

Supplementary Online Content

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eTable 1. Comorbidity Categories

eTable 2. Subanalysis: Propensity Score Weighted Model Among Patients Receiving o2 in the 1st 24 hours (n=409)

eTable 3. Subanalysis: Propensity Score Weighted Model Among Patients With No Comorbidities (n=508)

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Comorbidity Categories

Comorbidity Category	ICD-9-CM codes	Comments
Asthma	493 (all)	
Bacterial Pneumonia	481-486	
Congenital Heart Disease	745-747.9	
Nasal and Sinus Comorbidities	461	Acute Sinusitis
	470	Deviated nasal septum
	471 (all)	Nasal polyps of various types
	748	Choanal atresia
	748.1	Other nose abnormality (e.g. absent nose)
	754	Congenital deviated septum
Chronic Lower Respiratory Tract Disease	748.4-748.9	e.g. Cystic lung diseases, bronchiectasis
	770.7	Broncho-pulmonary dysplasia (BPD)
Diseases of pharynx, larynx, and trachea	462-465	e.g. Acute pharyngitis, tonsillitis
	472-476	e.g. Chronic tonsillitis, peritonsillar abscess
	478.2	Disease of Pharynx NOS
	478.3	Vocal cord paralysis
	478.4	Vocal cord polyp
	478.5	Abscess/cellulitis of vocal cord
	478.6	Laryngeal edema
	478.7	Disease of larynx NOS
	478.8	Upper respiratory tract hypersensitivity reaction, NOS
	478.9	Tracheal abscess
	748.2	Laryngeal Web
748.3	Other larynx/trachea congenital abnormality	
Muscular Dystrophy	335 (all)	Motor neuron diseases
	356 (all)	Hereditary and idiopathic peripheral neuropathy
	359 (all)	Muscular dystrophies and other myopathies

eTable 2. Subanalysis: Propensity Score Weighted Model Among Patients Receiving o2 in the 1st 24 hours (n=409)

Exposures	Coefficient (SE)	Length of Stay (days) Geometric Mean (95% CI)	P Value
Invasive Device Percentage			<0.001
None	-0.421 (0.079)	1.83 (1.57, 2.13)	
>0 to 35%	-0.204 (0.073)	2.27 (1.97, 2.62)	
>35 to 60%	-0.190 (0.076)	2.30 (1.98, 2.68)	
>60 %	Reference	2.78 (2.41, 3.21)	
Suctioning Lapses			<0.001
None	-0.531 (0.102)	1.75 (1.47, 2.08)	
1	-0.367 (0.091)	2.06 (1.81, 2.35)	
2	-0.182 (0.090)	2.48 (2.17, 2.83)	
3 or 4	Reference	2.98 (2.49, 3.56)	
Covariates			
Sex			0.04
Female	0.110 (0.054)	2.40 (2.10, 2.75)	
Male	Reference	2.15 (1.88, 2.45)	
Age (mos)	-0.046 (0.099)	-	<0.001
Medicaid			0.43
Yes	0.045 (0.058)	2.32 (2.07, 2.61)	
No	Reference	2.22 (1.93, 2.55)	
Department			0.004
Academic Unit B	-0.122 (0.089)	2.36 (2.04, 2.74)	
Academic Unit A	-0.247 (0.081)	2.08 (1.83, 2.37)	
Satellite Unit	-0.277 (0.092)	2.02 (1.74, 2.35)	
Other Academic	Reference	2.67 (2.25, 3.17)	
Days ill prior to admission			0.18
<2	0.002 (0.143)	2.29 (1.72, 3.04)	
2 to <3	0.094 (0.070)	2.51 (2.22, 2.83)	
3 to <4	-0.007 (0.076)	2.26 (1.96, 2.61)	
4 to <5	-0.111 (0.085)	2.04 (1.74, 2.39)	
≥ 5	Reference	2.28 (1.99,2.61)	
IV fluid bolus			0.34
< 20 cc/kg or no infusion	-0.089 (0.094)	2.17 (2.00, 2.36)	
≥ 20 cc/kg	Reference	2.37 (1.96, 2.88)	
Temperature > 38 within 1st 24 hours			0.04
Yes	0.114 (0.055)	2.40 (2.13, 2.71)	
No	Reference	2.15 (1.88, 2.45)	
Albuterol			
None	-0.010 (0.071)	2.37 (2.09, 2.70)	
1 dose	-0.152 (0.70)	2.06 (1.79, 2.37)	
≥ 2 dose	Reference	2.40 (2.07, 2.78)	
Total No. of suctioning events	0.045 (0.011)	-	<0.001

R² = 0.37

eTable 3. Subanalysis: Propensity Score Weighted Model Among Patients With No Comorbidities (n=508)

Exposures	Coefficient (SE)	Length of Stay (days) Geometric Mean (95% CI)	P Value
Invasive Device Percentage			<0.001
None	-0.263 (0.067)	1.77 (1.56, 2.02)	
>0 to 35%	-0.214 (0.061)	1.86 (1.65, 2.11)	
>35 to 60%	-0.200 (0.063)	1.89 (1.67, 2.14)	
>60 %	Reference	2.31 (2.05, 2.60)	
Suctioning Lapses			<0.001
None	-0.533 (0.088)	1.57 (1.37, 1.79)	
1	-0.457 (0.077)	1.69 (1.52, 1.89)	
2	-0.271 (0.078)	2.04 (1.82, 2.28)	
3 or 4	Reference	2.67 (2.28, 3.12)	
Covariates			
Sex			0.97
Female	0.002 (0.048)	1.95 (1.74, 2.18)	
Male	Reference	1.95 (1.76, 2.15)	
Age (mos)	-0.034 (0.009)	-	
Medicaid			0.28
Yes	0.053 (0.049)	2.00 (1.81, 2.21)	
No	Reference	1.90 (1.69, 2.13)	
Department			
Academic Unit B	-0.082 (0.074)	1.97 (1.75, 2.23)	
Academic Unit A	-0.125 (0.069)	1.89 (1.70, 2.10)	
Satellite Unit	-0.168 (0.084)	1.81 (1.57, 2.08)	
Other Academic	Reference	2.14 (1.85, 2.47)	
Days ill prior to admission			0.86
<2	0.034 (0.100)	2.06 (1.70, 2.49)	
2 to <3	-0.027 (0.059)	1.93 (1.72, 2.17)	
3 to <4	-0.055 (0.065)	1.88 (1.66, 2.14)	
4 to <5	-0.050 (0.071)	1.89 (1.64, 2.18)	
≥ 5	Reference	1.99 (1.77, 2.23)	
IV fluid bolus			0.84
< 20 cc/kg or no infusion	-0.017 (0.083)	1.93 (1.81, 2.07)	
≥ 20 cc/kg	Reference	1.97 (1.67, 2.31)	
Any O2 within 1st 24 hours			<0.001
Yes	0.244 (0.048)	2.20 (1.99, 2.43)	
No	Reference	1.72 (1.54, 1.93)	
Temperature > 38 in 1st 24 hours			0.22
Yes	0.057 (0.047)	2.01 (1.81, 2.23)	
No	Reference	1.89 (1.70, 2.11)	
Albuterol			0.07
None	-0.138 (0.070)	1.87 (1.69, 2.07)	
1 dose	-0.157 (0.069)	1.84 (1.65, 2.05)	
≥ 2 dose	Reference	2.15 (1.86, 2.48)	
Total No. suctioning events	0.080 (0.009)	-	<0.001