

# The Progression of Post Concussion Symptom Scores in Early vs Late Presenters

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**Introduction.** Premature return to play puts athletes at high risk for additional concussions and sequelae, but one also recovers more slowly when put on strict cognitive rest. Cognitive and physical activities that engage neuronal pathways but do not exacerbate symptoms allow for the most efficient recovery of neuronal structure and neurotransmitter homeostasis. We assessed whether early diagnosis and therapeutic intervention helped reduce symptom progression amongst patients with concussion.

**Methods.** This retrospective chart review compared the Post Concussion Symptom Scores (PCSS) between early presenters, seen by a neurologist within the first seven days post-concussion injury, and late presenters, seen between days 8-28 post injury. Selection criteria found 70 total male and female patients between the ages of 19 to 81 with concussions presenting to The University of Kansas Concussion Clinic and tracked their PCSS, an assessment designed to cover the full spectrum of concussion related symptoms.

**Results.** Patients presenting in the first seven days post-concussion had fewer and less severe symptoms at the initial appointment and reduced their PCSS by more than half at the four- and six-week marks, to ultimately improve by 80%. The patients that waited longer to seek medical attention and a therapeutic recovery plan were initially diagnosed with a worse/higher PCSS that slightly improved at the four-week appointment but then regressed at six-weeks.

**Conclusions.** Patients presenting within seven days of a concussion had fewer and less severe symptoms at initial presentation. These patients also experienced a more robust decline in symptoms at four- and six-week follow-up.