

411 **SUPPLEMENTARY DATA**

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413 **Supplemental Table 1: Surgical Procedures and associated risk**

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<b>Procedure Name</b>	<b>Surgery N=387,030 (%)</b>	<b>SNOMED Code</b>
Low Risk		
<b>Hip Arthroplasty</b>	5480 (1.4%)	52734007
<b>Knee Arthroplasty</b>	6034 (1.6%)	609588000
<b>Laminectomy</b>	44462 (11%)	387731002
<b>Mastectomy</b>	75714 (20%)	69031006
<b>Prostatectomy</b>	17059 (4.4%)	90470006
Medium Risk		
<b>Aortic Aneurysm Repair</b>	4881 (1.3%)	233370007
<b>Colectomy</b>	46059 (12%)	23968004
<b>Craniectomy</b>	29201 (7.5%)	36910002
<b>Gastrectomy</b>	7903 (2.0%)	53442002
<b>Lung Excision</b>	17353 (4.5%)	119746007
<b>Spinal Arthrodesis</b>	78947 (20%)	55705006
High Risk		
<b>Coronary Artery Bypass Graft</b>	37492 (9.7%)	232717009
<b>Esophagectomy</b>	1538 (0.4%)	45900003
<b>Hepatectomy</b>	8495 (2.2%)	107963000
<b>Pancreatectomy</b>	6412 (1.7%)	33149006

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418 **Supplemental Table 2: Patient comorbidities**

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<b>Preoperative Comorbidities</b>	<b>SNOMED Codes</b>
Chronic Kidney Disease	709044004
Chronic Obstructive Pulmonary Disease	13645005
Coronary Artery Disease	53741008
Depression	370143000
Diabetes	73211009
Gastroesophageal Reflux Disease	235595009
Heart Failure	84114007
Hypertension	59621000
Liver Disease	328383001
Obesity	414916001

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422 **Supplemental Table 3: Postoperative Complications**

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<b>Postoperative Complications</b>	<b>SNOMED Codes</b>
Acute Myocardial Infarction	57054005
Cardiac Arrhythmia	698247007
Deep Vein Thrombosis	128053003
Pneumonia	233604007
Pulmonary Embolism	59282003
Renal Failure	42399005
Respiratory Failure	409622000
Sepsis	91302008
Urinary Tract Infection	68566005

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427 **Supplemental Table 4. Comparison of 30-day postoperative adverse events based**  
 428 **on surgical timing relative to COVID-19**  
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Outcomes	No History of COVID-19 (N = 352,947)	0–4 Weeks Post-COVID-19 (N = 7,425)	4–8 Weeks Post-COVID-19 (N = 3,936)	8–12 Weeks Post COVID-19 (N = 2,604)	12+ Weeks Post COVID-19 (N = 23,389)	P value
Mortality	4791 (1.4%)	246 (3.3%)	83 (2.1%)	47 (1.8%)	290 (1.2%)	<0.001
LOS	2 (0, 6)	4 (1, 8)	2 (0, 6)	3 (0, 6)	2 (0, 5)	<0.001
Hospital Readmission	38175 (11%)	848 (11%)	458 (12%)	318 (12%)	2622 (11%)	0.057
Any Non-Fatal Complication	73555 (21%)	1914 (26%)	890 (23%)	625 (24%)	4828 (21%)	<0.001
Acute Myocardial Infarction	9089 (2.6%)	271 (3.6%)	100 (2.5%)	57 (2.2%)	592 (2.5%)	<0.001
Cardiac Arrhythmia	34326 (9.8%)	803 (11%)	409 (10%)	286 (11%)	2254 (9.6%)	0.006
Deep Vein Thrombosis	4648 (1.3%)	142 (1.9%)	57 (1.4%)	46 (1.8%)	287 (1.2%)	<0.001
Pneumonia	9623 (2.8%)	348 (4.7%)	131 (3.3%)	95 (3.6%)	519 (2.2%)	<0.001
Pulmonary Embolism	4296 (1.2%)	137 (1.8%)	58 (1.5%)	35 (1.3%)	289 (1.2%)	<0.001
Renal Failure	22488 (6.4%)	654 (8.8%)	288 (7.3%)	204 (7.8%)	1446 (6.2%)	<0.001
Respiratory Failure	18862 (5.4%)	655 (8.8%)	197 (5.0%)	164 (6.3%)	1001 (4.3%)	<0.001
Sepsis	10244 (2.9%)	346 (4.7%)	134 (3.4%)	95 (3.6%)	613 (2.6%)	<0.001
Urinary Tract Infection	9662 (2.8%)	208 (2.8%)	110 (2.8%)	88 (3.4%)	639 (2.7%)	0.43

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432 **Supplemental Table 5.** Multivariable regression assessing the impact of timing of  
 433 infection relative to surgery on risk on composite and specific 30-day postoperative  
 434 adverse outcomes. All models adjusted for age, sex, race and ethnicity, smoking status,  
 435 and relative risk of surgery.  
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	<b>0–4 weeks (N = 7,425)</b>		<b>4–8 weeks (N = 3,936)</b>		<b>8–12 weeks (N = 2,604)</b>		<b>12+ Weeks (N = 23,389)</b>	
<b>Composite 30-day postoperative outcome</b>	1.27	[1.20-1.35]	1.14	[1.05-1.24]	1.16	[1.05-1.28]	1.01	[0.98-1.05]
<b>Mortality</b>	2.34	[2.05-2.67]	1.57	[1.25-1.95]	1.22	[0.90-1.62]	0.92	[0.81-1.03]
<b>Composite Non-fatal Complications</b>	1.22	[1.15-1.29]	1.10	[1.01-1.20]	1.14	[1.03-1.26]	1.01	[0.98-1.05]
<b>Hospital Readmission</b>	0.99	[0.92-1.07]	1.02	[0.92-1.13]	1.06	[0.94-1.19]	1.01	[0.97-1.05]
<b>Myocardial Infarction</b>	1.13	[0.99-1.29]	0.93	[0.75-1.14]	0.73	[0.55-0.96]	1.06	[0.96-1.15]
<b>Cardiac Arrhythmia</b>	1.04	[0.96-1.13]	1.11	[1.00-1.24]	1.15	[1.00-1.31]	1.09	[1.04-1.15]
<b>Deep Vein Thrombosis</b>	1.33	[1.12-1.57]	1.04	[0.79-1.34]	1.21	[0.89-1.61]	0.88	[0.78-0.99]
<b>Pneumonia</b>	1.60	[1.43-1.79]	1.21	[1.01-1.44]	1.24	[1.00-1.52]	0.81	[0.74-0.88]
<b>Pulmonary Embolism</b>	1.44	[1.20-1.70]	1.17	[0.89-1.50]	1.01	[0.71-1.39]	0.96	[0.85-1.08]
<b>Renal Failure</b>	1.28	[1.17-1.39]	1.13	[0.99-1.27]	1.12	[0.96-1.30]	0.94	[0.89-1.00]
<b>Respiratory Failure</b>	1.53	[1.40-1.66]	0.90	[0.77-1.04]	1.09	[0.92-1.28]	0.80	[0.74-0.85]
<b>Sepsis</b>	1.52	[1.36-1.69]	1.14	[0.95-1.36]	1.15	[0.92-1.40]	0.87	[0.80-0.94]
<b>Urinary Tract Infection</b>	1.01	[0.87-1.15]	1.02	[0.84-1.23]	1.17	[0.94-1.44]	0.97	[0.90-1.05]

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439 **Supplemental Table 6. Comparison of specific 30-day postoperative adverse**  
 440 **events based on COVID-19 Severity.**  
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Postoperative Complications	No History of COVID-19 (N = 351,857)	Mild Outpatient WHO Severity 1–3 (N = 31,677)	Moderate Hospitalized without invasive ventilation WHO Severity 4–6 (N= 5,009)	Severe Hospitalized with invasive ventilation or ECMO WHO Severity 7–9 (N= 655)	P value
Mortality	4791 (1.4%)	403 (1.3%)	169 (3.4%)	94 (14%)	<0.001
LOS	2 (0, 6)	2 (0, 5)	4 (1, 9)	12 (4, 29)	<0.001
Hospital Readmission	38175 (11%)	3293 (10%)	832 (17%)	121 (18%)	<0.001
Any Non-Fatal Complication	73555 (21%)	6110 (19%)	1746 (35%)	396 (60%)	<0.001
Acute Myocardial Infarction	9089 (2.6%)	723 (2.3%)	243 (4.9%)	53 (8.1%)	<0.001
Cardiac Arrhythmia	34326 (9.8%)	2856 (9.0%)	751 (15%)	142 (22%)	<0.001
Deep Vein Thrombosis	4648 (1.3%)	364 (1.1%)	126 (2.5%)	42 (6.4%)	<0.001
Pneumonia	9623 (2.8%)	704 (2.2%)	249 (5.0%)	138 (21%)	<0.001
Pulmonary Embolism	4296 (1.2%)	388 (1.2%)	99 (2.0%)	32 (4.9%)	<0.001
Renal Failure	22488 (6.4%)	1822 (5.8%)	588 (12%)	180 (27%)	<0.001
Respiratory Failure	18862 (5.4%)	1338 (4.2%)	448 (8.9%)	228 (35%)	<0.001
Sepsis	10244 (2.9%)	764 (2.4%)	271 (5.4%)	151 (23%)	<0.001
Urinary Tract Infection	9662 (2.8%)	791 (2.5%)	214 (4.3%)	39 (6.0%)	<0.001

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443 **Supplemental Table 7.** Multivariable regression assessing the impact of COVID-19  
 444 disease severity on composite and specific 30-day postoperative adverse outcomes. All  
 445 models adjusted for age, sex, race and ethnicity, smoking status, and relative risk of  
 446 surgery.  
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	<b>Mild (N = 31,677)</b>	<b>Moderate (N = 5,009)</b>	<b>Severe (N = 655)</b>
<b>Composite 30-day postoperative outcome</b>	0.96 [0.93-1.00]	1.52 [1.43-1.62]	4.76 [4.01-5.68]
<b>Mortality</b>	1.00 [0.90-1.11]	1.77 [1.51-2.07]	7.49 [5.93-9.35]
<b>Composite Non-fatal Complications</b>	0.96 [0.93-0.99]	1.47 [1.38-1.57]	4.08 [3.44-4.84]
<b>Hospital Readmission</b>	0.96 [0.92-1.00]	1.26 [1.17-1.36]	1.20 [0.98-1.46]
<b>Myocardial Infarction</b>	0.94 [0.86-1.02]	1.31 [1.13-1.50]	2.02 [1.46-2.73]
<b>Cardiac Arrhythmia</b>	1.03 [0.98-1.07]	1.27 [1.17-1.38]	2.02 [1.64-2.47]
<b>Deep Vein Thrombosis</b>	0.87 [0.78-0.97]	1.37 [1.13-1.63]	3.01 [2.16-4.08]
<b>Pneumonia</b>	0.85 [0.79-0.92]	1.30 [1.14-1.48]	5.53 [4.53-6.70]
<b>Pulmonary Embolism</b>	1.01 [0.91-1.12]	1.19 [0.96-1.45]	2.56 [1.75-3.60]
<b>Renal Failure</b>	0.93 [0.88-0.98]	1.28 [1.17-1.40]	3.24 [2.69-3.89]
<b>Respiratory Failure</b>	0.82 [0.77-0.87]	1.20 [1.08-1.32]	5.71 [4.81-6.76]
<b>Sepsis</b>	0.85 [0.78-0.91]	1.33 [1.17-1.51]	5.91 [4.88-7.12]
<b>Urinary Tract Infection</b>	0.93 [0.86-1.00]	1.25 [1.08-1.43]	1.72 [1.22-2.36]

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451 **Supplemental Table 8.** Comparison of specific 30-day postoperative adverse events  
452 based on vaccination in patients with COVID-19.

<b>Postoperative Complications</b>	<b>Non-Fully Vaccinated (N = 31,973), No. (%)</b>	<b>Fully Vaccinated (N = 5,381), No. (%)</b>	<b>P value</b>
<b>Mortality</b>	585 (1.8%)	81 (1.5%)	0.11
<b>LOS</b>	2 (0, 6)	3 (0, 6)	0.014
<b>Hospital Readmission</b>	3644 (11%)	604 (11%)	0.73
<b>Any Non-Fatal Complication</b>	7072 (22%)	1185 (22%)	0.89
<b>Acute Myocardial Infarction</b>	892 (2.8%)	128 (2.4%)	0.10
<b>Cardiac Arrhythmia</b>	3172 (9.9%)	580 (11%)	0.056
<b>Deep Vein Thrombosis</b>	465 (1.5%)	67 (1.2%)	0.26
<b>Pneumonia</b>	970 (3.0%)	123 (2.3%)	0.003
<b>Pulmonary Embolism</b>	434 (1.4%)	85 (1.6%)	0.22
<b>Renal Failure</b>	2245 (7.0%)	347 (6.4%)	0.13
<b>Respiratory Failure</b>	1792 (5.6%)	225 (4.2%)	<0.001
<b>Sepsis</b>	1042 (3.3%)	146 (2.7%)	0.039
<b>Urinary Tract Infection</b>	873 (2.7%)	172 (3.2%)	0.061

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