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The Answer is On! A Response to The Initial Lateral Cervical Spine Film for the Athlete with a Suspected Neck Injury: Helmet and Shoulder Pads On or Off?

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In the March issue of the Clinical Journal of Sport Medicine, Veenema and colleagues published a research article on obtaining initial lateral cervical spine films on an athlete, under the heading of a “Case Report”. [1](#) I would like to commend the authors on conducting this research, presenting it in such a well-read and clinically important journal, and for bringing awareness to this important topic.

To begin, I would like to make the authors aware of a similar study published in the Annals of Emergency Medicine, [2](#) and a subsequent editorial that dealt with the same topic. [3](#) Although there were some methodological flaws with that study as well, it too was an important publication. Both of these articles have brought awareness to this topic and have stimulated discussion, debate, and intellectual questions and calls for more research, all of which are not only healthy, but also vital.

The data from the current study [1](#) tend to indicate that it is difficult to adequately visualize all seven vertebrae while football protective equipment remains on the athlete. I personally agree with that finding, and those data come as no surprise. However, “difficult to visualize” and “impossible to visualize, so don't even bother trying” are two different things. My biggest concern is the implication that the athletic protective equipment must be removed prior to imaging. The statement that 17/20 of the physician/subjects would recommend prior removal of the helmet and shoulder pads should not be interpreted as a recommendation nor as the sole option for clinicians facing this dilemma. The subsequent statement that two of the physician/subjects recommended removal of the shoulder pads only, was even more distressing. As the authors correctly reported in their review of the literature, there is sufficient evidence to

suggest that, if the shoulder pads were removed and the helmet left on, the spine would be placed in a position of flexion and not in neutral alignment. Cervical flexion, is of course a concern, because it significantly narrows the spinal canal. The authors' first paragraph of the discussion is accurate and extremely important. Thus, it appears that at least 2 of the physician/subjects were unaware of the body of knowledge that supports removing either both, or neither the helmet and shoulder pads.

I do agree with many of the physician/subjects who stated that they would recommend a swimmer's view, or mechanical depression of the shoulders. The authors also acknowledge the possible use of scout CT films (which provide an outstanding image even with athletic protective equipment). These are viable options for obtaining better images prior to equipment removal. Thus, I believe the authors should not make such bold recommendations regarding imaging, based on plain film lateral radiographs without manipulation... the poorest method of obtaining these images. It is also important to note that the aforementioned physician/subject comments were made after attempting imaging with the equipment on the athlete.

I would also like to bring to the forefront the significant advances that have been made in athletic protective equipment removal since the early 1990s, which were the references cited by the authors. In 1998 an Inter-Association task force was created to address the issue of spine injuries in athletes. Many sports medical organizations participated in the task force, including several of the organizations involved with this journal. The task force made many recommendations based on research and on consensus expert opinion, mostly on prehospital issues. ⁴ However, in the interest of thoroughness, many topics beyond the scope of prehospital care, such as in-hospital athletic protective equipment removal were addressed. A summary of the monograph produced is included in this issue of the Clinical Journal of Sport Medicine.

Evidence-based recommendations should not be made on one or two articles, particularly with such a small number of subjects, and without knowing the expertise and experience of the subjects. A large multi-center study would be beneficial in addressing this question. Currently there are no recommendations in place, or endorsed by professional organizations for the in-hospital care of the suspected spine-injured athlete wearing athletic protective equipment.

Another key point I would like to make is that it is a current practice in many emergency departments to remove all clothing as soon as the patient arrives and prior to imaging. Thus, it has become a "natural extension" and a common practice to remove all athletic protective equipment at the same time, simply as a matter of "routine practice." In fact, many trauma centers pride themselves on how quickly they can strip a patient down. My personal preference would be that we not do this simply as a matter of routine practice and that we act as conservatively and cautiously as possible. It might, in some circumstances, be useful to know what type of injury we are dealing with prior to manipulating the head and spine in the process of removing the athletic protective equipment. If imaging the athlete prior to equipment removal might provide that information, then there is no reason not to try it. We owe that to our athlete/patient.

Furthermore, if equipment is going to be removed prior to imaging and as soon as the athlete gets in the door of the emergency department, then some would argue that the athletic protective equipment might as well be removed on the field where individuals with expertise in athletic protective equipment, such as Certified Athletic Trainers, Certified Athletic Equipment Managers, or coaches can be utilized.

In conclusion, I would again like to commend the authors for their fine article and for bringing

this important topic to the forefront. I would encourage all practitioners to read the monograph and to take the most conservative approach possible when caring for an athlete with a suspected spine injury.

Douglas M. Kleiner, PhD

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