



Wired football helmet to tell impact of blows to the head

By Scott Boeck, USA TODAY

New technology is putting the pads on at Virginia Tech football practices.

Starting this week, four players will be wearing helmets equipped with six sensors, which fit into the top of the helmet like a hair net. The sensors will monitor the impact on a player's head during a collision. The wireless system, called Simbex Head Impact Telemetry System (HIT System), can analyze the frequency and severity of each impact. It also can keep a record to help in the evaluation and treatment of head injuries.

With a computer available on the sideline, trainers and physicians can make decisions based on immediate information. The computer is able to measure the impact of a hit instantaneously and compare it with past instances.

"We'll get a better handle on how head injuries should be managed from a clinical perspective," says Gunnar Broinson, head team physician for Virginia Tech athletics. "When is an athlete at risk? When is he not at risk?"

There are about 300,000 sports-related, mild, traumatic brain injuries reported each year in the USA. This type of injury, which includes concussions, currently has no preventive methods.

This is the first year of the study. Four units, which cost about \$2,000 apiece, will alternate among players at all positions to see if one position is more at risk than another. The sensors can be transferred easily from helmet to helmet and add only about 1-2 ounces to the weight of the helmet. Players will be monitored during practices and games.

Little has been done on the field to measure the magnitude or duration of head acceleration during collisions. The study is funded by Virginia Tech and Virginia College of Osteopathic Medicine.

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