

**Supplementary Table 3.** Predictor for delayed reintubation compared to non-reintubation in HFNC group

Characteristics	Non-reintubation (n = 69)	Delayed reintubation (n = 7)	P-value
Male sex	49 (71.0)	5 (71.4)	1.000 <sup>a</sup>
Age (yr)	74.0 (65.50–80.50)	74.00 (69.00–76.00)	0.893
Height (cm)	162.0 (158.0–170.0)	161.50 (160.00–165.00)	0.738
Body weight (kg)	58.0 (50.0–70.0)	55.00 (50.00–60.00)	0.843
Body mass index (kg/m <sup>2</sup> )	22.7 (18.7–24.9)	22.03 (19.59–23.44)	0.774
Underlying disease			
Diabetes mellitus	15 (21.7)	2 (28.6)	0.650 <sup>a</sup>
Hypertension	25 (36.2)	3 (42.9)	0.704 <sup>a</sup>
Malignant disease	6 (8.7)	1 (14.3)	0.506 <sup>a</sup>
Chronic respiratory disease	40 (58.0)	2 (28.6)	0.232 <sup>a</sup>
Chronic heart disease	18 (26.1)	3 (42.9)	0.387 <sup>a</sup>
Chronic liver disease	1 (1.4)	0	1.000 <sup>a</sup>
Chronic renal disease	7 (10.1)	3 (42.9)	0.044 <sup>a</sup>
Neurologic disease	20 (29.0)	3 (42.9)	0.426 <sup>a</sup>
Cause of mechanical ventilation			
Pneumonia	36 (52.2)	4 (57.1)	1.000 <sup>a</sup>
Airway disease	9 (13.0)	2 (28.6)	0.266 <sup>a</sup>
Hemoptysis	3 (4.3)	0	1.000 <sup>a</sup>
Drug intoxication	13 (18.8)	0	0.596 <sup>a</sup>
Post operation	2 (2.9)	0	1.000 <sup>a</sup>
Heart failure	3 (4.3)	0	1.000 <sup>a</sup>
Others	3 (4.3)	1 (14.3)	0.326 <sup>a</sup>
Type of respiratory failure at intubation <sup>b</sup>			
Tachypneic respiratory failure	5 (7.2)	0	1.000 <sup>a</sup>
Hypercapnic respiratory failure	31 (44.9)	3 (42.9)	1.000 <sup>a</sup>
Hypoxic respiratory failure	22 (31.9)	0	0.100 <sup>a</sup>
Others <sup>c</sup>	15 (21.7)	4 (57.1)	0.061 <sup>a</sup>
Severity index			
APACHE II score at ICU admission	22.0 (17.50–25.00)	22.00 (19.00–23.00)	0.705
APACHE II score at extubation	17.0 (15.0–19.0)	18.00 (12.00–23.00)	0.864
Vital sign and arterial blood gas before intubation			
Heart rate	100.00 (84.00–124.50)	104.00 (88.00–118.00)	0.808
Respiratory rate	22.00 (18.00–26.00)	20.00 (18.00–22.00)	0.334
PaCO <sub>2</sub> (mmHg)	44.90 (30.50–60.95)	38.60 (32.00–101.00)	0.229
PaO <sub>2</sub> /FiO <sub>2</sub> (mmHg)	131.97 (86.90–256.19)	217.14 (78.64–291.90)	0.801
(A–a) DO <sub>2</sub>	186.97 (48.71–411.96)	163.68 (34.10–465.58)	0.893
Vital sign and arterial blood gas before extubation			
Heart rate on ventilation	82.00 (73.50–101.00)	87.00 (84.00–97.00)	0.440
Respiratory rate on ventilation	18.00 (16.00–21.00)	18.00 (16.00–20.00)	0.263
PaCO <sub>2</sub> on ventilation (mmHg)	34.60 (30.50–40.30)	36.30 (27.70–45.00)	0.565
PaO <sub>2</sub> /FiO <sub>2</sub> on ventilation (mmHg)	286.75 (215.62–361.00)	321.00 (165.75–400.00)	0.753
(A–a) DO <sub>2</sub> at spontaneous breathing trial	143.62 (110.02–166.10)	97.07 (95.32–135.40)	0.232

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**Supplementary Table 3.** Continued

Characteristics	Non-reintubation (n = 69)	Delayed reintubation (n = 7)	P-value
<b>High risk patient</b>			
Age older than 65 years	53 (76.8)	7 (100.0)	0.334 <sup>a</sup>
Body mass index higher than 30 kg/m <sup>2</sup>	6 (8.7)	1 (14.3)	0.506 <sup>a</sup>
Ventilator duration more than 7 days	22 (31.9)	5 (71.4)	0.090 <sup>a</sup>
Charlson comorbidity index of 2 or more	26 (37.7)	4 (57.1)	0.424 <sup>a</sup>
APACHE II score of more than 12	66 (95.7)	6 (85.7)	0.326 <sup>a</sup>
Heart failure as a cause of intubation	3 (4.3)	0	1.000 <sup>a</sup>
Moderate to severe COPD	15 (21.7)	0	0.333 <sup>a</sup>
Failure with first SBT trial	40 (58.0)	6 (85.7)	0.234
<b>Others</b>			
Duration of mechanical ventilation before extubation (hr)	117.15 (70.71–210.29)	190.08 (82.83–273.66)	0.337
Hospital day before extubation trial (day)	6.00 (4.00–10.00)	10.00 (9.00–13.00)	0.139
<b>Respiratory failure</b>			
Any type of respiratory failure in 48 hours after extubation	11 (15.9)	4 (57.1)	0.025 <sup>a</sup>

Values are presented as number (%) or median (interquartile range).

HFNC: high-flow nasal cannula; APACHE II score: Acute Physiologic and Chronic Health Evaluation; ICU: intensive care unit; PaCO<sub>2</sub>: arterial partial pressure of carbon dioxide; PaO<sub>2</sub>/FiO<sub>2</sub>: ratio of arterial oxygen partial pressure to fractional inspired oxygen; (A-a) DO<sub>2</sub>: alveolar-arterial oxygen difference; COPD: chronic obstructive pulmonary disease; SBT: spontaneous breathing trial.

<sup>a</sup>Fisher exact test; <sup>b</sup>Type of respiratory failure can be classified according to each group, if it satisfies both criteria; <sup>c</sup>Respiratory failure that was not satisfy each criterion.