

Maturing clinical evidence

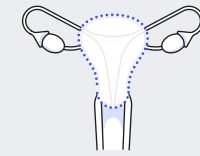
Recent large scale meta-analysis covering period 2010-2020

Results are based on internal, unpublished meta-analyses of peer reviewed literature for robotic-assisted procedures using the da Vinci surgical system

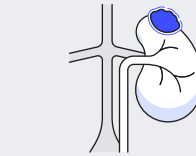
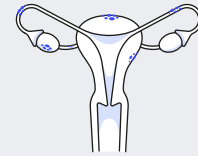
Maturing clinical evidence

Recent large scale meta-analysis covering period 2010+

Results are based on a meta-analysis of peer reviewed literature for robotic-assisted procedures (right colectomy, LAR/TME, prostatectomy, partial nephrectomy, lobectomy, hysterectomy for endometrial and cervical cancer) published between 2010- 2020. This work was presented at the ISPOR 2021 annual congress. The summary of clinical results are reflective of a pooled analysis of 7 systematic literature reviews, presented by outcome across different surgical procedures. While the meta-analysis results provide a single conclusion that is statistically significant or not statistically significant, these results are subject to variability. The results of this analysis may depend on several factors, including but not limited to patient characteristics, disease characteristics, the procedure of interest, and/or surgeon experience.



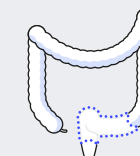
Hysterectomy for cervical cancer and endometrial cancer



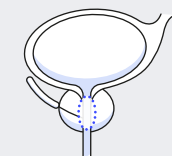
Partial Nephrectomy



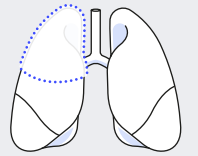
Right Colectomy



LAR/TME



Prostatectomy



Lobectomy

Outcomes measured

Conversions

Blood transfusions

30-day complications

Length of stay

30-day mortality

30-day readmissions

Operative time

Procedure specific 253 publications from 7 procedures

1,380,094 patients who underwent RAS

963,125 patients who underwent laparoscopic surgery or VATS

1,585,084 patients who underwent open surgery

Robotic-assisted procedure with the da Vinci surgical system

Year \geq 2010

Level of Evidence \leq 2a, 2c

RCT, meta-analysis/systematic review, or large database study

Maturing clinical evidence

Clinical value of robotic-assisted surgery using the da Vinci surgical system (unpublished meta-analysis)

Results are based on 253 peer-reviewed publications where the da Vinci surgical system was used. The summary of clinical results reflects a pooled analysis of 7 systematic literature reviews, presented by outcome across different surgical procedures (right colectomy, LAR/TME, prostatectomy, partial nephrectomy, lobectomy, hysterectomy for endometrial and cervical cancer) published between 2010-2020. There was a total of 138,094 patients that underwent RAS using the Da Vinci surgical system 963,125 patients who underwent laparoscopic or VATS, and 1,585,084 patients who underwent open surgery. This work was presented at the ISPOR 2021 annual congress. While the meta-analysis results provide a single conclusion that is statistically significant or not statistically significant, these results are subject to variability. The results of this analysis may depend on several factors, including but not limited to patient characteristics, disease characteristics, the procedure of interest, and/or surgeon experience.

Outcomes that favor RAS

	vs. Lap	vs. Open
Conversions	55% less likely	
Blood transfusions	28% less likely	70% less likely
30-day complications	14% less likely	39% less likely
Length of stay	0.4 days shorter	1.9 days shorter
30-day mortality	33% less likely	57% less likely
30-day readmissions	23% less likely	

Comparable outcomes

30-day readmissions		comparable
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Outcomes that favor lap/open

Operative time	18.8 min longer	37.3 min longer
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Maturing clinical evidence

Clinical value of robotic-assisted surgery using the da Vinci surgical system (unpublished meta-analysis)

Results are based on 253 peer-reviewed publications where the da Vinci surgical system was used. The summary of clinical results reflects a pooled analysis of 7 systematic literature reviews, presented by outcome across different surgical procedures (right colectomy, LAR/TME, prostatectomy, partial nephrectomy, lobectomy, hysterectomy for endometrial and cervical cancer) published between 2010-2020. There was a total of 138,094 patients that underwent RAS using the Da Vinci surgical system 963,125 patients who underwent laparoscopic or VATS, and 1,585,084 patients who underwent open surgery. This work was presented at the ISPOR 2021 annual congress. While the meta-analysis results provide a single conclusion that is statistically significant or not statistically significant, these results are subject to variability. The results of this analysis may depend on several factors, including but not limited to patient characteristics, disease characteristics, the procedure of interest, and/or surgeon experience.

Outcomes that favor RAS

	vs. Lap	vs. Open
Conversions	3.7% vs. 7.3%	
Blood transfusions	4.6% vs. 5.7%	4.3% vs. 12.3%
30-day complications	17.5% vs. 20.2%	17.2% vs. 23.7%
Length of stay	0.4 days shorter	1.9 days shorter
30-day mortality	0.4% vs. 0.5%	0.3% vs. 0.8%
30-day readmissions	5.9% vs. 8.0%	

Comparable outcomes

30-day readmissions		6.2% vs. 7.8%
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Outcomes that favor lap/open

Operative time	18.8 min longer	37.3 min longer
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Appendix

Bibliography of included studies, glossary

Radical prostatectomy: bibliography July 6, 2020

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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
LNY	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

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