

VENTILATOR WEANING PROTOCOL

PRINCIPLE:

- X To decrease the time to successful weaning from ventilation.
- X The following protocol will be physician ordered and carried out by the Respiratory Care Practitioners(RCP) in the TICU.

GENERAL CONSIDERATIONS:

- X Protocol instituted by physician order
- X Protocol carried out by TICU RCP
- X All patients will be monitored with pulse oximetry
- X All patients will have baseline arterial blood gases
- X The weaning process will be broken down into two sections:
 - X Oxygenation
 - X Ventilation
- X Changes in oxygenation and ventilation parameters may be made concurrently.
- X Any patient not tolerating a change in support should be placed on the previous settings -- and the physician notified. If the physician deems that the weaning protocol needs to be terminated or that ventilatory support needs to be increased, the physician is responsible for writing the order. **If support is increased, the weaning protocol is automatically terminated**, and requires a physician order to be reinitiated.
- X Once the goals for oxygenation and ventilation are met, a room air CPAP trial will be obtained.
- X The decision to extubate will be made by the physician.
PEEP > 10 protocol instituted by attending consultation only.

OXYGENATION:

- X **Goal:** $FiO_2 = .30$, PEEP = 5
- X If $FiO_2 > .30$, wean FiO_2 to $.30$ for $SaO_2 \geq 94\%$
- X Once $FiO_2 = .30$, wean PEEP in increments of 2-3, every 30 minutes to one hour for $SaO_2 \geq 94\%$

VENTILATION:

- X **Goal:** IMV = 4, Pressure Support(PS) = 5, comfortable breathing pattern (see below):
 - Resp rate ≤ 30
 - If ET CO_2 monitor in place, Pa CO_2 35-45

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- X Once the patient is awake and has spontaneous breaths, the respiratory rate should be decreased to a rate of four(4). If the patient is **awake** and has **no spontaneous effort**, the rate should be decreased in increments of two(2) until such time that the patient exhibits spontaneous effort.
- X Once the patient exhibits spontaneous respirations, pressure support should be added to maintain a tidal volume of approximately $5 \geq$ ml/kg while maintaining a comfortable breathing pattern (see above).
- X Pressure support should then be weaned to PS = 5 in increments of 2-3 following above guidelines.

EXTUBATION:

- X Once minimal settings of oxygenation and ventilation have been met, a standard room air CPAP trial(defined below) will be performed and an ABG will be obtained.
CPAP trial:
 - X CPAP = 5, FiO₂ = .21 for 30 minutes
 - X SaO₂, respiratory rate, tidal volume recorded on ICU flowsheet during trial
 - X ABG obtained at end of trial

- X Extubation and removal of mechanical support per physician order only
- X For patients with tracheostomies, the CPAP trial and ABG are not necessary and the patient may be placed on trach collar at FiO₂ = .30
- X Once extubated, all patient's will be placed on nasal cannula (2-4 L), titrated to maintain SaO₂ \geq 94%.
- X Once extubated, initiate the **bronchial hygiene protocol**.

REFERENCES:

1. Hoyt J, et al: Critical Care Practice. Page 74-78. Philadelphia, 1991, W.B. Saunders.

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