

## Gender Bias May Affect Care of People with Osteoarthritis, Study Finds

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Unconscious prejudices among doctors may explain why women complaining of knee pain are less likely than men to be recommended for total knee replacement surgery, a study in today's issue of the Canadian Medical Association Journal suggests.

Toronto researchers used two standardized or "mystery" patients, one male and one female, both with moderate knee osteoarthritis reporting the same symptoms of knee pain. The patients received assessments from 67 physicians in Ontario. Physicians were twice as likely to recommend total knee replacement surgery (known as arthroplasty) to a male patient compared to a female patient. Overall, 67% of physicians recommended total knee arthroplasty to the male patient compared with 33% who recommended it to the female patient.



"Disparity in the use of medical or surgical interventions is an important health care issue, and this research suggests a gender bias in the treatment of patients who may need orthopedic surgery," says lead author Dr. Cornelia Borkhoff, about the article based on her doctoral thesis while in the Clinical Epidemiology Program at the University of Toronto Faculty of Medicine's Department of Health Policy Management and Evaluation.

This new study, the first ever demonstration of physician bias in an actual clinical setting (i.e., with patients during actual office visits with physicians in their offices) involved 38 family physicians and 29 orthopaedic surgeons because the researchers were interested in whether barriers for women exist between the family physician and the patient in obtaining a referral to an orthopaedic surgeon or between the surgeon and the patient in the decision to offer total knee replacement. A male patient was referred to an orthopaedic surgeon 35% more often than a female patient. The study also found that a man was nine times more likely than a woman to be recommended for a total knee replacement.

"Physicians may be at least partially responsible for the sex-based disparity in the rates of use of total joint arthroplasty," says Dr. Borkhoff. "Physicians are susceptible to the same social stereotyping that affects all of our behavior. Decisions that stem from unconscious biases are not deliberate - physicians would be unaware of their unconscious biases affecting their decisions."

"We know that total knee replacements can improve a patient's overall quality of life, regardless of gender, by dramatically reducing knee pain," says Dr. Hans Kreder, Chief of the Holland Musculoskeletal Program at Sunnybrook Health Sciences Centre. "There are many variables that could impact the decision to opt for surgery, including a difference in communication styles and the fact that some people are comfortable in being more demanding when asking for a medical procedure. That said, there is an obvious sex-based discrepancy, which needs to be looked at more closely."

More than 90% of orthopedic surgeons recommended total knee replacement to the male patient, which also suggests that surgery is the right decision and represents the best care for patients with moderate knee osteoarthritis for whom medical therapy has failed.

"Our results support the need for clinician education programs to better inform physicians of the true risks of total joint arthroplasty, when and for whom to consider surgery, as well as, the potential benefits of early treatment," says Dr. Borkhoff.

"Acknowledging that a gender bias may affect physicians' decision-making is the first step toward ensuring that women receive complete and equal access to care," says the principal investigator of the study, Dr. James Wright, a Professor at the University of Toronto Faculty of Medicine's Department of Health Policy Management and Evaluation and the Surgeon-in-Chief at The Hospital for Sick Children. "The next step is to develop creative interventions to address these disparities in health care."

The research team also includes representatives from Women's College Hospital, St. Michael's Hospital and the University Health Network.