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A World-Class Destination For Neurosurgery

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To Whom It May Concern:

According to the U.S. Centers for Disease Control and Prevention, 1.7 million people sustain traumatic brain injuries (TBI) annually. TBI is a contributing factor to almost a third (30.5%) of all injury-related deaths in this country. Approximately 75% of TBIs are considered mild with emergency rooms treating over 170,000 sports- and recreation-related TBIs among children and adolescents yearly. Of the most commonly played organized sports, football accounts for the highest number of traumatic brain injuries. Prevention strategies have included educational programs for athletes, parents, trainers and coaches as well as the modification of training and the proper usage of protective equipment. This does not seem to be enough. As a board-certified neurosurgeon and expert in neurotrauma I have seen countless examples of the ravages that brain injury can cause.

The mechanisms responsible for traumatic brain injury are many and complex. Rotational and shearing forces seem to play a role in addition to that of the direct impact. Technology has been recently developed and tested which could serve as a valuable adjunct to commercially available sports and military protective headgear. While the concept of adding additional protection to existing headgear is not novel, the "skull cap" as designed by Bob Ferguson has a number of potential advantages. To begin with, it is used in addition to protective headgear such as football or hockey helmets. Secondly, its unique design may actually improve the fit and ultimately function of any given helmet. Its gel pad technology has the unique property of being able to absorb and diffuse external energies and potentially dampen the force of any given impact significantly. While there will never be a completely protective helmet, the addition of the "skull cap" may improve existing headgear over baseline and seems extremely promising.

No protective device will ever take the place of prevention and education concerning the proper way to conduct high risk activities. As our understanding of traumatic brain injury increases, so do the opportunities to design and implement better protective devices. The "skull cap" is one of these promising devices.

Sincerely,

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