BiPAP 101 For Non-respiratory Personnel

All the PAPs and what to do with them

Purpose

This training program is intended for non-respiratory personnel who work with patients who are on a Respironics Vision BiPAP unit. It is intended to be very basic training and is in no way a training program that assures competence in using a BiPAP machine. Consult a trained respiratory therapist if there are any questions or problems.

The Three PAPs

BiPAP = Bi-level positive airway pressure ***or*** Non-invasive positive pressure ventilation (NPPV)
IPAP = Inspiratory Positive Airway Pressure. More IPAP (with same EPAP)= bigger breath = blow off more CO2
EPAP = Expiratory Positive Airway Pressure. Same as PEEP or CPAP. More EPAP = better end-expiratory inflation = better PaO2
Pressure support = IPAP – EPAP = breath boost = size of breath

The Masks

Total face mask
More comfortable than it looks
One size fits most
Avoid nasal pressure
Place on cannula at similar FiO2 for eating etc

The Masks

Place strap behind head
Make sure unit is on or in the stand-by mode

The Masks

Place mask on face and support with one hand

The Masks

Adjust straps to seal leaks
Straps can be folded over to not interfere with vision

The Masks

Full face mask

Sized like an ambu bag mask
Watch for tissue break-down
Place on cannula at similar FiO2 for eating etc.

The Masks

Nasal mask

Mostly for obstructive sleep apnea patients
Nasal pillows also used
Place on cannula at similar FiO2 for eating etc

Mask Fitting (Parameters Screen)

0 – 6 liter per minute leak = Too tight (loosen mask)
6 – 30 lpm leak = just right
30 – 60 lpm leak = Acceptable but monitor volumes closely
> 60 lpm leak = Re-adjust mask

Putting on Stand-by

Used for short-term removals (eating, meds etc)
The Vision shows Stand-by on the right side of the MONITORING screen
Remove the mask from the patient
Press Standby
The machine will switch to BiPAP automatically when the mask is placed on the patient

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Putting on Stand-by

Place on cannula or mask at similar FiO2 for eating etc.
Approximate FiO2's delivered by cannulas
1 liter = 24%
2 liters = 28%
3 liters = 32%
4 liters = 36%
5 liters = 40%
6 liters = 44%

Turning BiPAP Off

Disconnect patient
Push power button on back of machine
Call RT when machine needs to be turned on – they will do the pre-use check

Parameters

Changed and recorder by RT
Emergency F_IO2 changes
Press parameters
Press FIO2
Rotate knob
Notify RT immediately!

Managing Alarms

Audible alarm will sound and alarm message will be displayed at the top of the display screen
SILENCE mutes the alarm for 60 seconds
Reset clears alarm messages
Call RT to troubleshoot continuing alarms

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Managing Alarms – Vent Inop

Red wrench
Remove patient, assure patient safety and call RT

Managing Alarms – Check Ventilator

Yellow eye
Remove patient, assure patient safety and call RT

Conclusion

NPPV is safe, effective and widely used
Contact RT with any questions
Assure patient safety – BVM is as effective (short term)