinab MA, Kaviani A, Kaouk J, et al. Contemporary techniques of da Vinci SP radical prostatectomy: multicentric collaboration and expert opinion. *Int Braz J Urol.* 2022;48:696-705. doi: 10.1590/S1677-5538.IBJU.2022.99.16.
5. Flammia RS, Anceschi U, Tuderti G, Di Maida F, Grosso AA, Lambertini L, et al. Development and internal validation of a nomogram predicting 3-year chronic kidney disease upstaging following robot-assisted partial nephrectomy. *Int Urol Nephrol.* 2024;56:913-21. doi: 10.1007/s11255-023-03832-6.
6. Ditunno F, Franco A, Licari LC, Bologna E, Manfredi C, Katz DO, et al. Implementation of single-port robotic urologic surgery: experience at a large academic center. *J Robot Surg.* 2024;18:119. doi: 10.1007/s11701-024-01884-z.

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