Do children have an increased susceptibility to more severe slipped capital femoral epiphyses compared to older adolescents who have prolonged symptoms?

Loder RT, Starnes T, Dikos G, Aronsson DD. Demographic Predictors of Severity of Stable Slipped Capital Femoral Epiphyses. *J Bone Joint Surg Am.* 2006;88-A(1):97-105.

Previous literature has shown that the long-term outcome of slipped capital femoral epiphysis (SCFE) is directly related to the slip severity and presence or absence of complications. What has yet to be discovered though is whether the duration of symptoms related to SCFE can be correlated with slip severity. The purpose of this study was to determine the demographic predictors of the severity of a slipped capital femoral epiphysis.

This study used a retrospective study design in which children (n=243) with stable slipped capital femoral epiphyses (n=328) were assessed for duration of their symptoms and severity of the slip. Slip severity was classified as mild (<30 degrees), moderate (30 to 50 degrees), or severe (>50 degrees). The children's height and weight were also noted per Body Mass Index (BMI).

There were 199 mild, sixty-eight moderate, and forty-five severe slips. The duration of symptoms was 3.5 +/- 5.0 months, 7.7 +/- 9.0 months, and 8.8 +/- 10.6 months, respectively. The average age was 12.3 +/- 1.8 years, 13.0 +/- 1.6 years, and13.8 +/- 1.8 years, respectively. Multivariate analyses demonstrated that only the age of the patient and the duration of the symptoms were associated with the slip severity.

As the study design was previously reported, the level of evidence was determined with the *AAOS Levels of Evidence for Primary Research Question*. This study used a retrospective study design, with the collection of data from a single institution between 1998 and 2003. Therefore, this article's level of evidence has been determined to be a Level II, Prognostic.

In conclusion, this study determined that age and symptom duration are the only two known significant predictors of the severity of SCFE.

A child with SCFE is two times likelier to have a moderate or severe slip if they are older than 12.5 years of age at the time of diagnosis and 4.1 times more likely if the duration of symptoms was longer than two months. In addition, pain often presents in the knee or distal thigh as opposed to the hip. This is critical for athletic trainers, as well as any allied health professionals who deal with young children with knee pain, in that one must be able to correlate the age of the patient, their symptoms, and the duration of these symptoms to SCFE. All clinicians must remain current with the literature and understand the signs and symptoms of SCFE, as well as the importance of early recognition and diagnosis. Also, the study states that an early diagnosis doesn't mean a better prognosis for the patient, but an increase with slip severity has been demonstrated with an increase in time to diagnosis.

It's important for the younger patient to understand the severity of this type of injury, as they are one of few populations who will continue high amounts of activity unless immobilized. This could be extremely detrimental for the patients' future.