

The Ethics of Encephalopathic Roulette



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*Who would guess what it cost to move two buttons one inch on the war map here in front of the newspaper office where the freckle-faced young man is laughing to us?
Carl Sandburg "Buttons"*

Football is an inherently dangerous game. Indeed, the history of the game is largely a history of evolving rules and technological advances intended to mitigate the danger while preserving the essential violence of the games which appeals to fans and sells tickets. Unfortunately, the rest of the history shows that again and again, the changes made may reduce the particular kinds of injuries they are intended to reduce, but at the cost of unintended increases in other, sometimes worse damage.

In 1921, Elmer Berry wrote *The Forward Pass in Football*. It included the statement, "Internal injuries often developed and an unwarranted large number of deaths occurred." The forward pass was developed to decrease the number of such injuries by spreading the players more widely across the field. But Yale coach Walter Camp argued that players running down field would be exposed to greater danger from higher speed collisions, a prediction which subsequent statistics bore out. In addition, with the ability to stop the clock that the forward pass provided, the total number of minutes per game in which players were actively interacting increased, with a concomitant increase in the chance of injury.

Similarly, with the development of effective plastic helmets, the number of fractured skulls decreased, but the number of concussions increased, as did the number of orthopedic neck injuries as the players learned to use their helmeted heads as spears.

This dance has continued now for over 100 years -- change the rules, change the equipment, change the technique, prevent some injuries, encourage others as an unintended consequence. Lather, rinse, repeat.

We now find ourselves at a point where we are no longer commonly seeing deaths from serious fractures (skull, pelvis, femur) or from blunt abdominal or thoracic trauma. This is at least partly because of the changes in rules and technological advances, though it is also true that we have vastly more effective means of diagnosing and treating acute traumatic injuries than we had in 1905. But we are now faced, instead, with the *sequelae* of repeated head trauma, and one of those consequences, chronic traumatic encephalopathy (CTE) can be devastating.

For a time, we were told that this disease is a result of concussions, and that it can be mitigated by

- increased awareness of the importance of controlling the players return to active participation following a concussive event and
- new rules and safer tackling techniques (Heads Up)

Unfortunately, more recent research seems to indicate that the development of CTE is less related to the number of concussive incidents than it is to the total number of sub-concussive contacts over a players lifetime. If this be true, it means that we know of no effective method for preventing or even minimizing the probability of long term neurological damage. The nature of football is such that it is impossible to avoid all head contacts, and since there is no way at the moment to tell which contacts are damaging and which are not, we have no way of assessing a players current level of exposure or deciding when he needs to retire from play altogether.

Neuro-pathologist Ann McKee, a respected expert in Alzheimer's disease and repetitive brain injury was asked in an interview with Susan Lampert Smith whether she believes that the current emphasis on concussions will prevent CTE, she responded

No. Despite our emphasis on concussion and managing concussion, it's probably not concussions that are giving rise to this disease. In fact, all our studies indicate that the number of concussions does not correlate with the severity of the CTE. It's the amount of exposure, the number of years playing sports. We know football players get 1,000 to 1,500 sub-concussive hits per season, even in high school — that's tens of thousands of hits if they play 10 years. The sub-concussive injury, the asymptomatic injury, is probably very important in developing this disease. CTE has only been found in individuals who sustained repetitive, cumulative traumas.

This means that it is unlikely that our best attempts to protect our student football players are effective. We know too little about how many sub-concussive episodes are dangerous nor what other factors may pre-dispose a player to be more sensitive to those events.

In other words, we are effectively using our student athletes as experimental subjects, trying to apply protective strategies which may or not be effective. Do they give informed consent? Should not some sort of disinterested Institutional Review Board evaluate this process? Should not somebody be looking at the risk/benefit ratio? How can this be ethical?

For myself, I find this state of affairs deeply disturbing. Operating in ignorance, we are encouraging our student athletes to engage in what may be a game of encephalopathic roulette. We may be paying those on football scholarship to expose themselves to risks that I would not expose myself or my children to.

Before we engage in a discussion of whether we should build a stadium, Temple needs to have a serious discussion as to whether we dare enable our students to enter at all into this game of roulette. I suspect that neither our administration nor our board have any interest in pursuing such ethical questions, but we the faculty aspire to be scholars, and as scholars we must embrace the highest ethical standards. I

would call upon the Faculty Senate to begin a discussion of these questions at its earliest convenience. For myself, at the very least I do not plan to attend any more football matches anywhere. ♦