

Early Specialization in Youth Sports is Associated with Hip Pain and Surgical Treatment in College-Age Athletes

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INTRODUCTION: Youth sports participation and early specialization has drastically increased, but there is limited investigation into the impact on physical and mental health. Power sports participation during hip development (8 to 14 years old) can increase the risk of hip morphology resulting in femoroacetabular impingement (FAI) and hip dysplasia. The goal of this study was to assess the impact of youth sport specialization from 8-14 years old on musculoskeletal injury and mental health in college age young adults.

METHODS: College students aged 18 to 22 years were enrolled at five universities to complete a survey documenting sports participation and specialization between 8 and 14 years old. The survey characterized musculoskeletal injury and treatment, physical and mental health, and current sport participation and level. Participants also completed the International Hip Outcomes Tool (IHOT) to characterize hip pain and function. Participants were grouped according to whether or not they specialized year-round in a single youth sport from 8 to 14 years old. Differences between groups were evaluated using chi-square or Wilcoxon Rank Sum tests, for categorical or continuous variables, respectively.

RESULTS:

Of 1,018 young adults who completed the survey, 749 (73.6%) were female. Baseball/softball, basketball, soccer, track/cross country, and volleyball were the most common primary sports. 375 (37%) of respondents quit other sports entirely between the ages of 8- to 14-years-old to specialize in their primary sport. Youth athletes that reported specialization more commonly had hip/groin pain (62.7% vs 53.3% $p=0.0035$) and were more likely to quit their primary sport entirely due to injury (68.0% vs 55.4%, $p<0.0001$).

Of patients that reported hip or groin pain, early specialization was associated with surgical treatment of the hip (21.3% vs 12.4%, $p=0.0328$). Hip arthroscopy was the most common surgical hip treatment reported in 39 participants. Early specialization was also associated with lower iHOT scores indicated worse hip pain and function ($p=0.0005$). Early specialization was not associated with non-hip orthopaedic surgeries and did not result in lower mental health ratings. Females had higher rates of hip/groin pain than males (58.6% vs. 49.8%) with higher rates of non-surgical (57.5% vs. 44.7%) and surgical (6.1% vs. 2.0%) treatment of hip conditions.

DISCUSSION AND CONCLUSION: Youth sport specialization from 8 to 14 years old was very common in over 1000 college-age young adults. Specialization was associated with hip pain and surgical treatment of hip conditions. Youth athletes should be discouraged from early specialization to avoid future hip pain and dysfunction.