



EMS Agency Updates

San Luis Obispo County's Source for Patient Care Updates

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EMS Agency Staff

Goodbye and Hello

"What is going on with the staffing at the EMS Agency?"

As many of you know there have been several changes in staffing at the Agency. Charlotte Alexander left us last month and Don Melendy has resigned due to family needs effective April 22, 2011.

Please say hello and welcome John Hood, R.N. to the EMS Agency staff. John comes to us with over 25 years of ER experience, and his duties will include oversight of MICN authorization/reauthorization classes and quality improvement programs. We are excited to have him join the team.

Kathy Collins, R.N. is the Interim EMS Administrator and available to address any questions or concerns you may have. The EMS Agency has redistributed the duties and would like to assure you that all programs will continue to move forward.

EMS Week May 17-21, 2011



EMS Week—Recognition

As part of EMS week the San Luis Obispo County EMS Agency is recognizing unique individuals who have gone above and beyond what is expected as part of their job. This year the Agency would like to recognize Joe Piedalue, San Luis Ambulance, for his contributions to EMS system development, Atascadero Firefighter Tom Little, his wife, Colen Little, and Darlene Merrill R.N. for their Good Samaritan life saving CPR on Hwy 46, and members of the Templeton Fire Department for their rapid response and use of the AED in saving the life of one of their own. THANK YOU!

Medical Director's Corner

Compliments to all of our providers on the continued successful new and exciting prehospital treatment options, including 12-Lead ECG capnography, and CPAP. We have seen many excellent outcomes for patients with these interventions and the ability to transport directly to higher level of care facilities. We are pleased to be moving towards other higher level of care enhancements and new medications. Ondansetron (Zofran) will be added shortly to the local scope of practice. Thank you all for your efforts to increase the airway intubation success rates and IO success rates. Very Impressive results are a testament to all of our San Luis Obispo County providers' commitment to excellence. Stay tuned for more changes in BLS, ALS, PALS and dispatch over the coming months.

New Website!!!

Come see the updated website. A huge thank you to Vicci for putting this together!

www.sloemsa.org



1) Ideal BVM positioning is obtained by aligning the patient's external auditory meatus with the sternal notch.

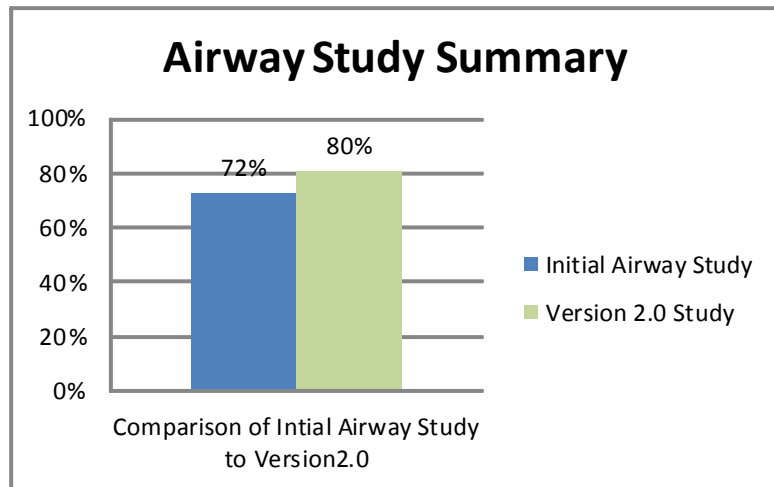
AVANCED AIRWAY MANAGEMENT

- Good BLS First-Advanced airway down the algorithm
- Optimal positioning of the patient “ear to sternum”
- Encourage placing patient on gurney
- Next two (2) intubation requirement due June 30, 2011

Airway Version 2.0

INTUBATIONS

Successful intubation rates are improving! The charts demonstrate a comparison from the initial airway study with new version 2.0 which emphasizes good technique and positioning. With the added requirement of two intubations every six months .



Study Dates/Elements	Initial	2007	Initial	2008	Initial	2008	Initial	Version 2.0	2010
	#	%	#	%	#	%	Totals	#	%
Time Period	6 mos.		12 mos.		6 mos.		24 mos.	11 mos.	
Total number of attempts	89		171		70		330	137	
Total # of 1/2 attempts successful intubations	73	73%	125	73%	48	69%	72%	110	80%
Total # of all successful intubation	80	90%	133	78%	52	74%	80%	116	85%
Total improperly placed	3	3%	1	1%	0	0%	1%	0	0%
Total unable to place	6	7%	37	22%	19	27%	19%	21	15%

Prehospital Patient Care

The Value of CPAP

As of November 1, 2010, Continuous Positive Airway Pressure (CPAP) treatment is provided by trained SLO County paramedics.

As recently as five years ago, first line treatment for pulmonary edema included furosemide (Lasix), morphine and nitroglycerine. For those of you who practiced even longer ago, you may remember the rotating tourniquets. Those drug therapies and their relevant importance have changed, and the value of CPAP has emerged. CPAP provides continuous positive airway pressure preventing collapse of the airway stents and opens fluid filled alveoli. Data has shown the work of breathing, need for intubation, length of hospital stay and physiological parameters improve with CPAP. It is currently the only treatment that has demonstrated improved mortality rates when treating pulmonary edema patients.

In reviewing the historical drug therapies, Nitroglycerin is still the drug of choice for pre-load reduction in acute pulmonary edema. In double blind studies its effectiveness was superior to both morphine and furosemide, and thus should be considered in the hemodynamically stable patient. Caution should be taken and Nitrates avoided in patients with tachycardia, mitral valve regurgitation or patients on erectile dysfunction drugs.

Morphine's vasodilatation and reduced pre-load effects are a result of the histamine effect and not a primary action of the drug. Morphine reduces respiratory effort and depresses myocardial activity. In recent studies morphine has been associated with increased rates of intubation, admissions to ICU, and development of shock and mortality.

Furosemide (Lasix) is thought to reduce pre-load through diuresis and vasodilatation. Diuresis occurs only if the patient is fully hydrated with normal renal blood flow. Many patients in this population are not well hydrated and often have other circulatory issues which may inhibit blood flow. The initial effect of furosemide may actually produce harmful effects of increased after load, and a reduction in stroke volume and cardiac output. The beneficial effects do not occur until after 60-90 minutes post administration and thus should be considered later in the treatment of pulmonary edema.

So what does this mean?

Bottom line CPAP in conjunction with nitroglycerine should be considered as the initial treatment of choice for patients in acute pulmonary edema. CPAP has also demonstrated benefit and should also be considered in other respiratory distress cases including asthma and COPD.

Setting Consideration with CPAP

Impression	Range
Acute Pulmonary Edema	7.5-10.0cm H2O
COPD	5.0-7.5cm H2O
Asthma	3.0-5.0cm H2O
Asthma	3.0-5.0cm H2O

CPAP DOCUMENTATION

REMINDER:

- *Setting*
- *02SAT*
- *ETC02*
- *Patient Response*



Respiratory Distress - Differential Considerations

Paramedic impression based on a good history and physical is key to navigating the respiratory distress protocol

Impression	Suggestive Signs/Symptoms	Prehospital Treatment Objectives
Asthma	Young person disease Varying symptoms - associated with rapid onset Symptoms often night/early morning Rapid - loud respirations/ wheezing Presence of allergy/rhinitis and/or eczema Family history, use of inhalers, nebulizers or steroids Severe states - quite lung sounds, retractions Inability to speak sentences Decreased LOC	Airflow limitations that is largely reversible Epinephrine Albuterol CPAP considered after medical management
COPD	Mid-life onset Slowly progressing symptoms, worse with exertion History of smoking – current or past Barrel chest Long expiratory phase/pursed-lip breathing Position - often found in forward sitting position Tachypnea, diaphoresis, confusion, irritability Medications – may include inhaled, nebulized or steroids	CO2 retainers Loss of hypoxic drive may result in respiratory arrest Goal - 90-92% oxygen saturation Bronchodilators – Albuterol CPAP—Positive pressure ventilation for patients with respiratory fatigue, hypoxia, hypercapnia for awake patients that can control secretion
CHF	Fine basilar crackles on auscultation JVD and dependent edema Pink frothy sputum Older age group History coronary disease/MI - note medications Cardiac arrhythmias - A-fib/A-flutter Orthopnea/paroxysmal nocturnal dyspnea Hypertension, tachypnea, diaphoresis	Result of decreasing CO and increased SVR Sympathetic nervous system and renin-angiotensin-aldosterone system activation resulting in volume overload, pulmonary edema and respiratory distress O2, NTG, CPAP MS, Lasix (Base Order) CPAP—Positive pressure ventilation
Other considerations:		
Pneumonia	Fever history/dry warm skin Yellow/green sputum Generally in elderly population	IV fluids Other supportive therapy including O2 and CPAP
Pulmonary Emboli	Plueritic chest pain Sudden onset History of recent air travel, long bone fracture or calf pain associated with deep vein thrombosis	Supportive therapy

Policy Changes

Base Physician orders for Lasix and Epinephrine 1:10,000

May 2011 Calendar of Events

May 3	FTO Meeting—EMS Agency - 0900
May 2-3	MICN Authorization Class -TCCH
May 4	Trauma Work Group Meeting - SVRMC
May 5	Operations Subcommittee - 0900
May 11	MICN Reauthorization Class - SVRMC
May 14	Base Station – 0830 @ TCCH
May 16	Base Station – 0900 @ FHMC
May 18	APR—Atascadero FD
May 19	EMCC Meeting - 0800 @ EMSA
May 24	QI Meeting
May 25	Base Station - 0900 @ SVRMC

Find the complete calendar on www.sloemsa.org

EMS AGENCY STAFF

Tom Ronay, M.D. Medical Director

Kathy M. Collins, R.N. Interim EMS Administrator/
Specialty Care Systems Coordinator

Vicci Stone, EMS Specialist, Compliance Coordinator

John Hood R.N.—CQI Coordinator/MICN

Carol Hill—Administrative Assistant

Job Opening: EMS Specialist (ASOII)
APR/Paramedic/Disaster program oversight
Contact EMSA office for more information

Contact Us:

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Reminders

NTG and BP

- Use NTG with caution in patients that have a rapid drop in systolic BP—even if over 100 systolic

STEMI ACTIVATIONS

- 12 Lead **CLEAN** of artifact
- If tracing not CLEAN - redo
- ***Acute MI Suspected***
- ROSC with ***Acute MI Suspected*** pre or post arrest

INTEROSSEOUS INFUSION (IO)

- Use Appropriately
- After (3) peripheral IV attempts
- Remember the External Jugular as a possible site prior to IO
- Document: that all of the above were attempted and/or considered