


Lifeguard Oxygen Administration


BAPPOA 9/15/09



Objective

- Review who's using O2 now
 - Review the benefits of emergency oxygen administration
 - Look at legal angles – codes and requirements
 - Look at how to set up and maintain a program
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Current Status

- Who provides O2 now?
 - What training is given?
 - Are you using fixed or variable flow rates?
 - Where are you getting equipment and oxygen re-supply?
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Oxygen Benefits

➤ Physiology:

- O₂ critical for cellular function
 - no O₂ = no life
 - O₂ saturation in blood important measurement
 - Don't have it can't use it
- Henry's Law affects O₂ pick up by blood
 - Partial pressure of gas into liquid
 - Soda bottle example

Oxygen Benefits

- Supplemental O₂ increases inhaled O₂ partial pressure which increases blood's absorption and release potential
 - Air = ~20% oxygen
 - Atmosphere pressure = ~ 15 psi
 - So oxygen's partial pressure = 3 psi breathing normal air
 - Breathing 100% oxygen, its partial pressure is 15 psi...so 5 times more uptake to saturation point
- “Pink puffer” example

Oxygen Benefits

- Many illnesses and injury may result in reduced oxygen saturation
 - Heart attack
 - Drowning
 - Anaphylaxis
 - Shock
 - Asthma, etc.
- O₂ can bring up blood “octane” to help body cope better

Recommended Care

- Part 4: Basic Life Support (BLS) AHA Guidelines 2000 and 2005 for CPR & ECC
 - During CPR the purpose of ventilation is to maintain adequate oxygenation ... use supplemental oxygen at a flow rate of 10 to 12 LPM
- Part 7.5: Post-Resuscitation Support - the provider should support adequate airway and breathing and...administer supplemental oxygen ...
- Part 8: Advanced Challenges in Resuscitation – Submersion...the most important and detrimental consequence of submersion without ventilation is hypoxia...oxygenation... should be restored as quickly as possible

Recommended Care

- Part 9: Adult Stroke ... several studies showing improved functional outcomes and survival in which higher supplementary oxygen concentrations were used ...administer supplemental oxygen to hypoxemic stroke patients and those with unknown oxygen saturation.
- Part 10.5: Near-Fatal Asthma - Primary Therapy – Oxygen
Provide oxygen to all patients with severe asthma, even those with normal oxygenation.
- Part 10.6: Anaphylaxis – Intervention to Prevent Cardiopulmonary Arrest... administer oxygen at high flow rates.
- Part 7.1... short term oxygen therapy does not produce oxygen toxicity
(... and should not be withheld for fear of suppressing respiration)

O2 should be in our toolbox

- Publicly employed lifeguards are professional rescuers (CCR Title 22 Div. 9 Ch. 1.5)
- Supplemental oxygen is standard care for many medical emergencies (AHA Guidelines 2000, 2005, etc.)
- It has many more opportunities for use than AED's (may head off need for AED use)
- It is safe, simple and accessible

Legal Angles

➤ **FDA - FOOD AND DRUG ADMINISTRATION
COMPLIANCE POLICY
GUIDES**

GUIDE 7124.10

- **CHAPTER 24 – Devices SUBJECT: Oxygen Equipment Emergency and OTC Use**
POLICY: Oxygen equipment intended for emergency use can be marketed for OTC distribution. Such equipment must deliver a minimum flow rate of 6 liters of oxygen per minute for a minimum of 15 minutes. Labeling for emergency oxygen for OTC use may not contain references to heart attacks, strokes, shock or any other medical condition amenable to diagnosis or treatment only by a licensed practitioner .Oxygen units delivering a minimum flow rate of less than 6 liters of oxygen per minute for a period less than 15 minutes and labeled for emergency use are considered adulterated and misbranded.If the units are not intended for emergency use and provide less than 6 liters/minute or are labeled for human use for other than emergency use, such units are regarded as prescription devices and must bear the prescription legend.

- **Date:** 10/01/80
ISSUING OFFICE: EDRO, Division of Field Regulatory Guidance
AUTHORITY: Associate Commissioner for Regulatory Affairs



O2 Tank Labeling

- **WARNING:** For emergency use only when administered by properly trained personnel for oxygen deficiency or resuscitation.
- For all other applications: **CAUTION:** Federal Law prohibits dispensing without prescription.

Scope of Practice

- **ABOUT THE EMERGENCY MEDICAL SERVICES AUTHORITY**
The California Emergency Medical Services (EMS) Authority is the department within California state government that is empowered to develop and implement regulations governing the medical training and scope of practice standards for the following emergency medical care personnel:
 - Emergency Medical Technician-I (EMT-I or EMT-Basic)
 - Emergency Medical Technician-II (EMT-II or EMT-Intermediate)
 - Paramedic
 - Public Safety Personnel:
 - Firefighters
 - Peace Officers
 - Lifeguards

Scope of Practice

- Not prohibited, no specific mention
- Thoughts from ALCO EMS Medical Director
 - O2 is standard care in EMS
 - It's within lifeguard scope if trained
 - Follow training
 - Ultimately decided by agency legal counsel

Legal Angles

- O2 as the standard of care
 - Developing?
 - “standard” is a moving target in the legal world
 - Lagged behind AED
 - Why?

Setting Up A Program

➤ Pencil out EAP

- Where available to guards?
- With what other equipment?
- What medical conditions want to treat?
- What's standard of care to achieve?

➤ Make a plan for training

- Use a recognized training organization
 - ARC, ASHI, DAN, NASCO, Ellis, etc.
- Plan for time/budget for certification and re-certification

Setting Up a Program

- Figure out O₂ supply options
 - Availability, cost, frequency of need, etc.
- How long a tank lasts
 - Depends on tank size and O₂ flow rate
 - Example: O₂ tank 16 inches tall, 4 inch diameter (D size) holds ~ 300 liters at ~ 2,000 psi
 - At 15 lpm flow, O₂ will last ~ 20 minutes

Setting Up a Program

- Sample options for getting O2
 - Fire dept tank trade
 - O2 supplier account
 - Purchasing tanks vs “renting”
 - Maintenance, turn around, cost

Setting Up a Program

➤ Suppliers

- Google “Welding equipment gases”
 - Bay area examples:
 - Praxair 800-660-2066
 - Set up account. Rent tank \$20/fill. \$30 delivery charge
 - Air Gas Puritan Medical 866-332-5579
 - Set up account (requires medical letter. See last slide)
 - Atlas Welding Supply 510-524-5117
 - Bring in, fill on Tues. and Fri. Show O2 admin certification
 - Others?

Setting Up a Program

- Purchase equipment
 - Google “Medical supplies”, “Emergency Medical Oxygen”, etc.
 - Vendors people like?
 - Packages vs piece together

Setting Up a Program

- Place equipment
- Train with it
 - Easy to learn – keep it simple
 - I.e. Nasal canula = 2 lpm & NRB, BVM = 15 lpm
 - Let the O₂ flow
 - Incorporate scenarios and drills
 - Changing tank race, etc.

Questions/Comments



**Medical Drug Gas & Medical Device Gas
Customer License Verification Form**

Customer Account Name: _____

Customer Account Number: _____

Type of License on Site (please check one) :

Physician License	Hospital or Clinic License
Dental License	Medical Directors License
Pharmacy License	Wholesale Drug/Device License (need copy of license)
Veterinary License	Medical Drug/Device Retail License (need copy of license)
Optometrists	Research or Grant Number/Lab (need copy of license)

Emergency First Responders (EMT's, Fire, Police, Rescue, etc.) Medical directors license required

Contractors: accompanying this form you must submit on your company letterhead the intended use for the medical product and that it is not to be used for animal or human consumption.

Other - explain _____
(need copy of license)

PLEASE BE SURE TO COMPLETE THE ENTIRE FORM. A MEDICAL FORM RECEIVED INCOMPLETE OR ILLEGIBLE WILL NOT BE PROCESSED BY AIRGAS AND YOUR ACCOUNT WILL REMAIN ON HOLD

Licensing Information:

Name on the License: _____

License Number: _____

License Expiration Date: _____

Physical Address of Licensed Location: _____

Name of Contact Person: _____

Title of Contact Person: _____

Phone Number: _____

Fax Number: _____

Customer Signature: _____

Print Name: _____

Date: _____

SEND THIS FORM TO: AIRGAS NORTHERN CALIFORNIA & NEVADA
6790 FLORIN PERKINS RD #300, SACRAMENTO, CA 95828-1812
ATTENTION: MEDICAL VERIFICATION
OR FAX TO (916) 381-0617

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