

Maturing clinical evidence

Recent global meta-analysis covering period 2010-2022

Results are based on The COMPARE Study – a meta-analysis of peer-reviewed literature for robotic-assisted procedures completed with the da Vinci® Surgical System

[The COMPARE Study: Comparing Perioperative Outcomes of Oncologic Minimally Invasive Laparoscopic, Da Vinci Robotic, and Open Procedures: A Systematic Review and meta-analysis of The Evidence.](#)

Ricciardi R, Seshadri-Kreaden U, Yankovsky A, Dahl D, Auchincloss H, Patel NM, Hebert AE, Wright V. Ann Surg. 2024 Oct 22. doi: 10.1097/SLA.0000000000006572. PMID: 39435549

Maturing clinical evidence

Recent global meta-analysis covering:

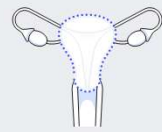
- 12 years
- 22 countries
- 7 surgical procedures

These results are from peer-reviewed COMPARE Study¹.

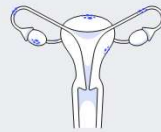
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Hysterectomy for cervical cancer and endometrial cancer



Partial Nephrectomy



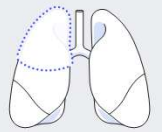
Right Colectomy



LAR/TME



Prostatectomy



Lobectomy

Outcomes measured

Conversions

Blood transfusions

30-day complications

Length of stay

30-day mortality

30-day readmissions

30-day reoperations

Operative time

Procedure specific 230 publications from 7 procedures

1,194,559 patients who underwent da Vinci RAS

1,095,936 patients who underwent laparoscopic surgery or VATS

1,625,320 patients who underwent open surgery

Year 2010 - 2022

Including:

- 34 Randomized Controlled Trials (RCT)
- 74 Prospective cohort studies
- 122 Large database studies

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Clinical value of robotic-assisted surgery

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| Outcomes that favor RAS | | vs. Lap | vs. Open |
|------------------------------|----------------------|------------------|------------------|
| | Conversions | 56% less likely | NA |
| | Blood transfusions | 21% less likely | 75% less likely |
| | 30-day complications | 10% less likely | 44% less likely |
| | Length of stay | 0.5 days shorter | 1.9 days shorter |
| | 30-day mortality | 14% less likely | 46% less likely |
| | 30-day readmissions | 9% less likely | 29% less likely |
| | 30-day reoperations | | 11% less likely |
| Comparable outcomes | 30-day reoperations | comparable | |
| | | | |
| Outcomes that favor lap/open | Operative time | 17.7 min longer | 40.9 min longer |
| | | | |

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Clinical value of robotic-assisted surgery

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Outcomes that favor RAS

| | vs. Lap | vs. Open |
|----------------------|------------------|------------------|
| Conversions | 5.7% vs. 11.6% | NA |
| Blood transfusions | 5.1% vs. 5.9% | 3.6% vs. 11.2% |
| 30-day complications | 25.4% vs. 26.5% | 17.9% vs. 25.2% |
| Length of stay | 4.6 vs. 5.1 days | 4.0 vs. 5.8 days |
| 30-day mortality | 1.18% vs. 1.39% | 0.93% vs. 1.49% |
| 30-day readmissions | 6.5% vs. 7.2% | 5.8% vs. 7.9% |
| 30-day reoperations | | 3.6% vs. 4.2% |

Comparable outcomes

30-day reoperations comparable

Outcomes that favor lap/open

| | | |
|----------------|---------------------|---------------------|
| Operative time | 211.4 vs 193.7 mins | 213.9 vs 173.0 mins |
|----------------|---------------------|---------------------|

Appendix

Glossary

Glossary

| | | | |
|-----------------------|----------------------------------|-------------|---------------------------------|
| 95% CI | 95% confidence interval | OR | odds ratio |
| EBL | estimated blood loss | RAS | robotic-assisted surgery |
| HTA | health technology assessment | RCT | randomized controlled trial |
| I² | test statistic for heterogeneity | RD | risk difference |
| LN_Y | lymph node yield | SMD | standardized mean difference |
| LOE | level of evidence | VATS | video-assisted thoracic surgery |
| LOS | length of hospital stay | WMD | weighted mean difference |

Disclosures

Important Safety Information

(US) Serious complications may occur in any surgery, including da Vinci surgery, up to and including death. Serious risks include, but are not limited to, injury to tissues and organs and conversion to other surgical techniques which could result in a longer operative time and/or increased complications. For summary of the risks associated with surgery refer to www.intuitive.com/safety.

Da Vinci Xi®/da Vinci X® system precaution statement

The demonstration of safety and effectiveness for the representative specific procedures did not include evaluation of outcomes related to the treatment of cancer (overall survival, disease-free survival, local recurrence), except for radical prostatectomy which was evaluated for overall survival, or treatment of the patient's underlying disease/condition. Device usage in all surgical procedures should be guided by the clinical judgment of an adequately trained surgeon.

(EU) Medical devices, CE 2460, refer to Instructions For Use for further information.

For product intended use and/or indications for use, risks, cautions, and warnings and full prescribing information, refer to the associated user manual(s) or visit <https://manuals.intuitivesurgical.com/market>.

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Individual outcomes may depend on a number of factors, including but not limited to patient characteristics, disease characteristics, and/or surgeon experience.

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