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Concussion Quality Assurance

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Objective: Concussions are a national and global health care concern in sports today. There are many position statements, international standards and legislation in most states on concussion management. There are also many documented standards on how athletic trainers and healthcare professional should document patient encounters. However, there are few, if any, published reports on quality assurance measures for concussion evaluations or documentation in athletic training. Thus, the purpose of this quality program was to determine how well athletic trainers evaluate and document concussions. Moreover, the goal is to be compliant, consistent and meet quality indicators for a large healthcare system.

Design and setting: This was a controlled chart audit of athletic trainers' initial evaluation of concussion documentation. Charts were reviewed using a standardized 15 point audit check list for all charts reviewed.

Participants: These were licensed athletic trainers working in a high school outreach program documenting in an electronic medical record system (SportsWare). This quality program was reviewed by the health system's Institutional Review Board. It was determined that this quality program is a part of a clinical standard process and not considered a human subjects research activity.

Intervention: The chart audits evaluated whether an athletic trainer documented the following items in their initial evaluation: time/date of injury, mechanism of injury, previous history, signs/symptoms, mental status/state of consciousness, pupils, cranial nerves, motor deficits, sensory deficits, memory, associated injuries, standardized concussion scoring system, balance and coordination, parent notification, and physician referral. 3 Charts

were randomly selected for each athletic trainer. Charts were selected from a specific date range for the particular semester or quarter being evaluated. During the first year charts were selected by semesters (biannually, once in the fall and spring). In the years following, charts were selected quarterly. Only charts for which the athletic trainer did the initial evaluation were selected. Statistical analysis and breakdown was conducted by the health system's quality department. All charts were de-identified in this process.

Main Outcome Measurement: Scores on the 15 item chart audit served as the independent variables measured. Athletic trainers either meet the requirements for the variable being measured or did not. Mean scores were calculated for each variable and reported as a percentage. The 15 items on the chart audits were sub divided into 2 groups. One group measured the athletic trainer's evaluation documentation and the second measured the communication documentation. Charts were reviewed by 5 supervisors. 10% of the charts reviewed by the supervisors were reviewed by 2 managers to insure accuracy and uniformity.

Results: 68 athletic trainers at 46 high school have had charts audited to date. A total of 590 concussion chart audits have been completed year to date (2.5 years). During the first semester of testing, athletic trainers were documenting on 76% of the items listed for the initial evaluation and documenting communication 82% of the time. The concussion quality goals set for that (2013-14) academic year were 80% for the initial evaluation and 90% for communication. The second semester saw an improvement to 90% compliance with initial evaluation and 95% compliance for communication. At the completion of the 2014-15 academic year the initial evaluations scores were 95.2% compliant and communication was 92.3% compliant.

During the first quarters of 2015-16, ATs are 93.7% compliant with initial evaluations and 87.3% compliant with communication.

Conclusion: This measurement exercise gives us a consistent standard to improve our quality of patient/athlete care. It allows us to identify gaps in our evaluations/documentation and develop strategies to improve. It also satisfies indicators for a sports medicine program proving worth

within a large hospital system. We have open communication and feedback with and from our staff athletic trainers which allows for a templated message that can be delivered to the entire group. The audits give us a consistent documentation method to measure the quality of medical services that an athletic trainer can provide.

Key words: Concussions, quality, documentation, standards, evaluation

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