



Amari Eubanks

Howard University College of Medicine
USA

Increased Risk of Meniscal Degeneration with Oral Contraceptives and Hormone Replacement Therapy

Abstract:

Meniscus degeneration is the breakdown of cartilage in the knee that could lead to osteoarthritis, with female athletes at an increased risk. The deficiency of sex hormones (i.e, Estrogen) are known to influence joints, but the impact of elevated hormones is unknown. The study aims to evaluate elevated hormone levels in female athletes with the risk of meniscus injuries. A retrospective cohort study was conducted using the TriNetX Global Collaborative Network. Two cohorts were defined: female athletes aged 15–45 on OCPs or HRT (n=61,888), and a control group of female athletes not on hormonal therapy (n=205,175). The primary outcome was meniscus injuries, including meniscus tears or derangements. Patients with meniscus-related knee injuries and osteoarthritis before hormonal therapy were excluded. Statistical analyses included risk analysis, Kaplan–Meier survival analysis, and frequency analysis over a 5-year follow-up period. OCPs and HRT in female athletes after matching (n=58,265) were positively associated with meniscus injury compared to the control group. OCP and HRT athletes had a risk ratio of 1.369 and an odds ratio of 1.375. Kaplan–Meier Analysis showed similar time-related meniscus injuries (97.59% vs. 97.63%). Users also had a slight increase in subsequent injury, but this did not show statistical significance (3.54 vs. 3.420; $p = 0.666$). Hormonal therapy slightly increases the number of meniscus related injuries for female athletes. These findings suggest that oral contraception and hormone therapy may impact joint health and should be considered for future risk assessments.

Biography

Amari Eubanks is a Howard University 2024 alumna and a 2nd year medical student at Howard College of Medicine. Before completing her Bachelor's degree in three years, she was a BS/MD student as an undergraduate student. Her passion for athletics as well as her desire to give back to underserved communities has guided her interest in orthopedic surgery and sports medicine. Amari is committed to addressing health care disparities, and hopes to increase access to high quality surgical care as a future orthopedic surgeon