Systematic Review of the Representation of Female Athletes in Meniscal Repair Studies

Gabrielle Crowell, B.S.[1], Sheridan Scott, B.S.[1], LaTarsha Taylor, M.D.[2], Rachel Long, B.S.[2], Lisa Vopat, M.D.[2], Bryan Vopat, M.D.[2], Ashley Herda, Ph.D.[2,3]

[1]The Kansas University Medical Center, Kansas City, Kansas

[2]The University of Kansas Health System, Kansas City, Kansas, Department of Orthopedic Surgery and Sports Medicine

[3]The University of Kansas, Lawrence, Kansas, Department of Health, Sport, and Exercise Sciences

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Introduction. Female athletes have been historically underrepresented within sports science and sports medicine research, including studies on meniscal repair and partial meniscectomy-common arthroscopic procedures in this population. In studies including female athletes, important biological differences are often overlooked, despite the influence hormones, menstrual status, and other sex-specific traits have on performance and recovery. This study systematically reviews female athlete representation in studies on meniscal repair and partial meniscectomy.

Methods. A systematic review was conducted using PubMed to analyze the representation of female athletes in meniscal repair or partial meniscectomy studies. Studies were analyzed by: study population, sex distribution, athletic caliber, menstrual status, research theme, journal impact factor, failure rates, and return to sport rate.

Results. Eighty-two studies were included. No female-only studies were identified, while 9/82 (11%) were male-only. No studies examined females at the highest athletic caliber (Tier 5), though two male-only studies did. Menstrual status was not considered. Among treated participants, 2,157 (70.3%) were male and 911 (29.7%) female. Male-only studies had the highest journal impact factor of 4.39, compared to 3.64 for mixed-sex cohort and 4.21 for male vs. female sub-analysis studies. Females were underrepresented in studies evaluating surgical failure and return to sport.

Discussion. Research on meniscal repair and partial meniscectomy relies heavily on male-based evidence. Even studies including females overlooked potential impacts of biological differences. Future studies should account for sex-specific factors to improve study quality and applicability. Key limitations of this study are use of a single database and publication bias.