GNYACSM ORIGINAL RESEARCH ABSTRACT

Knee Injuries in NFL Linemen — Correlation with BMI

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ABSTRACT

Knee injuries are among the most common injuries suffered in the NFL which in turn can decrease a player's playing time in a given season and thus negatively impact future performance. Body Mass Index (BMI) may play a key role in knee injuries and possibly general lower-extremity injuries in high-level athletes. Understanding characteristics like BMI can help modify and identify players at risk for knee injuries. **PURPOSE:** By analyzing the incidence and sequelae of knee injuries in NFL linemen with their respective BMI, It may be helpful for the NFL to emphasize appropriate body habitus in these players. This ultimately may allow these players to have a longer career. **METHODS:** Data collected for this study was extracted from the official NFL database of injuries. Reported knee injuries for offensive and defensive lineman were collected and organized by week during the 2009-2022 seasons; final data was calculated for players with a BMI over 39.95. Pro-football-reference.com was cited for height, weight, career length and draft status. BMI was calculated based on height and weight. Comparisons were made between BMI and game status. **RESULTS**: Among the players collected, offensive tackles were the most likely to appear on the injury report. Players with a BMI above 40 appeared most commonly as Probable (n=182), followed by Questionable (157), Out (134) then Doubtful (26). The average BMI for the players listed as probable was x=42.4 (SD=2.69); questionable x=41.2 (1.37); doubtful x=41.0 (.856); out x=40.9 (.991). There is a significant difference in the player's BMI between "probable" game status and both "questionable" (p=.023) and "out" (p< .001). Players with a BMI= +37 appeared as either out or doubtful 30.07% total. Players with a BMI under 37 appeared as either out or doubtful 30.81%. **CONCLUSIONS:** Based on our data, BMI may play a protective role on injury report placement for knee injuries. The abundance of "probable" game status also supports the notion that the injuries studied are lower-grade. More players appear on the injury list towards the end of the season, which may indicate there is a persisting effect to the injuries.