

SDC 1. Sample Characteristics.

Preoperative Characteristics^a	Study Cohort (n=11,355)^b
Age, years, mean (SD)	59.1 (12.6)
Race/Ethnicity	
Caucasian, not Hispanic	6,787 (59.8)
African American, not Hispanic	2,058 (18.1)
Hispanic	360 (3.2)
American Indian or Asian	86 (0.8)
Unknown	2,064 (18.2)
Male	10,461 (92.1)
Body mass index	
Null/unknown	960 (8.5)
Underweight (<18.5)	243 (2.1)
Normal weight (18.5-24.9)	2,600 (22.9)
Over weight (25.0-29.9)	3,562 (31.4)
Obese class I (30.0-34.9)	2,303 (20.3)
Obese class II (35.0-39.9)	993 (8.7)
Obese class III (>39.9)	696 (6.1)
Current smoker within one year	4,425 (40.0)
Diabetes mellitus	
No diabetes or controlled by diet	8,992 (79.2)
Oral	1,456 (12.8)
Insulin	907 (8.0)
Do not resuscitate (DNR) status	62 (0.6)
Dyspnea	
No dyspnea present	10,057 (88.6)
Minimal exertion	1,163 (10.2)
At rest	135 (1.2)
Alcohol > 2 drinks/day in 2 weeks before admission	876 (7.7)
Functional health status	
Independent	10,469 (92.2)
Partially dependent	740 (6.5)
Totally dependent	146 (1.3)
Pre-operative sepsis within 48 hours	258 (2.3)
Congestive heart failure (CHF) within 30 days	164 (1.4)
Cerebrovascular accident/stroke with neurological deficit	421 (3.7)
Cerebrovascular accident/stroke with no neurological deficit	329 (2.9)
Hemiplegia	489 (4.3)
History of transient ischemic attacks (TIA)	347 (3.1)
Impaired sensorium	186 (1.6)
Tumor involving central nervous system (CNS)	154 (1.4)
Ascites	151 (1.3)
> 10% loss body weight within 6 months	438 (3.9)
Bleeding disorder	481 (4.2)
Chemotherapy for malignancies within 30 days	91 (0.8)
Disseminated cancer	263 (2.3)
Open wound/wound infection	751 (6.6)
Radiotherapy for malignancy in last 90 days	117 (1.0)
Steroid use for chronic condition	238 (2.1)

Preoperative Characteristics^a	Study Cohort (n=11,355)^b
Transfusion > 4 units pack red blood cells within 72 hours	43 (0.4)
Current pneumonia	114 (1.0)
History of severe chronic obstructive pulmonary disease (COPD)	1,271 (11.2)
Ventilator dependent	101 (0.9)
Currently on dialysis	191 (1.7)
Pre-operative acute renal failure	72 (0.6)
Serum albumin, g/dL, mean (SD)	3.9 (0.6)
Blood urea nitrogen (BUN) > 40 mg/dL	336 (3.0)
Serum glutamic (SGOT) > 40 IU/mL	639 (5.6)
White blood cell (WBC) > 11.0 K/cm	1,291 (11.4)
Serum creatinine > 1.2 mg/dL	1,967 (17.3)
Hematocrit < 38%	3,173 (27.9)
Platelets < 150 K/cm	1,810 (15.9)
ASA classification	
1 – A normal, Healthy patient	264 (2.3)
2 – A patient with mild systemic disease	3,072 (27.1)
3 – A patient with severe systemic disease	6,977 (61.4)
4 – A patient with severe systemic disease that is a constant threat	1,028 (9.1)
5 – Moribund patient	14 (0.1)
Emergency cases	905 (8.0)
Inpatient surgery	7,153 (63.0)

Operative Characteristics	
Surgeon specialty	
General surgery	3,465 (30.5)
Orthopedic surgery	2,606 (22.9)
Other	1,342 (11.8)
Peripheral vascular surgery	1,214 (10.7)
Urologic surgery	1,124 (9.9)
Neurosurgery	1,019 (9.0)
Thoracic surgery	585 (5.2)
Operation time, hours, median (IQR)	2.1 (1.3-3.2)
Work relative unit, mean (SD)	15.9 (8.9)

Postoperative Outcomes	
30-day mortality	199 (1.8)
Long-term mortality (includes 30-day mortality)	3,475 (30.4)
Duration of follow-up, years, median (IQR)	6.2 (4.2-7.2)
One or more non-respiratory complications	1,251 (11.0)
Respiratory complications	549 (4.8)

^a Abbreviations: ASA, American Society of Anesthesiologist; SD, standard deviation; IQR, interquartile range.

^b Values are frequency and percent unless otherwise specified.

SDC 2. Balance on preoperative and operative risk factors before and after propensity matching between NNMBD versus no NNMBD patients.*

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD (n=8,984)		STD Diff	No NNMBD (n=2,071)		NNMBD (n=2,071)		STD Diff
	N	%	N	%		%	N	%	N	
Age (years), mean (SD)	57.3	13.7	59.6	12.3	0.1746	57.8	13.6	57.8	13.6	0.0042
Race/Ethnicity										
Black, not Hispanic	333	14.0	1,725	19.2	0.2397	314	15.2	299	14.4	0.0428
Hispanic	51	2.2	309	3.4		49	2.4	43	2.1	
Other/Unknown	609	25.7	1,541	17.2		487	23.5	520	25.1	
White, not Hispanic	1,378	58.1	5,409	60.2		1,221	59.0	1,209	58.4	
Gender										
Female	185	7.8	709	7.9	0.1388	171	8.3	177	8.5	-0.0204
Male	2,186	92.2	8,275	92.1		1,900	91.7	1,894	91.5	
Body mass index category										
Null/unknown	361	15.2	599	6.7	0.2967	252	12.2	260	12.6	0.0417
Underweight (<18.5)	37	1.6	206	2.3		34	1.6	26	1.3	
Normal weight (18.5-24.9)	517	21.8	2,083	23.2		462	22.3	468	22.6	
Over weight (25.0 - 29.9)	717	30.2	2,845	31.7		653	31.5	651	31.4	
Obese Class I (30.0 - 34.9)	449	18.9	1,854	20.6		408	19.7	404	19.5	
Obese Class II (35.0 - 39.9)	194	8.2	797	8.9		177	8.5	169	8.2	
Obese Class III (>40.0)	96	4.0	600	6.7		85	4.1	93	4.5	
Current smoker within one year										
No	1,502	63.3	5,428	60.4	0.0604	1,301	62.8	1,312	63.4	-0.0110
Yes	869	36.7	3,556	39.6		770	37.2	759	36.6	
Diabetes mellitus										
No diabetes or controlled by diet	1,925	81.2	7,067	78.7	0.0790	1,678	81.0	1,694	81.8	0.0201
Oral	256	10.8	1,200	13.4		231	11.2	223	10.8	
Insulin	190	8.0	717	8.0		162	7.8	154	7.4	
Do not resuscitate (DNR) status										
No	2,362	99.6	8,931	99.4	0.0303	2,062	99.6	2,063	99.6	-0.0076
Yes	9	0.4	53	0.6		9	0.4	8	0.4	
Dyspnea										
No dyspnea is present	2,181	92.0	7,876	87.7	0.1433	1,892	91.4	1,898	91.6	0.0442
Minimal exertion	170	7.2	993	11.1		159	7.7	161	7.8	

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD (n=8,984)		STD Diff	No NNMBD (n=2,071)		NNMBD (n=2,071)		STD Diff
	N	%	N	%		%	N	%	N	
At rest	20	0.8	115	1.3		20	1.0	12	0.6	
Alcohol > 2 drinks/day in 2 weeks before admission										
No	2,211	93.3	8,268	92.0	0.0468	1,927	93.0	1,912	92.3	0.0278
Yes	160	6.7	716	8.0		144	7.0	159	7.7	
Functional health status										
Independent	2,184	92.1	8,285	92.2	0.0418	1,911	92.3	1,918	92.6	0.0280
Partially dependent	164	6.9	576	6.4		139	6.7	128	6.2	
Totally dependent	23	1.0	123	1.4		21	1.0	25	1.2	
Pre-operative sepsis within 48 hours										
No	2,327	98.1	8,770	97.6	0.0365	2,033	98.2	2,041	98.6	-0.0304
Yes	44	1.9	214	2.4		38	1.8	30	1.4	
Congestive heart failure (CHF) within 30 days										
No	2,343	98.8	8,848	98.5	0.0289	2,045	98.7	2,056	99.3	-0.0537
Yes	28	1.2	136	1.5		26	1.3	15	0.7	
CVA/Stroke with neurological deficit										
No	2,301	97.0	8,633	96.1	0.0525	2,005	96.8	2,009	97.0	-0.0112
Yes	70	3.0	351	3.9		66	3.2	62	3.0	
CVA/Stroke with no neurological deficit										
No	2,311	97.5	8,715	97.0	0.0283	2,017	97.4	2,019	97.5	-0.0061
Yes	60	2.5	269	3.0		54	2.6	52	2.5	
Hemiplegia										
No	2,322	97.9	8,544	95.1	0.1549	2,024	97.7	2,026	97.8	-0.0066
Yes	49	2.1	440	4.9		47	2.3	45	2.2	
History of transient ischemic attacks (TIA)										
No	2,300	97.0	8,708	96.9	0.0045	2,007	96.9	2,007	96.9	0.0000
Yes	71	3.0	276	3.1		64	3.1	64	3.1	
Impaired sensorium										
No	2,329	98.2	8,840	98.4	-0.0131	2,036	98.3	2,039	98.5	-0.0115
Yes	42	1.8	144	1.6		35	1.7	32	1.5	
Tumor involving central nervous system (CNS)										
No	2,366	99.8	8,835	98.3	0.1509	2,066	99.8	2,066	99.8	0.0000
Yes	5	0.2	149	1.7		5	0.2	5	0.2	

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD (n=8,984)		STD Diff	No NNMBD (n=2,071)		NNMBD (n=2,071)		STD Diff
	N	%	N	%		%	N	%	N	
Ascites										
No	2,361	99.6	8,843	98.4	0.1158	2,062	99.6	2,060	99.5	0.0139
Yes	10	0.4	141	1.6		9	0.4	11	0.5	
> 10% loss body weight in last 6 months										
No	2,317	97.7	8,600	95.7	0.1124	2,027	97.9	2,029	98.0	-0.0068
Yes	54	2.3	384	4.3		44	2.1	42	2.0	
Bleeding disorders										
No	2,303	97.1	8,571	95.4	0.0913	2,009	97.0	2,014	97.2	-0.0145
Yes	68	2.9	413	4.6		62	3.0	57	2.8	
Chemotherapy for malignancy within 30 days										
No	2,360	99.5	8,904	99.1	0.0520	2,061	99.5	2,059	99.4	0.0133
Yes	11	0.5	80	0.9		10	0.5	12	0.6	
Disseminated cancer										
No	2,343	98.8	8,749	97.4	0.1053	2,046	98.8	2,040	98.5	0.0251
Yes	28	1.2	235	2.6		25	1.2	31	1.5	
Open wound/wound infection										
No	2,120	89.4	8,484	94.4	-0.1851	1,884	91.0	1,886	91.1	-0.0034
Yes	251	10.6	500	5.6		187	9.0	185	8.9	
Radiotherapy for malignancy in last 90 days										
No	2,362	99.6	8,876	98.8	0.0930	2,062	99.6	2,062	99.6	0.0000
Yes	9	0.4	108	1.2		9	0.4	9	0.4	
Steroid use for chronic condition										
No	2,325	98.1	8,792	97.9	0.0139	2,032	98.1	2,037	98.4	-0.0183
Yes	46	1.9	192	2.1		39	1.9	34	1.6	
Transfusion > 4 units PRBCs within 72 hours										
No	2,366	99.8	8,946	99.6	0.0377	2,066	99.8	2,065	99.7	0.0094
Yes	5	0.2	38	0.4		5	0.2	6	0.3	
Current pneumonia										
No	2,355	99.3	8,886	98.9	0.0445	2,055	99.2	2,057	99.3	-0.0114
Yes	16	0.7	98	1.1		16	0.8	14	0.7	
History of severe COPD										
No	2,161	91.1	7,923	88.2	0.0971	1,879	90.7	1,885	91.0	-0.0101

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD (n=8,984)		STD Diff	No NNMBD (n=2,071)		NNMBD (n=2,071)		STD Diff
	N	%	N	%		%	N	%	N	
Yes	210	8.9	1,061	11.8		192	9.3	186	9.0	
Ventilator dependent										
No	2,361	99.6	8,893	99.0	0.0701	2,061	99.5	2,061	99.5	0.0000
Yes	10	0.4	91	1.0		10	0.5	10	0.5	
Currently on dialysis										
No	2,307	97.3	8,857	98.6	-0.0907	2,026	97.8	2,025	97.8	0.0033
Yes	64	2.7	127	1.4		45	2.2	46	2.2	
Pre-operative acute renal failure										
No	2,347	99.0	8,936	99.5	-0.0546	2,052	99.1	2,056	99.3	-0.0214
Yes	24	1.0	48	0.5		19	0.9	15	0.7	
Serum albumin, g/dL, mean (SD)	4.0	0.6	3.8	0.6	-0.3134	4.0	0.6	4.0	0.5	-0.0046
Blood urea nitrogen (BUN) > 40 mg/dL										
No	2,277	96.0	8,742	97.3	-0.0709	1,996	96.4	2,002	96.7	-0.0158
Yes	94	4.0	242	2.7		75	3.6	69	3.3	
Serum glutamic (SGOT) > 40 IU/mL										
No	2,277	96.0	8,439	93.9	0.0964	1,985	95.8	1,973	95.3	0.0281
Yes	94	4.0	545	6.1		86	4.2	98	4.7	
White blood cell (WBC) > 11.0 K/cm										
No	2,142	90.3	7,922	88.2	0.0699	1,867	90.1	1,877	90.6	-0.0164
Yes	229	9.7	1,062	11.8		204	9.9	194	9.4	
Serum creatinine > 1.2 mg/dL										
No	1,991	84.0	7,397	82.3	0.0438	1,743	84.2	1,741	84.1	0.0026
Yes	380	16.0	1,587	17.7		328	15.8	330	15.9	
Hematocrit <38%										
No	1,752	73.9	6,430	71.6	0.0521	1,537	74.2	1,566	75.6	-0.0323
Yes	619	26.1	2,554	28.4		534	25.8	505	24.4	
Platelets < 150 K/cm										
No	1,912	80.6	7,633	85.0	-0.1147	1,704	82.3	1,698	82.0	0.0076
Yes	459	19.4	1,351	15.0		367	17.7	373	18.0	
ASA classification										
1 - Healthy patient	125	5.3	139	1.5	0.3650	95	4.6	62	3.0	0.0853
2 - Mild systemic disease	871	36.7	2,201	24.5		728	35.2	756	36.5	

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD (n=8,984)		STD Diff	No NNMBD (n=2,071)		NNMBD (n=2,071)		STD Diff
	N	%	N	%		%	N	%	N	
3 - Severe systemic disease	1,184	49.9	5,793	64.5		1,087	52.5	1,095	52.9	
4 - Constant threat to life	189	8.0	839	9.3		159	7.7	156	7.5	
5 - Moribund patient	2	0.1	12	0.1		2	0.1	2	0.1	
Emergency case										
No	2,244	94.6	8,206	91.3	0.1297	1,949	94.1	1,955	94.4	-0.0124
Yes	127	5.4	778	8.7		122	5.9	116	5.6	
Inpatient/outpatient										
Outpatient	1,244	52.5	2,958	32.9	0.4030	1,053	50.8	1,052	50.8	0.0010
Inpatient	1,127	47.5	6,026	67.1		1,018	49.2	1,019	49.2	
Specialty code										
General surgery	473	19.9	2,992	33.3	0.6471	468	22.6	464	22.4	0.0460
Neurosurgery	85	3.6	934	10.4		83	4.0	81	3.9	
Orthopedic surgery	934	39.4	1,672	18.6		726	35.1	721	34.8	
Thoracic surgery	26	1.1	559	6.2		26	1.3	35	1.7	
Urology	213	9.0	911	10.1		196	9.5	184	8.9	
Peripheral vascular surgery	254	10.7	960	10.7		219	10.6	216	10.4	
Other	386	16.3	956	10.6		353	17.0	370	17.9	
Work relative unit, mean (SD)	11.0	6.2	17.1	9.1	0.7863	12	6.3	11.5	6.1	-0.0061
Operation time (hours), mean (SD)	1.7	1.3	2.7	1.8	0.6249	2	1.4	1.8	1.1	0.0101

*Abbreviations: NNMBD, nondepolarizing neuromuscular blocking drug; STD Diff, standardized difference; CVA, cerebrovascular accident; PRBC, pack red blood cells; ASA, American Society of Anesthesiologist; COPD, chronic obstructive pulmonary disease.

SDC 3. Balance on preoperative and operative risk factors before and after propensity matching between NNMBD without a reversal agent versus NNMBD with reversal Agent patients.*

[illegible]

Characteristics	Before Propensity Match					After Propensity Match				
	NNMBD + reversal (n=7,047)		NNMBD Only (n=1,937)		STD Diff	NNMBD + reversal (n=1,753)		NNMBD Only (n=1,753)		STD Diff
	N	%	N	%		N	%	N	%	
No dyspnea is present	6,273	89.0	1,603	82.8	0.2646	1,502	85.7	1,504	85.8	0.0119
Minimal exertion	740	10.5	253	13.1		229	13.1	225	12.8	
At rest	34	0.5	81	4.2		22	1.3	24	1.4	
Alcohol > 2 drinks/day in 2 weeks before admission										
No	6,502	92.3	1,766	91.2	0.0397	1,612	92.0	1,596	91.0	0.0327
Yes	545	7.7	171	8.8		141	8.0	157	9.0	
Functional health status										
Independent	6,568	93.2	1,717	88.6	0.1887	1,587	90.5	1,593	90.9	0.0156
Partially dependent	417	5.9	159	8.2		138	7.9	135	7.7	
Totally dependent	62	0.9	61	3.1		28	1.6	25	1.4	
Pre-operative sepsis within 48 hours										
No	6,970	98.9	1,800	92.9	0.3057	1,693	96.6	1,703	97.1	-0.0327
Yes	77	1.1	137	7.1		60	3.4	50	2.9	
Congestive heart failure (CHF) within 30 days										
No	6,973	98.9	1,875	96.8	0.1495	1,719	98.1	1,717	97.9	0.0082
Yes	74	1.1	62	3.2		34	1.9	36	2.1	
CVA/Stroke with neurological deficit										
No	6,796	96.4	1,837	94.8	0.0784	1,673	95.4	1,672	95.4	0.0027
Yes	251	3.6	100	5.2		80	4.6	81	4.6	
CVA/Stroke with no neurological deficit										
No	6,838	97.0	1,877	96.9	0.0077	1,690	96.4	1,700	97.0	-0.0319
Yes	209	3.0	60	3.1		63	3.6	53	3.0	
Hemiplegia										
No	6,721	95.4	1,823	94.1	0.0565	1,637	93.4	1,654	94.4	-0.0404
Yes	326	4.6	114	5.9		116	6.6	99	5.6	
History of transient ischemic attacks (TIA)										
No	6,829	96.9	1,879	97.0	-0.0058	1,706	97.3	1,700	97.0	0.0206
Yes	218	3.1	58	3.0		47	2.7	53	3.0	
Impaired sensorium										
No	6,977	99.0	1,863	96.2	0.1852	1,720	98.1	1,715	97.8	0.0203
Yes	70	1.0	74	3.8		33	1.9	38	2.2	

[illegible]

Characteristics	Before Propensity Match					After Propensity Match				
	NNMBD + reversal (n=7,047)		NNMBD Only (n=1,937)		STD Diff	NNMBD + reversal (n=1,753)		NNMBD Only (n=1,753)		STD Diff
	N	%	N	%		N	%	N	%	
No	5,994	85.1	1,639	84.6	0.0123	1,525	87.0	1,512	86.3	0.0218
Yes	1,053	14.9	298	15.4		228	13.0	241	13.7	
ASA classification										
1 - Healthy patient	110	1.6	29	1.5	0.3727	23	1.3	29	1.7	0.0366
2 - Mild systemic disease	1,808	25.7	393	20.3		398	22.7	388	22.1	
3 - Severe systemic disease	4,644	65.9	1,149	59.3		1,096	62.5	1,096	62.5	
4 - Constant threat to life	484	6.9	355	18.3		235	13.4	238	13.6	
5 - Moribund patient	1	0.0	11	0.6		1	0.1	2	0.1	
Emergency case										
No	6,587	93.5	1,619	83.6	0.3141	1,558	88.9	1,548	88.3	0.0179
Yes	460	6.5	318	16.4		195	11.1	205	11.7	
Inpatient/outpatient										
Outpatient	2,463	35.0	495	25.6	0.2056	479	27.3	488	27.8	-0.0115
Inpatient	4,584	65.0	1,442	74.4		1,274	72.7	1,265	72.2	
Specialty code										
General surgery	2,450	34.8	542	28.0	0.2392	430	24.5	463	26.4	0.0640
Neurosurgery	700	9.9	234	12.1		236	13.5	220	12.5	
Orthopedic surgery	1,311	18.6	361	18.6		358	20.4	355	20.3	
Thoracic surgery	411	5.8	148	7.6		128	7.3	126	7.2	
Urology	770	10.9	141	7.3		149	8.5	138	7.9	
Peripheral vascular surgery	709	10.1	251	13.0		210	12.0	227	12.9	
Other	696	9.9	260	13.4		242	13.8	224	12.8	
Work relative unit, mean (SD)	16.7	8.3	18.9	11.4	0.2229	18	8.9	18.0	9.5	0.0141
Operation time (hours), mean (SD)	2.6	1.5	3.3	2.5	0.3475	3	2.1	3.1	2.1	0.0216

*Abbreviations: NNMBD, nondepolarizing neuromuscular blocking drug; STD Diff, standardized difference; CVA, cerebrovascular accident; PRBC, pack red blood cells; ASA, American Society of Anesthesiologist; COPD, chronic obstructive pulmonary disease.

SDC 4. Balance on preoperative and operative risk factors before and after propensity matched between not receiving a NNMBD versus NNMBD with reversal agent patients.*

[illegible]

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD + reversal (n=7,047)		STD Diff	No NNMBD (n=1,944)		NNMBD + reversal (n=1,944)		STD Diff
	N	%	N	%		N	%	N	%	
No dyspnea is present	2,181	92.0	6,273	89.0	0.1247	1,785	91.8	1,782	91.7	0.0201
Minimal exertion	170	7.2	740	10.5		149	7.7	149	7.7	
At rest	20	0.8	34	0.5		10	0.5	13	0.7	
Alcohol > 2 drinks/day in 2 weeks before admission										
No	2,211	93.3	6,502	92.3	0.0380	1,810	93.1	1,811	93.2	-0.0020
Yes	160	6.7	545	7.7		134	6.9	133	6.8	
Functional health status										
Independent	2,184	92.1	6,568	93.2	0.0421	1,800	92.6	1,793	92.2	0.0151
Partially dependent	164	6.9	417	5.9		127	6.5	132	6.8	
Totally dependent	23	1.0	62	0.9		17	0.9	19	1.0	
Pre-operative sepsis in 48 hours										
No	2,327	98.1	6,970	98.9	-0.0633	1,913	98.4	1,917	98.6	-0.0170
Yes	44	1.9	77	1.1		31	1.6	27	1.4	
Congestive heart failure (CHF) in 30 days before										
No	2,343	98.8	6,973	98.9	-0.0125	1,922	98.9	1,925	99.0	-0.0151
Yes	28	1.2	74	1.1		22	1.1	19	1.0	
CVA/Stroke with neurological deficit										
No	2,301	97.0	6,796	96.4	0.0343	1,882	96.8	1,887	97.1	-0.0149
Yes	70	3.0	251	3.6		62	3.2	57	2.9	
CVA/Stroke with no neurological deficit										
No	2,311	97.5	6,838	97.0	0.0266	1,890	97.2	1,888	97.1	0.0062
Yes	60	2.5	209	3.0		54	2.8	56	2.9	
Hemiplegia										
No	2,322	97.9	6,721	95.4	0.1427	1,899	97.7	1,898	97.6	0.0034
Yes	49	2.1	326	4.6		45	2.3	46	2.4	
History of transient ischemic attacks (TIA)										
No	2,300	97.0	6,829	96.9	0.0058	1,878	96.6	1,880	96.7	-0.0057
Yes	71	3.0	218	3.1		66	3.4	64	3.3	
Impaired sensorium										
No	2,329	98.2	6,977	99.0	-0.0667	1,919	98.7	1,918	98.7	0.0045
Yes	42	1.8	70	1.0		25	1.3	26	1.3	

		Before Propensity Match				After Propensity Match					
		No NNMBD (n=2,371)		NNMBD + reversal (n=7,047)		STD Diff	No NNMBD (n=1,944)		NNMBD + reversal (n=1,944)		STD Diff
Characteristics		N	%	N	%		N	%	N	%	
No		2,355	99.3	7,013	99.5	-0.0254	1,930	99.3	1,935	99.5	-0.0335
Yes		16	0.7	34	0.5		14	0.7	9	0.5	
History of severe COPD											
No		2,161	91.1	6,261	88.8	0.0766	1,766	90.8	1,774	91.3	-0.0144
Yes		210	8.9	786	11.2		178	9.2	170	8.7	
Ventilator dependent											
No		2,361	99.6	7,038	99.9	-0.0562	1,937	99.6	1,938	99.7	-0.0089
Yes		10	0.4	9	0.1		7	0.4	6	0.3	
Currently on dialysis											
No		2,307	97.3	6,968	98.9	-0.1155	1,907	98.1	1,905	98.0	0.0074
Yes		64	2.7	79	1.1		37	1.9	39	2.0	
Pre-operative acute renal failure											
No		2,347	99.0	7,031	99.8	-0.1002	1,932	99.4	1,932	99.4	0.0000
Yes		24	1.0	16	0.2		12	0.6	12	0.6	
Serum albumin, g/dL, mean (SD)		4.0	0.6	3.9	0.5	-0.2546	4.0	0.6	4.0	0.5	-0.0106
Blood urea nitrogen (BUN) > 40 mg/dL											
No		2,277	96.0	6,920	98.2	-0.1295	1,880	96.7	1,882	96.8	-0.0058
Yes		94	4.0	127	1.8		64	3.3	62	3.2	
Serum glutamic (SGOT) > 40 IU/mL											
No		2,277	96.0	6,664	94.6	0.0695	1,863	95.8	1,870	96.2	-0.0184
Yes		94	4.0	383	5.4		81	4.2	74	3.8	
White blood cell (WBC) > 11.0 K/cm											
No		2,142	90.3	6,327	89.8	0.0187	1,760	90.5	1,771	91.1	-0.0196
Yes		229	9.7	720	10.2		184	9.5	173	8.9	
Serum creatinine > 1.2 mg/dL											
No		1,991	84.0	5,909	83.9	0.0033	1,631	83.9	1,629	83.8	0.0028
Yes		380	16.0	1,138	16.1		313	16.1	315	16.2	
Hematocrit <38%											
No		1,752	73.9	5,186	73.6	0.0068	1,450	74.6	1,460	75.1	-0.0119
Yes		619	26.1	1,861	26.4		494	25.4	484	24.9	
Platelets < 150 K/cm											

Characteristics	Before Propensity Match					After Propensity Match				
	No NNMBD (n=2,371)		NNMBD + reversal (n=7,047)		STD Diff	No NNMBD (n=1,944)		NNMBD + reversal (n=1,944)		STD Diff
	N	%	N	%		N	%	N	%	
No	1,912	80.6	5,994	85.1	-0.1174	1,610	82.8	1,593	81.9	0.0230
Yes	459	19.4	1,053	14.9		334	17.2	351	18.1	
ASA classification										
1 - Healthy patient	125	5.3	110	1.6	0.3611	89	4.6	71	3.7	0.0483
2 - Mild systemic disease	871	36.7	1,808	25.7		679	34.9	694	35.7	
3 - Severe systemic disease	1,184	49.9	4,644	65.9		1,035	53.2	1,042	53.6	
4 - Constant threat to life	189	8.0	484	6.9		140	7.2	136	7.0	
5 - Moribund patient	2	0.1	1	0.0		1	0.1	1	0.1	
Emergency case										
No	2,244	94.6	6,587	93.5	0.0496	1,837	94.5	1,834	94.3	0.0067
Yes	127	5.4	460	6.5		107	5.5	110	5.7	
Inpatient/outpatient										
Outpatient	1,244	52.5	2,463	35.0	0.3588	966	49.7	975	50.2	-0.0093
Inpatient	1,127	47.5	4,584	65.0		978	50.3	969	49.8	
Specialty code										
General surgery	473	19.9	2,450	34.8	0.6566	462	23.8	449	23.1	0.0614
Neurosurgery	85	3.6	700	9.9		83	4.3	96	4.9	
Orthopedic surgery	934	39.4	1,311	18.6		657	33.8	677	34.8	
Thoracic surgery	26	1.1	411	5.8		25	1.3	20	1.0	
Urology	213	9.0	770	10.9		187	9.6	185	9.5	
Peripheral vascular surgery	254	10.7	709	10.1		206	10.6	182	9.4	
Other	386	16.3	696	9.9		324	16.7	335	17.2	
Work relative unit, mean (SD)	11.0	6.2	16.7	8.3	0.7700	12	6.3	11.8	6.0	0.0012
Operation Time (Hours), mean (SD)	1.7	1.3	2.6	1.5	0.5818	2	1.4	1.9	1.0	0.0084

*Abbreviations: NNMBD, nondepolarizing neuromuscular blocking drug; STD Diff, standardized difference; CVA, cerebrovascular accident; PRBC, pack red blood cells; ASA, American Society of Anesthesiologist; COPD, chronic obstructive pulmonary disease.