Supplemental Digital Content 1

Table 1: Details of the logic to create the analyzed dataset

1. All cases from EPIC preanesthesia evaluation and operating room scheduling system with airway extubation dates between January 1st, 2012 and December 31st, 2013 were studied (n = 55,052).

2. All properatively available information currently existing in EPIC was included.

3. Among the 55,052 anesthetics, 34,241 (61.20%) included use of endotracheal tubes.

4. Some patients arrived to the operating room (OR) already intubated. Only those anesthetics with endotracheal tube placement performed while the patient was in the OR were studied (95.87% = 32,826/ 34,241). Only the last endotracheal tube placement and removal dates/times were used.

5. Anesthetics for which the endotracheal tube was removed after the patient exited the OR also were excluded (9.21% = 3,024/32,826). This is similar to the previous studies of prolonged times to extubation.[1]

6. Those anesthetics with missing times of dressing placement on the patient were excluded (4.78% = 1,425 / 29,802). This included cases without dressing such as adenoidectomy.

7. Those anesthetics where the endotracheal tube was removed greater than 10 minutes before the dressing was placed on the patient were excluded (2.08% = 589/28,377). Therefore, 27,788 anesthetics where the tracheal intubation and extubation performed when the patient was in an OR were used.

Table 2: Descriptive Statistics for continuous variables that were not used in the final multivariate model based on lack of predictive value.

Variable	n	Mean ± SD	Median (Q_{25}, Q_{75})
Patient's age	27,788	43.20 ± 23.12	48.00 (25.00, 61.00)
Patient's weight (kg)	27,425	77.50 ± 33.87	79.10 (60.30, 97.80)
Patient's height (inch)	27,728	76.89 ± 33.32	78.00 (60.00, 97.00)
Hours from the start of the surgical day	27,783	3.81 ± 4.08	3.05 (0.28, 5.92)

Q_{25}: First quartile, Q_{75}: Third quartile

Table 3: Descriptive Statistics for categorical variables that were not used in the final multivariate model based on lack of predictive value, within category listed in descending frequency of occurrence.

PREOPERATIVE VARIABLES		% (N)
Female		51.37 (14,275)
Anesthetic started with a patient transfer from an intensive care unit		0.52 (144)
American Society of Anesthesiologists physical status score		
	1	19.80 (5,502)
	2	49.41 (13,730)
	3	28.14 (7,819)
	4	2.62 (728)
	5	0.03 (9)
Patient's last position		
	Supine	63.02 (17,511)
	Lateral	6.40 (1,788)
	Prone	5.79 (1,610)
	Lithotomy	4.78 (1,329)
	Trendelenburg	3.79 (1,054)
	Beach chair	3.25 (902)
	Reverse trendelenberg	2.21 (614)
	Jack knife	0.34 (95)
	Other	0.30 (82)
	Missing*	10.12 (2,813)

RESPIRATORY	
Asthma	3.01 (837)
Cough	2.23 (621)
Confirmed Sleep apnea	1.73 (481)
Supplemental oxygen administration when the patient arrived to the operating room	0.52 (144)
Chronic obstructive pulmonary disease	0.45 (124)
Chest airway infection	0.45 (125)
History of pulmonary embolism	
Apnea of prematurity	0.07 (20)
HEAD, EYES, EARS, NOSE, AND THROAT	
Neck pain	2.01 (558)
Deafness	0.91 (252)
Blindness	0.43 (120)
History of radiation on the face	0.37 (102)
Rheumatoid arthritis	0.36 (99)
Nosebleeds	0.26 (72)
Facial swelling	0.20 (55)
MUSCULAR/SKELETAL	
Back pain	3.72 (1033)
Gait Problem	2.79 (774)
Positioning limitations	1.58 (438)
Wheelchair	0.68 (188)
RENAL GENITOURINARY SYSTEM	
Renal Insufficiency	1.33 (369)
Dialysis	0.16 (44)
Renal devices	0.00 (0)

Variable	% (N)
CARDIOVASCULAR	
Hypertension	9.96 (2,767)
Hyperlipidemia	5.69 (1,581)
Coronary artery disease	2.02 (560)
Myocardial infarction	0.45 (125)
Coronary artery bypass graft	0.40 (111)
Drug eluting stents	0.31 (85)
Bare metal stents	0.17 (47)
Angioplasty	0.15 (42)
Percutaneous transluminal coronary angioplasty	0.10 (29)
Shortness of breath	1.79 (497)
Cardiac arrhythmia	1.27 (352)
Leg swelling	1.35 (375)
Valvular heart disease	0.95 (264)
Aortic	0.32 (90)
Mitral	0.30 (83)
Tricuspid	0.08 (23)
Pulmonic	0.04 (10)
Congenital heart disease	0.60 (166)
Congestive heart failure	0.69 (191)
Chest pain	0.71 (197)
Peripheral vascular disease	0.70 (195)
Palpitations	0.62 (173)
Pacemaker Automatic Implantable Cardioverter Defibrillators	0.25 (70)
Orthopnea	0.27 (75)
Ventricular assist device	0.01 (2)

Variable	% (N)
EXERCISE TOLERANCE	
Metabolic equivalents (MET) 1-3	1.75 (487)
4	3.70 (1,029)
5-6	7.60 (2,113)
7-9	2.99 (830)
>10	1.25 (346)
Missing	82.71 (22,983)
ENDOCRINE/CHEMOTHERAPY	
Diabetes mellitus	3.69 (1,026)
Steroid use	3.42 (949)
Hypothyroidism	1.92 (534)
Chemotherapy	1.41 (393)
Adriamycin	0.16 (45)
Hyperparathyroidism	0.17 (48)
Hyperthyroidism	0.08 (22)
Bleomycin history	0.08 (22)
Addison's disease	0.03 (8)
Cushing's syndrome	0.01 (3)
Hypoparathyroidism	0.02 (5)
Acromegaly	0.005 (1)
SKIN	
Wound	1.41 (393)
Rash	0.75 (209)
Discoloration	0.26 (71)

Variable	% (N)
NEUROLOGY	
Paresthesias	3.90 (1,085)
Headaches	2.52 (699)
Seizures	1.35 (376)
Dizziness	1.02 (283)
Cerebrovascular accident	0.76 (212)
Neurologic deficits	0.59 (163)
Hemiparesis	0.12 (32)
Quadriparesis	0.03 (7)
Hemiplegia	0.01 (2)
Paraplegia	0.03 (9)
Quadriplegia	0.04 (10)
Transient ischemic attack	0.48 (133)
Syncope	0.43 (120)
Cervical spine cleared	0.25 (69)
Ventriculoperitoneal shunt	0.14 (39)
Increased intracranial pressure	0.12 (34)
Down's syndrome	0.13 (37)
Parkinson	0.08 (23)
PSYCHOLOGY	
Depression	4.27 (1,186)
Anxiety/ Nervousness	3.85 (1,069)
Claustrophobia	1.33 (370)
Agitation	0.23 (63)
Dementia	0.13 (36)

Variable	% (N)
GASTROINTESTINAL	
Gastroesophageal reflux disease	8.17 (2,271)
Nausea	1.26 (351)
Vomiting	0.79 (219)
Hepatitis	0.57 (158)
Feeding tube	0.35 (98)
Hiatal Hernia	0.50 (140)
Small bowel obstruction	0.28 (78)
Cirrhosis	0.16 (44)
HEMATOLOGIC	
Blood thinners	4.94 (1,373)
Anemia	1.68 (467)
Easy Bleeding	0.64 (178)
Coagulopathy	0.42 (116)
Easy bruising	0.00 (0)
Hemophilia	0.03 (7)
Sickle cell disease	0.05 (13)

Variable	% (N)
SURGICAL SPECIALTY OF THE PROCEDURE	
Surgical-Adult/Plastic	21.52 (5,979)
Orthopedics	19.78 (5,496)
Otolaryngology	12.99 (3,611)
Neurosurgery	8.55 (2,375)
Gynecology	7.45 (2,070)
Urology	6.85 (1,903)
Ophthalmology	6.72 (1,867)
Dentistry	4.83 (1,341)
Cardiothoracic surgery	3.66 (1,016)
Pediatrics Surgery	3.61 (1,004)
Vascular Surgery	2.24 (622)
Surgery Transplant	1.19 (330)
Other	0.63 (174)
LOCATION THAT THE SURGICAL PROCEDURE WAS PERFORMED	
Main operating room	88.0 (24,453)
Ambulatory Surgery Center	12.0 (33335)
OPERATING ROOM URGENCY CLASS	
Elective	84.24 (23,410)
Within 4 hours	6.66 (1,850)
Emergency	2.34 (649)
Obstetrics	0.005 (1)
Missing	6.76 (1,878)

Variable	% (N)
Patient was inpatient preoperatively? (Yes/No)	18.31 (5,088)
Anesthesiologist Supervising Multiple Rooms of general anesthesia or monitored anesthesia care (yes/no)†	
Multiple inductions within 15 minutes	20.26 (5,629)
Multiple inductions within 20 minutes	24.02 (6,674)
Multiple inductions within 22 minutes	25.45 (7,072)
Multiple inductions within 25 minutes	26.81 (7,450)
Multiple inductions within 30 minutes	28.77 (7,995)

* These were treated as not prone. The most common procedures were those for which positioning is inherent to the procedure (for example, laparoscopic cholecystectomy and adenoidectomy).

† Anesthesiologist Supervising Multiple Rooms of general anesthesia or monitored anesthesia care within 15 minutes (yes/no): Marked as "Yes" if the anesthesiologist is participating in the induction of anesthesia in multiple rooms and the time of inducting the first agent for an anesthetic in a room is less than or equal to 15 minutes of the time of the administration of the first studied for another anesthetic; and "No", otherwise.