Certified athletic trainers (ATCs) have very few unique skills relative to other allied health-care professionals. Rather, ATCs have acquired skills from a number of disciplines, including emergency medical services, physical therapy, massage therapy, nutrition, counseling, and strength and conditioning. It is my opinion that ATCs might be least prepared in the one discipline that is perhaps most important—emergency medicine. Although most athletic training curricula have dedicated courses in therapeutic modalities and orthopedic assessment, very few have entire courses dedicated to the emergency management of athletic trauma (other than basic first aid).

If you took any health-care professional (physician, nurse, physical therapist, paramedic, etc.) to a football game to watch the ATC work on the sideline, they would likely be impressed with our skills and knowledge. If an orthopedic injury occurred on the field, they would be very impressed with the way it was assessed and managed. Even a physician would be impressed with the ATC’s skills in orthopedic-assessment techniques. Likewise, a paramedic would be impressed with the packaging and splinting of the orthopedic injury. If a physical therapist were to observe the rehabilitation that followed, he or she would surely be impressed, as well.

If, however, an emergency occurred on the field or in the stands, very few allied health-care providers are likely to be impressed with the emergency management skills of the ATC. This is best illustrated (but not exclusively) by discussing airway management skills. The purpose of this article is to describe different types of common airways and their possible use by athletic trainers in emergency situations.

The ABCs (airway, breathing, and circulation) are the most fundamental tenet of emergency medicine. The ability to establish an open airway is the most basic (and perhaps most important) skill that an allied health-care provider should possess. Yet how do ATCs establish an airway for an on-the-field emergency? They would likely utilize the jaw-thrust or head-tilt maneuver—the same technique employed by a layperson. After the airway has been opened and the patient needs assisted ventilation, mouth-to-mouth ventilation would probably be applied. Again, this is the same technique employed by a layperson. After the airway has been opened and the patient needs assisted ventilation, mouth-to-mouth ventilation would probably be applied. Again, this is the same technique that a layperson would use. In fact, ATCs perform most of their emergency-medicine duties at the level of “laymen.” The more appropriate emergency response for a patient requiring ventilation applied by a professional health-care provider would include some or all of the following: oropharyngeal airway insertion, nasopharyngeal airway insertion, bag-valve-mask ventilation, blind adjunct-airway insertion (such as the esophageal tracheal Combitube or laryngeal-mask airway), and oxygen administration.

Key Points
- Athletic trainers do not currently have adequate emergency-management training, airway-management skills, in particular.
- Endotracheal intubation is not effective with a football helmet face mask.
- Airway adjuncts have been shown to be effective for securing an airway without having to remove protective athletic equipment.
- Adjunct airways, such as the Combitube and LMA, are “blind procedures” and require very little training.
- Athletic trainers have effectively utilized adjunct airway devices during research studies.

Key Words: adjunct, catastrophic, equipment, football, injury, intubation
Types of Airways

There are several types of airways, and the following are presented in this article: surgical, endotracheal intubation, and adjunct-airway insertion.

Surgical Airway

A surgical airway is often considered the last resort, when no other airway can be established. A surgical airway involves cutting or penetrating the airway through the skin of the anterior neck. The procedure used to be called a tracheostomy, but the newer procedure (at a more appropriate and precise location) and the preferred terminology is cricothyrotomy. A cricothyrotomy involves placing a tube (usually a Shiley tracheostomy tube or endotracheal tube) into the trachea. The surgical portal is now made at the cricothyroid membrane, below the thyroid cartilage.

This procedure is usually performed with a scalpel but can also be modified as a “needle cricothyrotomy” (with percutaneous transtracheal jet ventilation) or with a “punch” technique in which a percutaneous airway is introduced without the skin being incised.

Endotracheal Intubation

Endotracheal intubation involves passing a tube through the mouth, past the vocal cords, and into the trachea. This is considered the “gold standard” method for securing a definitive airway. It is typically performed by using a laryngoscope to move the tongue out of the way and to light the area for direct visualization of the vocal cords.

Alternative techniques include nasotracheal intubation (via the nose instead of the mouth), digital intubation (feeling the anatomy as opposed to visualizing the vocal cords), and retrograde intubation (using the Seldinger technique with cricothyrotomy).

Professionals performing endotracheal intubation often use other devices to help them with this critical task, including medications (rapid-acting induction agents and paralytics), stylets, lighted stylets, correct-placement-detection devices (including X-ray, end-tidal carbon dioxide detector, etc.), fiber optics (bronchoscope), and suction devices.¹

Both the surgical-airway and the endotracheal-intubation procedures are typically reserved for physicians and paramedics. In my opinion, neither technique is appropriate for ATCs at this time. These procedures require a high level of skill that must be maintained by frequent practice. The insertion of adjunct airways, however, is a “less skilled” technique, which does not require frequent practice and is highly recommended for ATCs.

Adjunct-Airway Insertion

There are many varieties of “adjunct” airways, but for the purpose of this article, adjunct airways will be considered devices that are inserted blindly and through which ventilation can be accomplished via “bagging” with a bag-valve-mask (BVM). It is important to note the difference between intubation and insertion. Intubation requires passing a tube through the vocal cords, whereas insertion does not.

The esophageal tracheal Combitube (also known as the ETC) is the most popular device used for this purpose in the prehospital setting in the United States (Figure 1). It is often referred to as a foolproof device, because although it is a “blind procedure” it has a 100% success rate. The Combitube is a double-lumen airway that is essentially crammed down the throat of an unresponsive victim. Almost 99% of the time, the tube will be delivered into the esophagus, in which case the more prominent port is utilized to deliver ventilation to the trachea. If in the rare event the Combitube is placed in the trachea, then the second port of the double-lumen device will deliver ventilation to the trachea without the need to remove or reposition the tube. The only skill required is being able to recognize esophageal versus tracheal placement. In most states, Combitube insertion can be performed by the most basic of EMTs because it requires such little skill.

The laryngeal-mask airway (LMA) used to be far more popular in Europe than in the United States but has now gained more popularity here (particularly in an anesthesia or operating-room environment). The unique shape of the LMA resembles a smaller version of the “mask” part of a BVM or pocket mask (Figure 2). Instead of plac-

Figure 1 Esophageal tracheal Combitube.