

APPENDIX 1 (as supplied by authors): Univariable analysis results showing distribution of patient and hospital characteristics between exposure groups

On univariable analysis, patients who were younger, female, with a lower comorbidity burden and without common bile duct obstruction were more likely to undergo early operative intervention (Table S1). As well, patients admitted to non-teaching hospitals, hospitals that had high OR utilization after hours and, hospitals that had a high institutional volume of acute cholecystitis admissions and elective cholecystectomies, were more likely to undergo early cholecystectomy (Table S2).

Table S1. Distribution of patient characteristics

	Early cholecystectomy N=14,286	No early cholecystectomy N=10,151	P value
Age (years)			<0.001
18 – 35	2791 (20)	1200 (12)	
36 – 50	3859 (27)	1863 (18)	
51 – 65	3857 (27)	2447 (24)	
66 – 80	2990 (21)	2975 (29)	
>80	809 (6)	1666 (17)	
Female sex	8,810 (62)	5,553 (55)	<0.001
Income quintile			0.02
1 (lowest)	3,165 (22)	2,119 (22)	
2	3,017 (21)	2,234 (22)	
3	2,754 (19)	2,086 (21)	
4	2,802 (20)	1,887 (19)	
5	2,548 (18)	1,745 (17)	
Comorbidity index quartile			<0.001
1(lowest)	4,132 (29)	2,134 (21)	
2	3,799 (27)	2,370 (24)	
3	3,339 (23)	2,330 (23)	
4	3,016 (21)	3,317 (32)	
Common bile duct obstruction	1,119 (8)	1,539 (16)	<0.001
Pancreatitis	659 (5)	464 (5)	0.88

All values are presented as N(%)

Table S2. Distribution of hospital characteristics

	Early cholecystectomy	No early cholecystectomy	P value
	N=14,286	N=10,151	
Teaching status			<0.001
Academic teaching	2,467 (17)	2720 (27)	
Non-teaching	11,819 (83)	7,431 (73)	
After-hours operating room utilization† (quartile)			<0.001
1(lowest)	1,036 (7)	1,238 (12)	
2	2,712 (18)	2,156 (21)	
3	4,505 (31)	3,154 (31)	
4	6,033 (44)	3,603 (36)	
Annual volume of acute cholecystitis admissions (quartile)			<0.001
5-17	502 (3)	2,119 (9)	
18-39	1,935 (14)	2,234 (17)	
40-65	3,799 (27)	2,086 (33)	
66-164	8,050 (56)	1,887 (41)	
Annual volume of elective cholecystectomies (quartile)			<0.001
0-74	938 (7)	1,364 (13)	
75-159	2,515 (18)	1,700 (17)	
160-279	4,481 (31)	2,712 (27)	
280-905	6,352 (44)	4,375 (43)	

All values are presented as N(%)† Ratio of total after-hours operative cases (for all surgical specialties) divided by the number of all-cause emergency department visits