Fifteen years ago, I was an aspiring undergraduate athletic therapy student in Canada. One of the first injuries I ever evaluated was a concussion. I was fascinated that the approach to evaluating and managing the injury differed considerably from the other sports medicine injuries I had learned about in the classroom and laboratory settings. The sheer lack of rehabilitation for this injury was unsettling. It provoked a keen interest, which led me to earn my credentials as an athletic trainer in the United States to facilitate my pursuit of graduate and doctoral studies in the area of sport-related concussion.

Collectively, public health and medical researchers have done great things to advance the public’s knowledge about concussion. The popular media seems to consistently sensationalize head trauma in sports—often hinging on studies lacking prospective cause-and-effect findings—and this has had positive and negative consequences. Positively, it has entered “concussion” into the vernacular—coaches, parents, and athletes are talking about it; health care professionals are increasingly conservative with its management; and state laws have been implemented, with the objective of protecting young athletes from its unnecessary catastrophic and negative long-term outcomes. However, the downside is that there is a misconception that increasing the knowledge of the injury does anything to change attitudes and behaviors about how coaches, parents, and athletes choose to report (or hide) symptoms to those who may initiate the best care for them. There is a lot we do not know about this injury and much more we need to learn.

As clinicians, we cannot afford to be swayed by public opinion or the media. We must continue to evaluate and manage concussion, using the best practices developed from a good evidence base. To this end, there is no shortage of peer-reviewed research articles from which to draw. In fact, the number of “sport concussion” publications in PubMed’s database between 2000 and 2009 is 3 times higher than the number published in the preceding 4 decades. In less than 4 years since 2010, more studies about sport-related concussion have already been published than in the previous decade. At this exponential rate, one would expect innovative changes to the manner in which concussions are identified, managed, and functionally rehabilitated. Unfortunately, a review of previous consensus statements shows very little substantive change in management practices described in publications in 2001.
compared with those recently published in 2013. Consistency is good, but research should seek new discoveries, dare to ask the important clinical questions, and not just confirm what we already know.

We can accomplish this by establishing strong randomized clinical trials. Very few, if any, exist in the field of sport-related concussion. Why is that the case? I suspect this is driven by a fear of worsening athletes’ symptoms and, particularly with younger athletes, second impact syndrome. This injury is extremely rare, with fewer than 50 documented cases with sufficient medical evidence to support this diagnosis—ever. The Centers for Disease Control and Prevention estimates as many as 3.8 million sport and recreational head injuries occur in the United States each year,\(^1\) with almost half of these injuries going unreported.\(^2\)

In fact, many of the athletes not reporting their injury will return to activity and may play through their symptoms. It is possible that we never know or hear about the lasting effects these athletes experience and, unfortunately, as a result, we are incapable of managing them effectively. However, some athletes do not experience secondary complications related to a premature return to activity. Why not? If we do not subject athletes to subsequent head impacts during their recovery, could we not push the envelope to randomize athletes to treatment interventions or standard-of-care groups and thus compare in a meaningful way the true effect of novel and innovative treatments? In other health care fields, the push in research is in the area of comparative effectiveness research, which not only looks at the best evidence but also brings the patient into the decision-making process. Exploring these new boundaries directs research to explore the best treatment options for individual patients.

For most other sports injuries, we ensure that our athletes reach a level of tissue healing and then begin functional rehabilitation. Sometimes this rehabilitation might exacerbate existing symptoms, such as pain and discomfort (eg, single-leg squats following a knee injury). However, when monitored by skilled athletic trainers, athletes recover quickly, are functionally rehabilitated, and are ready for the rigors of their activities. For concussion, we “shut down” our athletes and do not begin any functional progressions to return to activity until their symptoms have fully resolved. Where is the evidence to support absolute rest until total symptom resolution? There is none. Several research groups are currently exploring the utility of monitored activity in symptomatic concussion patients; preliminary positive findings are revealing that symptoms resolve quicker in the monitored activity groups. Vestibular and ocularmotor rehabilitation are becoming increasingly popular areas in our field, as science leads us to understand the positive benefits of incorporating these aspects early in the athletes’ recovery process, often when the athletes are still complaining of symptoms.

For far too long, many clinicians have relied on computer tests to diagnose an athlete with concussion. Unbeknownst to many, the best concussion diagnostic tool is the clinician—one trained to recognize concussion signs and symptoms, remove an athlete from participation if necessary, and complete a sound and thorough clinical evaluation. Like many other sports injuries, special tests should confirm what skilled clinicians already suspect after an in-depth history. In my opinion, computerized neurocognitive tests and balance evaluations should be treated as special tests.

Clinical researchers manage aggregate data collected from populations and samples of athletes we feel best represent the norm. However, clinicians treat individual patients. Thus, it is important to acknowledge that not every athlete will recover in 7 to 10 days; some will experience symptom resolution in 1 day, and others may never fully recover from their concussion. These outliers are rare, but such important data points are often lost when aggregating all the research data for a manuscript before disseminating it to clinical readers.

The limitations to research aside, I am pleased to announce that we have already made the single most important discovery in concussion management: the clinician. We hold the key to successful concussion management. Athletic trainers, athletic therapists, and other allied health care professionals are uniquely positioned at the intersection of the front lines in your relationships with athletes, parents, and coaches and can effect considerable change in attitudes and behaviors—while enhancing knowledge—in this important stakeholder group. In addition, the clinical skills you possess are the greatest asset to any medical program. You are the pioneers who proliferate clinical research into the health care landscape.

It is my hope that you will continue into this special issue of Ath—
With a sense that you, the reader, are the most important stakeholder in resolving the concussion epidemic. You are extremely influential on your athletes, and you should exploit that as an opportunity to continue providing a high quality of health care for them. Together, we can continue to push the envelope to new discoveries, reject the status quo, and dare to be great.

REFERENCES