Airway Management Techniques for the Athletic Trainer

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Objectives

- Review EMS airway management scope of practice and technician levels.
- Review airway management acute care skills required by the 2011 (5th edition) NATA competencies.
- Provide reasoning behind these additional airway management competencies.
- Describe the procedures for utilizing each new airway management clinical skill.
- Explain best-practice concepts regarding new airway management acute care competencies.
- Discuss medico-legal issues with utilizing new airway management skills and implementing procedures.

EMS Technician Levels (old)

- First Responder
- EMT – Basic
- EMT - Intermediate
- EMT - Paramedic

New Scope EMS Levels

- Emergency Medical Responder
- EMT
- Advanced EMT
- Paramedic

Airway Management Competencies

2011 (5th ed.) NATA Educational Competencies

- AC-9: Differentiate the types of airway adjuncts (oropharyngeal airways [OPA], nasopharyngeal airways [NPA] and supraglottic airways [King LT-D or Combitube]) and their use in maintaining a patent airway in adult respiratory and/or cardiac arrest.
- AC-10: Establish and maintain an airway, including the use of oro- and nasopharyngeal airways, and neutral spine alignment in an athlete with a suspected spine injury who may be wearing shoulder pads, a helmet with and without a face guard, or other protective equipment.
- AC-11: Determine when suction for airway maintenance is indicated and use according to accepted practice protocols.
2011 (5th ed.) NATA Educational Competencies

- AC-15: Utilize a bag valve and pocket mask on a child and adult using supplemental oxygen.
- AC-16: Explain the indications, application, and treatment parameters for supplemental oxygen administration for emergency situations.
- AC-17: Administer supplemental oxygen with adjuncts (eg, non-rebreather mask, nasal cannula).
- AC-18: Assess oxygen saturation using a pulse oximeter and interpret the results to guide decision making.
- AC-31: Assist the patient in the use of a nebulizer treatment for an asthmatic attack.

Other skills that are not new:
- Metered-dose Inhaler (MDI)
- Epinephrine auto-injector
- BVM

Airway Management

- Oropharyngeal Airway (OPA)
- Nasopharyngeal Airway (NPA)
- Advanced Airways (Knowledge only)
- Suction
Nasopharyngeal Airway

Advanced Airways

Supraglottic Airways
Endotracheal Tube (Intubation)

Suctioning

Oxygen Administration
Oxygen Administration Devices

- Nasal Cannula
  - 1 – 6 LPM
    - 1 LPM = 24%
    - 2 LPM = 28%
    - 3 LPM = 32%
    - 4 LPM = 36%
    - 5 LPM = 40%
    - 6 LPM = 44%

Oxygen Administration Device

- Non-rebreather
  - 15 LPM
  - 80 – 90 % O₂
- BVM
  - 15 LPM
  - 90 – 100%
  - Use O₂ reservoir

Nebulized Medication

Six Rights of Medication Administration

- Right Person
- Right Medication
- Right Dose
- Right Route
- Right Time
- Right Documentation

- Also, make sure to check expiration date!

Pulse Oximetry (SpO₂)

- Uses two light frequencies (red and infrared) to measure oxygen saturation
- Verify it is working
- Take reading
  - Normal = 96 – 100%
  - ? Normal = 93 – 95%
  - Mild Hypoxia = 90 – 95%
  - Below 90% - Bad
**Treatment Parameters for Oxygen Use**

- When do you use supplemental oxygen?
  - Dyspnea
  - Abnormal SpO2 level (5th vital sign?)
  - Signs and symptoms of shock
  - Carbon monoxide poisoning
  - CPR in progress
  - Sickling event
  - Other
- Contraindications?
  - AMI?
  - COPD?

**Old clinical skills – Medications for Airway Management**

**Metered Dose Inhaler**

- Fast acting Beta-agonist
- Most common albuterol
  - Proventil, Ventolin, ProAir
- Same medication that can be nebulized
- Standard dosage = 2 puffs
- Proper use especially with EIB

**Epinephrine Auto-injector**

- Epi-Pen most popular
- Physiologically acts as a vasopressor and bronchodilator
- Now coming in two dose kits
- Adult dose = .3 mg
- No contraindications in the presence of Anaphylaxis

**Treatment of Anaphylactic Shock**

- Recognize signs and symptoms
  - Antigen exposure
  - Respiratory distress
- Call 911
- Administer epinephrine auto-injector (six rights)
- Administer oxygen via non-rebreather at 15 LPM
- SpO2 reading
- Monitor VS
- Administer additional epinephrine auto-injector if respiratory distress gets worse.

**Emergency Airway Kit**
Some thoughts

- Review state practice act and regulations
- Work with your supervising physician and local EMS service to write medical guidelines (protocls)
- Physician needs to sign-off on protocols
- Make sure to train and educate staff and students annually on utilization techniques
- Use your local EMS service for training experts

Medico-legal Consideration

Questions?