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When the brain suffers any kind of trauma, the severity of the effects are dependent upon how quickly the injured area can be addressed. One way in which medical professionals check for the brain function is through a positron-emission tomography (PET) scan, where the brain activity is viewed by the emission of radioactivity caused by injected chemicals (Kalat, 2014). Unfortunately, the scan can only be done in a specified room in a hospital and therefore the travel time between patient room, ambulance, or other location to the scanner is a critical addition of time. Neuroscientist Julie Brefczynski-Lewis from West Virginia University, wants to cut that time to a matter of seconds with the introduction of a portable PET scanner. The creation of a mobile version of this device eliminates wait time and allows for the earlier detection of any problems so that they can be better addressed. For instance, at a sports game if an athlete has suffered a blow to the head, the scanner could be brought out to reveal whether or not it was a concussion so that the right procedure can be followed (Devlin, 2017). This can also allow for better control of patients in the hospital currently trying to recover from a trauma as in seizure patients. Finally, addicts would also benefit from this invention because they could wear it while in a room that they had previously been to watch what parts of the brain were involved in the decision making to avoid partaking in that act (Devlin, 2017). There is a quasi-setback in the weight of the helmet being around 7 pounds, and the more advanced version around 22, but the patient wearing it will not be doing activity where the weight would be an interference so it is almost a moot point (Devlin, 2017).

In this current society, people are obsessed with time, how to speed it up, control it, and even the pursuit of pausing it for personal gain. But the diversion from personal gain to the benefit of the population, can allow for large contributions to the medical field, in turn saving lives and helping us know more about the complexities of the brain. In a simpler comparison, if a pipe was leaking, the faster you fix it means less water will come out causing less damage. That is similar to brain traumas, as one area of the brain takes the impact, whether caused by external or internal forces, the longer it takes to address the problem to follow a specific course, the more damage the brain and the person will suffer. In the sports world, concussions are very prevalent, and the lengthy amount of time it takes to get the athlete checked, onto an ambulance, to the hospital, and then to the machine, is too long. At that point the person has suffered more trauma then initially and the recovery may not be as simple. The invention of this portable scanner will allow the prevention of extreme or very critical damage to the patient, which helps from detrimental effects.

Any brain trauma that is suffered can be destructive, but especially if it suffered while the brain can be the cause of serious side effects. Until around the age of twenty-one the human brain is still developing which is why the legal drinking age is set so that there cannot be destruction of crucial elements of the brain. So when young aged athletes suffer one concussion or more, they are at risk for memory loss, problems concentration, and agitated mood. Having a PET scan on the field as soon as the trauma occurs can help the child get the procedural help he/she needs to prevent too much damage. Knowing why we do the things we do, is an important element for neurologists that is still not completely answered, addiction is one of those fields. The decision of an addict to step away from its addiction can be sometimes unexplainable but necessary to comprehend behavior and create therapies for other addicts.

The creation of this machinery by neurologist Brefczynski-Lewis was a breakthrough in the medical field that will advance society in order to prevent the detrimental destruction of sufferers of brain trauma and understanding more brain function.

Devlin, H. (2017, February 22). Portable brain-scanning helmet could be future for rapid brain injury assessments. *The Guardian*. Retrieved from https://www.theguardian.com/science/2017/feb/16/portable-brain-scanning-helmet-could-be-future-for-rapid-brain-injury-assessments