Emergent and Acute Issues in Athletic Training

Every time that a traumatic or dramatic injury occurs on a field or court and in which an athletic trainer is highlighted as the primary caregiver, the double-edged sword that athletic trainers carry is exposed. Because certified athletic trainers are often the ones on the sidelines attending to all sorts of emergent and unexpected conditions, the responsibility to properly manage potentially life-threatening conditions is revealed, often in front of millions of eyes and likely shared on social media for days or weeks following. When successfully managed, the public relations impact that these experiences provide our profession is priceless and they highlight the unique and critical roles that athletic trainers provide, when present. On the flip side, these events also reveal the expansive level of training, education, and liability that athletic trainers are beholden to on a regular basis.

Given the high stakes involved, the need for sports medicine practitioners to enhance and advance their relevant skills and knowledge regarding atypical and emergent cases is clearly highlighted every time that such an episode is captured on television, Facebook, or Twitter. This special issue of Athletic Training & Sports Health Care is designed to do just that—provide our readers with updated and advanced information about a selected category of emergent and atypical situations that can make any sideline health care professional uneasy and vulnerable.

We have both been practicing athletic training since the late 1980s–early 1990s, and during that time we have seen myriad trauma cases while providing care to high school, college, professional, and international athletes. As directors in athletic training education, we are also both responsible for educating and preparing current and future practitioners and ensuring they are capable of providing safe and effective care in an increasingly expanded set of skills and contexts.

In the past few years, athletic training professionals have increasingly been providing medical coverage for various endurance events, specifically triathlons and marathons in large urban areas, with thousands of spectators and participants. With mass endurance events, the “field of play” is a “26.2 mile stadium” or a “Human version of the Indy 500,” where participants can suffer from heat stroke or exertional rhabdomyolysis, or from a (bike) crash that results in open fractures or head trauma, just to name a few possibilities. Regardless of the setting or context, it is paramount that athletic trainers and other prehos-
pital trauma-trained professionals be capable of handling all types of emergency medicine cases before advanced support can be provided, even in the gravest and most unexpected of situations.

For years we have given our athletic training students a simple mantra, which is “be prepared, be skilled, and do the things you are trained to do to give your patient a chance to live; he or she may not live but give them a chance with your abilities.” For Dr. Castle, this mantra came to life rather abruptly on a cold April afternoon while working the finish line at one of our nation’s most popular and most historic marathons. As he stepped onto ground-zero from the horrific bombings at the 2013 Boston Marathon with other athletic trainers, athletic training students, physicians, emergency medical services professionals, and willing laypeople, he suddenly realized that despite his significant education and experience, he was perhaps not as prepared as he wanted to be to handle the situation he was thrust into. There were no commercial tourniquets or hemostatic agents available, but why would there be? After all, it was a marathon and the odds of treating exsanguinating trauma were low, right?

In reflecting on this life-changing and profoundly unexpected professional experience, Dr. Castle was left to ponder much about the role that athletic trainers can and do play in such horrific events. What other equipment and skills are critical for treating life-threatening conditions? How can athletic trainers be better prepared to handle other types of life-threatening trauma? How can they be better prepared to work collaboratively with other professionals in treating and managing these types of life- and/or limb-threatening traumas?

Emergency medicine is a “river that is one mile wide and two miles deep,” so this special issue focuses on several topics that are part of this body of knowledge. With that in mind, we implore athletic trainers to rethink their emergency care preparedness skills, to evaluate what and how they teach future athletic trainers to be ready for the unexpected, and perhaps to reconsider what it is that athletic trainers are responsible for when tragedy hits.

Our first article by Jordan specifically deals with the educative side of acute care skills and knowledge. She describes how high fidelity simulators can be used to teach various acute care and management skills to athletic training students and other professionals involved in emergent care and management.

Castle and Sedory review the management of hemorrhagic conditions, with a specific focus on tourniquets and hemostatic agents to control potentially morbid or mortal open wounds. Highlighted are data regarding mortality and morbidity rates in military medicine studies showing a 96% survival rate in military victims if tourniquets are applied before the onset of shock, versus a 4% survival rate if applied after onset of shock. An impressively low (< 1.7%) palsy morbidity rate has also been found in military studies, further illustrating the critical utility of emergency tourniquets.

A series of articles look at acute and chronic pulmonary conditions. Comeau and MacCallum provide a concise, evidence-based review of the recognition and management of acute and spontaneous pneumothoraces that can happen in many of our standard settings. Matheny et al.’s excellent interprofessional article helps us better understand dyspnea in athletes, providing readers a platform that helps differentiate asthma, exercise-induced bronchospasm, and vocal cord dysfunction diagnoses, all of which require a keen recognition and appropriate management decision to safely and effectively treat the suffering patient. Finally, Tan and Sedory describe various advanced airway skills that may be necessary if things go south when treating or evaluating an athlete or patient with an acute and distressing pulmonary condition.

We hope that you find something in this issue that eases your mind regarding potentially life-threatening or life-altering conditions and the potential that you too may one day be faced with treating and managing the “unexpected.” After reading this issue of Athletic Training & Sports Health Care, we hope that your emergency medicine river is a bit narrower and a bit shallower and that you are now more prepared to handle the atypical emergency case, wherever you may be and whatever you may do as a clinician.