

Do Traumatic Brain Injuries Put Collegiate Athletes at Greater Risk for Experiencing Symptoms of Depression?

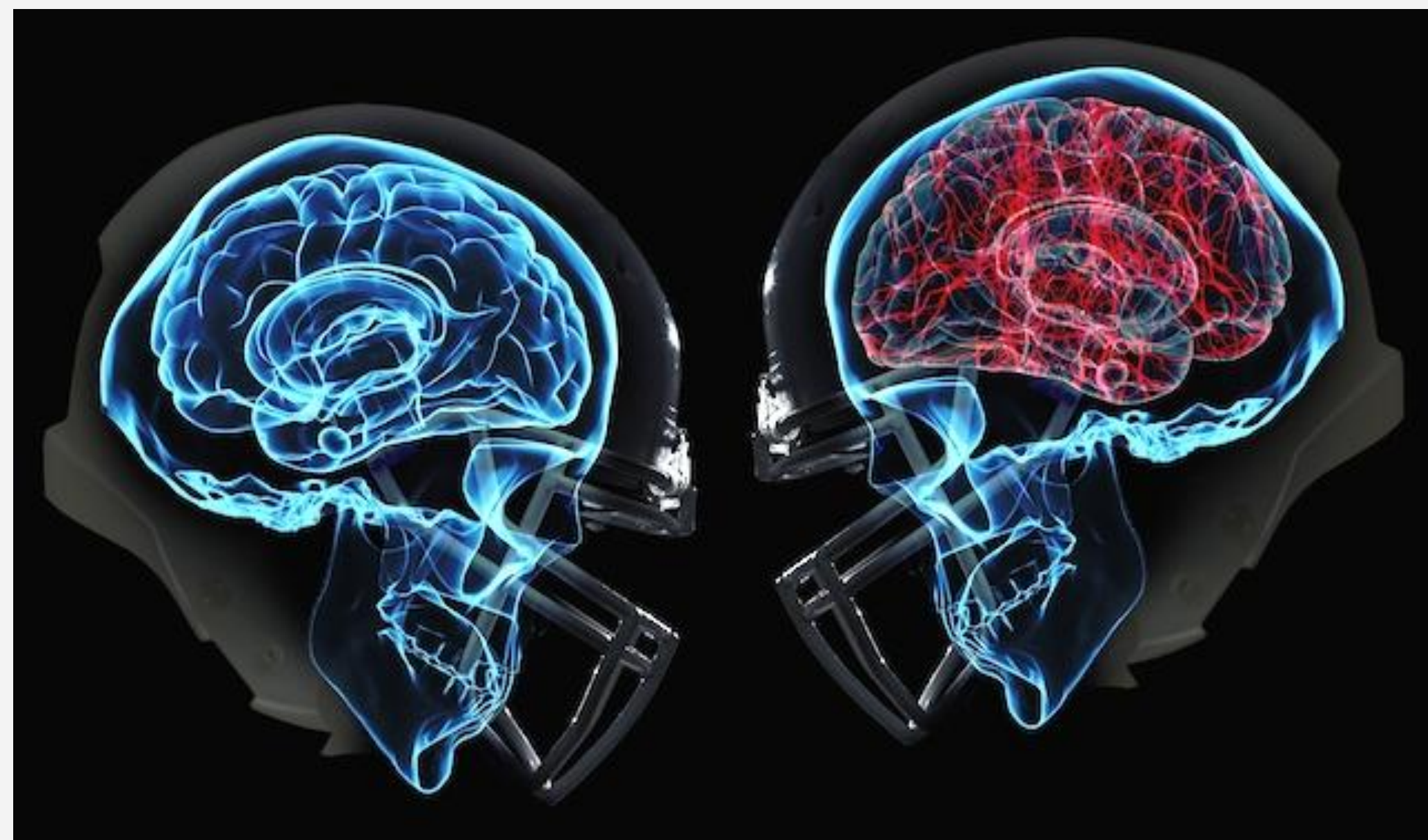
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<https://www.psychologytoday.com/us/blog/brain-trauma/2015/01/spring-sports-concussion-safety-tips>

QUESTION

Are college age athletes who have had a traumatic brain injury compared with those who haven't experienced a traumatic brain injury (TBI) at risk of developing symptoms of depression?



<https://www.amherst.edu/news/finding-c-e-ati-brain>

BACKGROUND

- In a study conducted by the National Collegiate Athletic Association (NCAA) in 2014, 10,500 college age athletes reported experiencing a TBI, with 3,400 of those from football
- This study will be using the terms TBI and concussion interchangeably
- TBIs are caused by a bump, blow, or jolt to the head that disrupts the normal function of the brain (CDC, 2017).
 - Symptoms of TBIs:
 - Headache
 - Temporary loss of consciousness
 - Confusion
 - Nausea and vomiting
- Depression is characterized by discrete episodes of at least 2 weeks duration involving clear-cut changes in affect, cognition, and neurovegetative functions and interepisode remissions (American Psychiatric Association [APA], 2013, p. 155).
 - Symptoms of depression:
 - Depressed mood most of the day
 - Markedly diminished interest or pleasure in activities
 - Diminished ability to think or concentrate
 - Loss of energy nearly every day
 - Feelings of sadness, worthlessness, and guilt
 - Sleep disturbances
- Immediate Post-Concussion Assessment and Cognitive Test (ImPACT)

STUDY	DESIGN	RESULTS
A Longitudinal Pilot Study of Depression Symptoms in Concussed and Injured/Nonconcussed National Collegiate Athletic Association Division I Student-Athletes (Roiger, Weidaue, & Kern, 2015).	Level IV research: A longitudinal descriptive epidemiological study with the purpose of examining symptoms of depression in injured collegiate athletes. The study was conducted at a division I university and had 3 groups: a concussion group, nonconcussion injury group, and control group. It included 21 participants total and 7 participants in each group.	This study concluded that symptoms of depression showed the greatest increase from baseline one week post concussion.
Post-Concussion Symptoms of Depression and Anxiety in Division I Collegiate Athletes (Yang, Peek-Asa, Covassin, & Torner, 2015).	Level IV research: A prospective cohort study with the purpose of examining the effect of baseline psychological symptoms and postconcussion symptoms of depression and anxiety in division I collegiate athletes. The study was conducted at 2 universities and had 67 participants who sustained a concussion.	This study concludes that about one-fifth of the participants reported experiencing symptoms of depression. In addition, athletes that reported symptoms of depression at baseline were 4.59 times more likely to experience symptoms of depression post-concussion.
Predictors and Prevalence of Post Concussion Depression Symptoms in Collegiate Athletes (Vargas, Rabinowitz, Meyer, & Arnett, 2015).	Level IV research: A case-control study with the purpose of examining symptoms of depression at the athletes' baseline and post-concussion in comparison to a control group. The study, conducted at a single college, included 84 current collegiate athletes and 42 individuals who served as a control group.	This study found that when compared to the control group, collegiate athletes showed increased symptoms of depression from their baseline after experiencing a concussion.
Association Between Concussion and Mental Health in Former Collegiate Athletes (Kerr, Evenson, Rosamond, Mihalik, Guskiewicz, & Marshall, 2014).	Level IV research: A retrospective cross-sectional study with the intent to examine the relationship between recurrent concussions and depression. The study sent an email containing their survey to 3,657 former collegiate athletes of one college in the southern United States.	The authors of this study concluded that former collegiate athletes who have experienced three or more concussions are 2.4 times more likely to experience moderate to severe depression compared to former collegiate athletes reporting no concussions.
Exploring the Unique Challenges Faced by Female University Athletes Experiencing Prolonged Concussion Symptoms (Andre-Morin, Caron, & Bloom, 2017).	Level VI research: A qualitative study with the objective to study five female college athletes and their post concussion experiences.	This study found that three out of the five athletes reported experiencing symptoms of depression. In addition, one of those athletes attempted suicide.
Depression and Neurocognitive Performance After Concussion Among Male and Female High School and Collegiate Athletes (Kontos, Covassin, Elbin, & Parker, 2012).	Level IV research: A two year prospective design that consisted of 75 participants. The purpose of this study was to examine a correlation between a sports-related concussion and depression in high school and college athletes. It was conducted by administering a baseline concussion test (ImPACT) and depression test (BDI-II). Once an athlete got a concussion, these test were retaken at 2 days, 7 days, and 14 days post concussion.	The results from this study found that college athletes presented with higher levels of depression at 14 days post concussion compared to the high school participants. Overall, all participants experienced elevated depression symptoms after a concussion.

This work is not original. This is a systematic review of published research conducted by professionals. Guidance was provided by Stephanie Burkholder, professor of NU 307: Evidence-Based Practice Research Methods

RESULTS

- This research concluded, athletes that have acquired a TBI are at greater risk for developing symptoms of depression.
- Although, these articles indicate that symptoms of depression are present, they do not indicate the presence of clinically diagnosable depression.
- The symptoms experienced from acquiring a concussion can contribute to missed practice or games, missed classes, and feelings of isolation which can increase symptoms of depression.



<https://www.businessinsider.com.au/the-ncaa-is-blamed-2014-4>

NURSING IMPLICATIONS

- Implement a baseline depression screening with the required ImPACT baseline concussion test that all athletes take at the beginning of their season.
- For athletes that acquire a concussion, a depression screening should be implemented with the required ImPACT retest before returning to play.
- Nurses should provide education to coaches, athletes, and parents about the risk for experiencing symptoms of depression after a concussion.
- Nurses should provide education on how to prevent concussions and symptoms of depression to be aware of.