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New Study Demonstrates that Running Does Not Increase Risk of Arthritis

LAS VEGAS (March 7, 2023)—Chicago Marathon® participants helped orthopaedic researchers further understand the impact of long-distance running on bone and joint health, specifically knee and hip arthritis in recreational runners. Results from the largest survey of marathon runners ever conducted showed no association between cumulative running history and the risk for arthritis.

“Despite growing knowledge that running and being active can be healthy for your joints, there is a continued dogma among the healthcare community that patients should stop running to avoid wearing out their cartilage,” said lead author Matthew J. Hartwell, MD, an orthopaedic surgery sports medicine fellow at University of California San Francisco. “In fact, our survey showed that one in four people have received a recommendation by their physician to reduce their running volume, and for those with arthritis, nearly 50% of runners were told by their physicians to stop running altogether.”

Dr. Hartwell and his colleagues conducted the prospective cohort study, “Does Running Increase the Risk for Hip and Knee Arthritis? A Survey of 3,804 Chicago Marathon Runners,” during his residency at Northwestern University Feinberg School of Medicine in Chicago. It was presented at the 2023 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS).

The electronic survey was completed by 3,804 participants registered for the 2019 and 2021 Chicago Marathons. The mean age of respondents was 43.9. Participants had run an average of five or fewer marathons, and they had been running for an average of 14.7 years.

The survey featured 30 questions targeted at assessing:

- Demographic information (age, sex, height, weight, country of origin and occupation)
- Running history (number of years running; average weekly mileage over the past year; average running pace during training runs; number of marathons completed, including ultra-marathons; and participation with cross training)
- Hip/knee health (occurrence of hip or knee pain over the past year that prevented running; a history of hip or knee injuries that required a break in running; a family history of hip and/or knee arthritis; surgical procedures performed on the hip or knee; and receiving a hip or knee arthritis diagnosis)

These data showed that the prevalence of hip and/or knee arthritis was 7.3%. Prior hip/knee injuries or surgery, advancing age, family history and BMI were risk factors for arthritis. Cumulative number of years running, number of marathons completed, weekly mileage and mean running pace proved not to be significant risk factors for arthritis.

“Our multivariate analysis showed that the factors that increase a person’s risk for arthritis are the same for anyone with joint degeneration — whether or not they’re a runner. Those factors include increase in age, BMI, a family history of hip or knee arthritis, and whether they’ve had injuries or knee surgery,” said Dr. Hartwell.

The participants were also asked if a doctor had ever advised them to stop or reduce their running, if they were still running at the time of questionnaire completion, and if they plan to run another marathon. The majority (94.2%) of runners planned to run another marathon despite 24.2% of all participants being told by a physician to do otherwise.

“Recreational runners are a dedicated group of people who use the sport for exercise, mental clarity or to challenge themselves,” said Vehniah K. Tjong, MD, FAAOS, associate professor of orthopaedic surgery at Northwestern University. “Our hope is these findings educate physicians, so they don’t instinctively advise against running and they work to meet patients on their level — because, as these data show, runners are likely to continue running despite medical advice.”

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2023 AAOS Annual Meeting Disclosure Statement

About the AAOS

With more than 39,000 members, the [American Academy of Orthopaedic Surgeons](#) is the world’s largest medical association of musculoskeletal specialists. The AAOS is the trusted leader in advancing musculoskeletal health. It provides the highest quality, most comprehensive education to help orthopaedic surgeons and allied health professionals at every career level to best treat patients in their daily practices. The AAOS is the source for information on bone and joint conditions, treatments and related musculoskeletal healthcare issues; and it leads the healthcare discussion on advancing quality.

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