

INSTRUCTOR MANUAL FOR SUPPLEMENTAL OXYGEN SUPPORT (SOS)



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SERVICES

Supplemental Oxygen System (SOS) Lesson Plan

Approximate Delivery Time: 60 minutes

Lesson Abstract

During certain medical events such as near-drownings, oxygen is cut off from vital organs. Supplemental oxygen should be provided to any guest experiencing breathing problems from a drowning event or other illness or injury resulting in severe respiratory distress. Though delivering rescue breaths provides adequate oxygenation, providing a higher concentration of supplemental oxygen can improve a resuscitation effort. The availability of a supplemental oxygen system (SOS), allows rescuers to successfully deliver higher levels of oxygen to those in distress. The system is simple and safe to use, with either an adjustable flow regulator that can be set to provide a continuous flow rate of 15 liters per minute (lpm) or one that is preset. A bag-valve-mask (BVM) is a device used to provide ventilations to a nonbreathing person by attaching a resuscitation mask to one end of a self-refilling bag and the other end of the bag to the SOS.

For a person who is breathing, but showing signs of severe respiratory distress, oxygen can be provided through a nonbreathing mask. A pulse oximeter provides a measurement of oxygen saturation in a guest with difficulty breathing. This will help when administering supplemental oxygen to achieve a target saturation of 94–98% for most acutely ill individuals.

Learning Outcomes

By the end of the course learners will be able to:

- Describe the benefits of supplemental oxygen
- Explain the parts of the supplemental oxygen system (SOS)
- Demonstrate the use of the SOS
- Explain the necessary precautions when using the SOS
- Explain the basic care and maintenance of the SOS
- Demonstrate the use of the bag-valve-mask (BVM) and how to connect it to the SOS

Key Terms

- Bag-valve-mask (BVM)
- Non-rebreathing mask (NRB)
- Oxygen cylinder
- Pressure regulator
- Pulse oximeter
- Pulse oximetry
- Supplemental oxygen system (SOS)

Class-setting

- Classroom environment suitable for the size of the class
- Clear space for demonstration and practice

Equipment and Supplies

- Chair with writing space/table for each student
- Rescue breathing masks with O₂ ports, tubing, BVM, exam gloves
- Non-rebreathing masks (all sizes)
- Pulse oximeter
- Supplemental oxygen system with regulator
- CPR manikins – Adult and infants (child manikins are optional)
- Activity or game references, props, or supplies (as needed for your planned activities)
- A/V equipment/Internet access (optional)
- Flip chart, white board (optional)

Reference Materials

- *Supplemental Oxygen Administration Manual*
- Daily oxygen tank and related equipment log (optional)

General Topic Agenda

- General introductions (5 minutes)
- *Supplemental Oxygen System* – Lesson Learning Objectives and Overview (5 minutes)
- Background on supplemental oxygen and oxygen systems (5 minutes)
- Component parts, settings, delivery devices and the pulse oximeter (15 minutes)
- Incorporating oxygen into basic life support care (15 minutes)
- Caring for a person in respiratory distress with supplemental oxygen using NRB and pulse oximeter (15-20 minutes)

Content Outline

- 1) Lesson overview
- 2) Background supplemental oxygen support (SOS)
- 3) Governing regulations
 - No prescription required when used during an emergency
 - Minimum 15-minute supply at therapeutic flow rate
 - Administered by qualified professional responders, such as lifeguards
 - Emergency situations where it is appropriate to use In the context of Basic Life Support care
 - To counteract respiratory distress/hypoxia
 - EMS is contacted when used
 - Standard flow rate at 15 LPM for use with O₂ port, Bag Valve Mask, Non-rebreather mask
- 4) Component parts and delivery
 - Discuss settings, safety, items to check daily (consider including the facility oxygen tank and supplies log)
 - Demonstrate how to put on and take off the regulator, noting delicate parts, how things fit, etc.
 - Demonstrate how to attach tubes to devices/tank, turn on and off oxygen, adjust flow (if adjustable flow)
 - Discuss BVMs according to size (adult, pediatric, infant) i) Demonstrate opening up from compressed storage state, show each component
 - Demonstrate how to squeeze the bag for each size (1) Demonstrate how to reduce squeeze of the bag on an adult BVM to accommodate children and infants
 - Emphasize the necessity of monitoring for chest rise to confirm successful ventilations
 - Emphasize the importance of avoiding over-ventilation
 - Discuss the Non-rebreather masks (adult and pediatric); How it attaches to the SOS, placement on a person

- Discuss and demonstrate the Pulse Oximetry device; what it does and how it works

Activity

- 1) Pass around equipment as it is being discussed allowing handling
 - 2) Place and remove the regulator, turning on and off oxygen, adjusting flow (if adjustable flow)
 - 3) Use the BVMs, squeezing the bags, etc.
 - 4) Attach O₂ tubing to BVM, rescue breathing mask O₂ port, NRB
 - 5) Use the Pulse Oximetry device
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- 6) Helping someone in respiratory distress with oxygen and the nonrebreather (NRB) mask
 - Recognize signs of respiratory distress and pulse oximetry reading
 - Breathing that is excessively fast, slow, weak, labored; skin that is cool, pale, blue; reduced consciousness
 - Pulse oximetry reading showing oxygen saturation of 95% or higher is normal for most people
 - Pulse oximetry reading showing oxygen saturation of 89% or higher normal for COPD sufferers
 - Prepare appropriate size NRB mask, explaining what it is and how it will help
 - Attach tubing to oxygen, turn on (15 lpm), allow the bag to inflate and secure the mask
 - Monitor pulse oximeter readings, discontinuing oxygen when it returns to normal for the guest

Wrap Up

- 1) Address any additional questions
- 2) Explain process of retrieving digital credential