Protocol Directed Weaning (PDW) BIPAP-ASB

Criteria for starting PDW:

1. Patient in stable condition
2. PaO_2/FiO_2 ratio > 18
3. PEEP <10 cm H_2O
4. ICU-physicians approval

All criteria should be reached

OK

1. Choose BIPAP-ASB (Active Tube Compensation is chosen by the physician)
2. Sedation is seponated or reduced
3. Ensure that $ETCO_2$ is activated
4. Evt reduce ventilation (F, Pinsp) to reach $ETCO_2 \approx$ 4,5-7,0 kPa. Control the art P-CO_2

OK

Change to ASB-mode

1. Choose Pasb which gives Pasb PEEP=Pinsp in BIPAP-mode.
2. Consider the ventilation
3. Adjust Pasb to Frequency trend ≤25
4. and $etCO_2 \approx$ 4,5- 7,0 kPa (or lookup today's goal)

APNOE

Initially allow apnoea at least for 1 minute, eventually even longer if SpO_2 is ≥ 90%.

If apnoea is still persistent, or if apnoea-alarms are often occurring at the ventilator, go back to BIPAP, and turn again to Asb in 1-2 hours.

OK

a

Reduce PEEP step by step, by 2 cmH_2O every 2. hour until PEEP is =4-5cm H_2O

OK

b

Reduce Pasb stepwise by 1- 6 cmH_2O for each hour, until Pasb= 7 cmH_2O. If ATC is activated, is Pasb reduced stepwise until Pasb is 0 cm H_2O (CPAP).

PROBLEM

C O N S I D E R

1. A strained ventilation or frequency > 35
2. Tidal volume <4 ml/ kg bodyweight
3. PaO_2/ SaO_2: look up today's goal
4. $EtCO_2$/ $PaCO_2$/ ph: look up today's goal
5. Heart frequency: > 130
6. Systolic blood pressure > 30%
7. MAP< 60 mmHG
8. Chest pain or/ else EKG showing ST-depression
9. Anxiety/ agitation/ confusion or a generally lowered consciousness
10. Generally worsened clinical condition

Go back one or more step in the protocol by inadequate ventilation. By anxiety/ stress/ pain: consider need for sedation or analgesia

Daily screening of respiratory parameters during weaning

1.A waken patient?
2.PaO_2/ FiO_2 ≥ 21, PEEP ≤ 5 cmH_2O, and PH > 7,30
3.Hemodynamic stable

If NO in any of these measurements, continue weaning and repeat screening after 24 hours

OK

Spontaneous breathing trial

Asb mode, Pasb =7 cmH_2O and FiO_2 = 0,4. PEEP = 0 cmH_2O. Using ATC: choose Pasb = 0.
The PEEP value is unchanged by patients suffering from COPD.
Duration for 30 minutes. By problem according to the "problem list", stop the test and go back to the PDW.

OK

Consider extubation /decannulation After 30 minutes if:

1.PaO_2 ≥ 8,5 by FiO_2 = 0,4 and respiratory frequency < 30
2.The patient is hemodynamically stable
3.No sign of increased respiratory workload or fatigue
4.The patient is able to cough

Physician needs to be contacted before extubation/decannulation

Successful weaning from ventilator when:

It is 24 ≥ hours since the patient is extubated/decannulated, and the ventilation is stable with or without a CPAP-mask, or he has a stable ventilation with a tracheal-cannula without Asb/ ATC , eventually with CPAP

PaO_2/FiO_2 is a measurement of the lungs ability to oxygenate:
In ex: PaO_2: 7 kPa/ 0,40 ≈ 18 PaO_2: 8,5 kPa/ 0,40 ≈ 21
PaO_2: 9 kPa/ 0,50 ≈ 18 PaO_2: 10,5 kPa/ 0,50 ≈ 21

Take the patients need for rest and sleep into consideration whilst weaning. If the PDW of somewhat reason is not followed, mark and reason this in today's observational chart