

CPAP Review and New CPAP Device

Buxton Fire Rescue 2017

Objectives

Review MEMS protocols that apply to CPAP use

Review indications and contraindications of CPAP use as allowed by MEMS

Review and familiarize self with new Flow Safe II CPAP device

Explain advantages of the Flow Safe II CPAP device

Indications for CPAP per MEMS

Pulmonary Edema

Congestive Heart Failure

COPD

Pt age greater than 18

Contraindications of CPAP per MEMS

Asthma

Pt under age of 18

Inability to tolerate the unit

Respiratory Distress with Bronchospasm Protocol

Respiratory Distress with Bronchospasm #1 (COPD, emphysema, chronic bronchitis, asthma)

CAUTION: RESPIRATORY DISTRESS MAY BE DUE TO MULTIPLE OTHER CAUSES FOR WHICH OTHER TREATMENTS MAY BE INDICATED, INCLUDING THE FOLLOWING:

Pulmonary Edema see page 20 "Blue 8"
Anaphylaxis see page 44 "Gold 1"
Chest Trauma see page 68 "Green 10"

EMT

1. O₂ as appropriate
 2. If needed, assist ventilations with PPV using 100% O₂
 3. Request ALS if available
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4. For EMT level providers – assist with self-administered bronchodilator inhaler. Tell OLMC the name of the inhaler. OLMC will prescribe number of puffs

ADVANCED EMT

5. Cardiac monitor
 6. Manage airway as needed See page 15 "Blue 3" & page 17 "Blue 5"
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7. Contact OLMC to administer albuterol, 2.5 mg by nebulization (use 3 ml premix or 0.5 ml of 0.5% solution mixed in 2.5 ml of normal saline)
 8. Consider CPAP in patients > 18 y/o without asthma– Recall that CPAP should never take the place of bronchodilators and should be used only after or in concert with inhaled bronchodilators in patients with acute bronchospasm.
 9. If ALS not available or delayed, contact OLMC for the additional options in the patient not responding to above therapy":
 - 1) Continuous Nebulizer
 - 2) IM Epinephrine

The AEMT, in consultation with OLMC, may modify the Paramedic response as appropriate.

CRITICAL CARE / PARAMEDIC

10. Adult/Pediatric –
 - a. Albuterol 2.5 mg by nebulization. **May repeat 1 time;** or
 - b. Ipratropium bromide 0.5 mg / albuterol sulfate 3 mg nebulizer if greater than 1 year of age and more significant respiratory distress, and may repeat one time;

Respiratory Distress with Bronchospasm #2 (COPD, emphysema, chronic bronchitis, asthma)

11. Consider CPAP - in patients > 18 y/o without asthma– Recall that CPAP should never take the place of bronchodilators and should be used only after or in concert with inhaled bronchodilators in patients with acute bronchospasm
12. Methylprednisolone 125 mg IV x 1 dose
13. Contact OLMC for the following OPTIONS:
 - a. Repeated or continuous albuterol by nebulization or inhaler.
 - b. For asthma only - **adult** – epinephrine 0.3 mg IM of 1:1,000 solution every 20 minutes
 - c. For patients in status asthmaticus or not responding to repeated nebulizers or the above therapy, consider Magnesium Sulfate 2 grams over 10 minutes, consider placing this medication on a pump"

Asthmatic patients:

Airway management of asthmatic patients is primarily pharmacological, not mechanical. Therefore, the focus should be on taking those actions that enable the provider to provide inhaled bronchodilators and, in patients with severe bronchospasm, obtain rapid IV or IO access, administer IV magnesium, administer IV solumedrol, and consider IM epinephrine.

Due to the pathophysiology of asthma, positive pressure ventilation (facemask, BIAD, or endotracheal intubation) rarely if ever is an effective treatment without pharmacological intervention. Therefore, unless the patient is apneic, provider supplemental oxygen via non-rebreather and focus on providing pharmacological interventions.

Continuous nebulization:

Continuous nebulization is administration of 3 unit doses of albuterol without interruption; that is, put all 3 unit doses into the nebulizer at the same time and administer until complete.

Definitions

End-tidal CO₂ (ETCO₂): Exhaled capnography monitoring with a MEMS approved device that is continuous and displays a waveform

Pulmonary Edema (without shock) Protocol

Pulmonary Edema (without shock)

Do not give nitroglycerin if patient has taken erectile dysfunction medication (such as sildenafil [Viagra], tadalafil [Cialis], or vardenafil [Levitra]) within the past 48 hours. Contact OLMC for options in patients who have taken such medicines.

If initial systolic BP is less than 100 mm Hg, refer to page 42 Cardiogenic Shock. "Red 22".

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EMT

1. O₂ as appropriate. Assist ventilations (PPV) if needed.
2. Assess for shock. If BP greater than 100 mm Hg, place in sitting position.
3. Request ALS if available

ADVANCED EMT

4. Cardiac monitor
5. IV en route
6. Manage airway as needed See page 15 "Blue 3" & page 17 "Blue 5"

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7. Contact OLMC for administration of nitroglycerin 0.4 mg or 1 spray SL. Repeat nitroglycerin at 2 minute intervals if systolic BP greater than 100 mm Hg. After initiation of SL nitroglycerin, may place 1 inch of nitroglycerine ointment 2% to the chest wall if BP greater than 100 mm Hg and remove nitroglycerine ointment 2% if BP less than 100 mm Hg. If the patient has had nitroglycerin before and no IV is established, and systolic BP is greater than 100 mm Hg, then it is OK to give nitroglycerin. Do not administer nitroglycerin if patient has taken erectile dysfunction medication within the past 48 hours.

8. Consider use of CPAP

CRITICAL CARE / PARAMEDIC

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9. Nitroglycerin 0.4 mg or 1 spray SL. Repeat nitroglycerin at 2 minute intervals if systolic BP greater than 100 mm Hg. After initiation of SL nitroglycerin, may place 1 inch of nitroglycerine ointment 2% to the chest wall if BP greater than 100 mm Hg and remove nitroglycerine ointment 2% if BP less than 100 mm Hg. If the patient has had nitroglycerin before and no IV is established, and systolic BP is greater than 100 mm Hg, then it is OK to give nitroglycerin. Do not administer nitroglycerin if patient has taken erectile dysfunction medication within the past 48 hours.
10. Consider use of CPAP

Instructional video for Flow Safe II EZ CPAP

<https://www.youtube.com/watch?v=BxJQCP8ooJs>

Advantages to the Flow Safe II EZ CPAP



Clinicians can deliver aerosol & CPAP therapy with just one oxygen source.

CPAP system uses 50% less oxygen.
Increase flow and activate the nebulizer.

ADVANTAGE:

INTEGRATED NEBULIZER

The Flow-Safe II EZ offers the capability of an in-line nebulizer.

- Uses only one oxygen supply source.
- Easy Set-Up, less parts.

ADVANTAGE:

CPAP SYSTEM CONSUMES 50% LESS OXYGEN

The Flow-Safe II EZ conserves oxygen while maintaining high FI_{O_2} delivery. Saves resources and represents a major advantage on long transports. Increasing flow may be necessary when activating the nebulizer.



ADVANTAGE:

BUILT-IN MANOMETER AND PRESSURE RELIEF VALVE

Only the Flow-Safe II EZ system features a built-in manometer for verified pressure readings. No assembly of separate apparatus. And the pressure relief valve automatically adjusts to avoid excess pressure.

ADVANTAGE:

ADVANCED MASK DESIGN

The Flow-Safe II EZ mask is lighter, easier to handle and is designed to form a better anatomical seal. The elastic head harness is easy-to-place with velcro straps that easily adjust for patient comfort.

- Includes Quick Disconnect Clips
- Straight Rotating Port
- Soft Forehead Padding easily adjusts reducing pressure on the nose.



The Flow Safe II EZ CPAP

Comes with a Large Adult Mask on the unit

Small Adult Masks are available for patients needing that size mask

Please look over the device that is available at Station 1 and Station 2 and ask any questions

These units will be put on the trucks on 4/13/2017

Completing the Course

Please sign rosters for in-house and MEMS CEH form

Complete online quiz titled 2017 CPAP Training

ACCESS CODE: CPAP

Please complete the training prior to 4/13/2017

Questions

For any questions please contact Capt. Swenson or
Deputy Chief Mirisola

Sources

Maine EMS Protocol Effective December 1, 2015

http://mercurymed.com/pdf/Flow-Safe_II_EZ_Brochure.pdf

<https://www.youtube.com/watch?v=BxJQCP8ooJs>