For quite some time athletic trainers and therapists and other allied health professionals have disagreed regarding on-the-field treatment for an athlete with a suspected spinal injury. Spinal injuries are most prevalent in football and are most often related to the removal (what, when, and how) of protective equipment. This prompted the formation of the Inter-Association Task Force for Appropriate Care of the Spine-Injured Athlete (IATFACSIA) in November 1997. The task force was organized with representatives from sports medicine and emergency medicine organizations and was charged with identifying appropriate prehospital emergency procedures for athletes with suspected spine injuries. In May 1998, a summit was held in Indianapolis, IN, with 26 professional organizations represented. The result of the summit was a set of guidelines that was unanimously endorsed by the participants (IATFACSIA, 1998).

The inaugural issue of Athletic Therapy Today contained an article that helped bring to light the difficulty in face-mask removal (Kleiner, 1996). Since then, many research studies have been conducted on the task. However, these studies have been reported in a variety of journals, and many of them only in abstract form, making it difficult for the athletic trainer or therapist to obtain and digest all of the information. The purpose of this article is to relate some of the pertinent literature from this important topic to the clinicians who can use it most. There is much that we know and much that we do not know regarding face-mask removal. What we know is as follows.

Q1: When Should I Remove the Helmet?

The IATFACSIA recommends that neither the football helmet nor the shoulder pads be removed before transportation. They recommend that only the face mask be removed...
from the helmet—the helmet itself should not be removed unless the rescuer is unable to access the airway by any other means (or if the helmet and chin strap do not adequately secure the head). Furthermore, removing only the face mask and not the entire helmet will allow the spine to remain in a neutral position. If the helmet were removed, the athlete’s neck would hyperextend, particularly if the athlete were wearing shoulder pads. Unless the shoulder pads are removed at the same time, it is very difficult to maintain in-line neutral stabilization. Spinal immobilization and alignment must be maintained during removal of the helmet. The helmet and shoulder pads significantly elevate the athlete’s trunk and head when in the supine position; the removal of only one piece of equipment can cause a significant change in spinal alignment (IATFACSIA, 1998).

In general, any athletic helmet should be removed on the field only under one of the following circumstances (IATFACSIA, 1998):

- If, after a reasonable period of time, the face mask cannot be removed to gain access to the airway
- If the design of the helmet and chin strap is such that even after removal of the face mask, the airway cannot be controlled or ventilation provided
- If the helmet and chin straps do not hold the head securely, so that immobilization of the helmet does not also immobilize the head
- If the helmet prevents immobilization in an appropriate position for transportation

Q2: Should the Face Mask Be Retracted or Removed Completely?

It has been noted that more head movement occurs during the “swing-away” phase of retraction than during any other phase, including cutting the loop straps (Figure 1; Knox & Kleiner, 1997). Other studies have shown that face-mask removal (cutting or removing four loop straps) can be accomplished as quickly with some tools as face-mask retraction (two straps) with other tools (Block, Kleiner, & Knox, 1996; Kleiner, 1996a). Because of this information, the IATFACSIA has recommended that the face mask be completely removed, not just retracted (IATFACSIA, 1998).

It should also be noted that in order for retraction or removal to be accomplished, the chin strap must be properly attached. The chin strap and helmet act together to prevent movement of the head and spine during immobilization and transportation. If the chin strap is secured to the helmet incorrectly, however, it can prevent the face mask from being removed or retracted. A recent study evaluated 753 football helmets from 22 high schools and found that 18.3% were attached incorrectly and would have interfered with face-mask removal or retraction. Of the schools evaluated, 57% had one or more helmets with the chin strap secured incorrectly. These preliminary data indicated that not all chin straps are being attached properly, which can pose a significant obstacle in the emergency management of a spine-injured athlete (Knox & Kleiner, 2000).

Q3: What Is the Best Tool to Use for Face-Mask Removal?

Without a doubt, this is the question that is most often asked and the one that is most controversial. There is no simple answer, and what we know about face-mask removal has come in pieces. Several tools have been discussed (Figure 2; Rehberg, 1999), but it is important to note that many of the tools have not been scientifically tested. Many athletic trainers and therapists have professed what a great tool they have and how wonderfully it works, but without data and objective testing, those testimonials remain unproven. Several tools have been appropriately re-