



# Comparing perioperative complications of open vs. minimally invasive total nephrectomy: results from NSQIPP

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# Purpose

- To determine perioperative complications of simple nephrectomy comparing MIS to the open approach

# Methods

- NSQIP-P 2013 to 2017 comparing primary CPT code of Nephrectomy and excluding malignant diagnoses

# Results

Parameter	ALL N = 933	OPEN N = 366	MIS N = 599	P-value
LOS (days)	4 (3-5)	6 (4-7)	3 (2-3)	<0.05
Op time (min)	170 (160-180)	140 (130-150)	190 (180-200)	<0.05
Transfusion	44 (5%)	32 (9%)	12 (2%)	<0.05
Mortality	6 (0.6%)	5 (1.4%)	1 (0.2%)	<0.05
Any complication	71 (7.6%)	43 (12%)	28 (5%)	<0.05

# Multivariable Results for ANY complications

Parameter	Odds Ratio	P-value
MIS	0.54 (0.31-0.96)	<0.05
Non-white	1.17 (0.67-2.05)	0.59
Age	0.97 (0.92-1.03)	0.28
Hemolytic disorder	5.78 (3.02-11.06)	<0.05
Preoperative steroid use	4.91 (1.79-13.53)	<0.05
Major or Severe cardiac risk	5.3 (2.36-11.7)	<0.05
Transfusion prior to surgery	1.82 (0.50-6.55)	0.36

# Conclusion

In this non-randomized retrospective analysis of NSQIPP, MIS nephrectomy is associated with decreased overall complications and shorter hospital stay

# Thank You



# Results

## Multivariable logistic regression analysis for any complication

Parameter	Odds Ratio	P-value
<b>MIS</b>	<b>0.54 (0.31-0.96)</b>	<b>&lt;0.05</b>
<b>Non-white</b>	1.17 (0.67-2.05)	0.59
<b>Age</b>	0.97 (0.92-1.03)	0.28
<b>Hemolytic disorder</b>	5.78 (3.02-11.06)	<b>&lt;0.05</b>
<b>preoperative steroid use</b>	4.91 (1.79-13.53)	<b>&lt;0.05</b>
<b>Major or Severe cardiac risk</b>	5.3 (2.36-11.7)	<b>&lt;0.05</b>
<b>Transfusion prior to surgery</b>	1.82 (0.50-6.55)	0.36

**Table 1: Preoperative parameters**

<b>Parameter</b>	<b>All</b>	<b>Open</b>	<b>MIS</b>	<b>p value</b>
All	933 (100%)	371 (39.8%)	562 (60.2%)	
<b>Age (years)</b>	<b>5.9 (5.5-6.2)</b>	<b>3.9 (3.4-4.3)</b>	<b>7.2 (6.8-7.6)</b>	<b>&lt;0.001</b>
<b>BMI</b>	<b>18.2 (17.8-18.6)</b>	<b>17.0 (16.3-17.6)</b>	<b>19.0 (18.5-19.5)</b>	<b>&lt;0.001</b>
<b>Male sex</b>	<b>505 (54.1%)</b>	<b>216 (58.2%)</b>	<b>289 (51.4%)</b>	<b>0.041</b>
<b>White race</b>	<b>649 (69.6%)</b>	<b>240 (64.7%)</b>	<b>409 (72.8%)</b>	<b>0.009</b>
preoperative steroid use	27 (2.9%)	14 (3.8%)	13 (2.3%)	0.193
<b>Hemolytic disorder</b>	<b>71 (7.6%)</b>	<b>40 (10.8%)</b>	<b>31 (5.5%)</b>	<b>0.003</b>
Cerebral palsy	6 (0.6%)	3 (0.8%)	3 (0.5%)	0.687
Asthma	52 (5.6%)	17 (5.6%)	35 (6.2%)	0.284
Severe or Major cardiac risk	42 (4.5%)	21 (5.7%)	21 (3.7%)	0.165
<b>Transfusion prior</b>	<b>14 (1.5%)</b>	<b>9 (2.4%)</b>	<b>5 (0.9%)</b>	<b>0.059</b>
<b>Urgent procedure</b>	<b>33 (3.5%)</b>	<b>19 (5.1%)</b>	<b>14 (2.5%)</b>	<b>0.033</b>



**Table 3: Multivariable logistic regression analysis for any complication**

<b>Parameter</b>	<b>Odds Ratio</b>	<b>P-value</b>
<b>MIS</b>	<b>0.54 (0.31-0.96)</b>	<b>0.035</b>
Non-white	1.17 (0.67-2.05)	0.587
Age	0.97 (0.92-1.03)	0.277
<b>Hemolytic disorder</b>	<b>5.78 (3.02-11.06)</b>	<b>&lt;0.001</b>
<b>preoperative steroid use</b>	<b>4.91 (1.79-13.53)</b>	<b>0.002</b>
<b>Major or Severe cardiac risk</b>	<b>5.3 (2.36-11.7)</b>	<b>&lt;0.001</b>
<b>Transfusion prior to surgery</b>	<b>1.82 (0.50-6.55)</b>	<b>0.361</b>