

Helping patients put their best foot forward

Dr Gillian Hawker of the University of Toronto is helping potential knee replacement patients to make informed decisions about their health. As an increasing number of us require joint replacement, Dr Hawker seeks to make sure that only those who are best suited will undergo surgery. By developing standardised patient assessment criteria for knee surgery, Dr Hawker is striving to make the most of precious health care resources and create better conversations between patients and consultants.

Knee osteoarthritis is very common and the numbers affected are on the rise. For some people with osteoarthritis, non-surgical therapies may be insufficient to manage the pain and functional limitations caused by their knees and joint replacement surgery may be recommended. Research undertaken by Dr Gillian Hawker of the University of Toronto seeks to improve the outcomes of this increasingly common surgery.

More than 1.2 million knee replacement surgeries are conducted across the world in a single year and worryingly, the rates of Joint Replacement Surgery (JRS) are on the rise. Lengthening lifespans and obesity are two of the most likely culprits of this increase, but it has also been found that patients are seeking surgery earlier in the course of their disease, raising concerns that JRS may be becoming overused. People aged between 20 and 59 have

JRS recipients are dissatisfied with the results of their surgery.

Dr Hawker aims to ensure that only patients who are suitable candidates for knee replacement receive the surgery and has conducted extensive research into determining criteria to aid decision making.

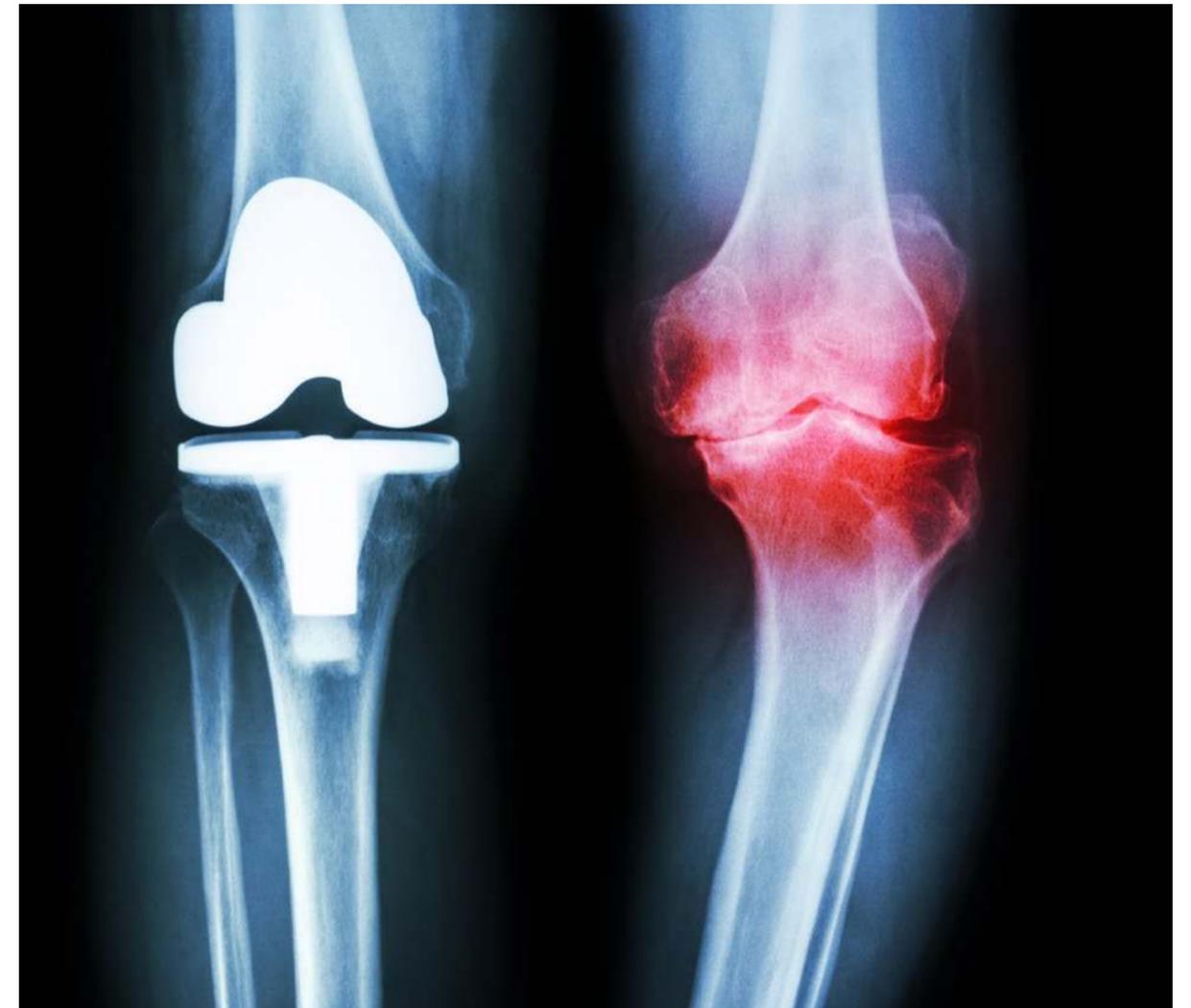
APPROPRIATENESS CRITERIA

By liaising with patients and orthopaedic surgeons, Dr Hawker and colleagues were able to establish four criteria for deliberation when considering knee replacement. These are: despite appropriate non-surgical treatment, patient's joint symptoms are negatively impacting quality of life; patient is ready, willing and able to undergo surgery; patient has realistic surgical expectations; and the likelihood of patient benefit from JRS is greater than the risks. The question

The importance of collaborative decision making when considering knee replacement surgery cannot be overstated

seen the biggest increase in rates of knee replacement surgery. This is an unsettling trend as a second knee replacement later in life, known as revision surgery, is less likely to be successful and much more costly. Furthermore, research has shown that though largely successful, 15–30% of

is, how best to evaluate these criteria, and can they predict at surgical consult whether or not the patient will benefit from surgery? This is the focus of her current research. Findings from this study will help patients and their physicians make informed healthcare decisions.



Candidates for this current study have been recruited from one of two large joint surgery clinics in Alberta, Canada. To be included in the study patients must have symptoms due to arthritis of the knee, be aged 30 or above and have undergone referral to a surgeon.

Each patient that agreed to participate in the study was assessed using the appropriateness criteria before they saw the consulting surgeon. This information was not shared with the surgeon. After being seen by the surgeon, the latter indicated if surgery had been recommended and, if so, whether or not the patient had realistic expectations of knee replacement. The surgery then continued as arranged.

In order to evaluate the effectiveness of the surgery, Dr Hawker and the team interviewed patients at six and twelve

months post-surgery. During these interviews patients were asked about their knee pain, physical function, and whether or not their expectations of knee replacement had been met.

One of the major challenges of the study was defining, from patient responses, whether knee replacement had been of benefit to the patient. As different people have different expectations of surgery, as well as different levels of acceptable pain, it was necessary to prioritise some factors over others. Pain is one of the major factors which triggers people with arthritis to undergo surgery. Reduced level of pain was therefore used as the primary measure of benefit. Patients must express that their pain was "much" or "somewhat" improved, as well as being "very" or "somewhat" satisfied with the results in order to

be considered as having benefited from surgery. Alternative definitions of benefit are also being considered.

While the attitudes and experiences of patients is extremely important, the decision to operate ultimately falls at the feet of the surgeon. Dr Hawker and her team intend to use the data collected in this study to finalise their appropriateness criteria and use them to develop tools to aid surgeons in their decision making.

MAKING GOOD DECISIONS

Though earlier work has helped develop aids to support patients in the decisions they make leading up to surgery, surgeons have not previously experienced similar attention. Consistency is important in making healthcare decisions and Dr Hawker found that, "Participants agreed that



surgeons did not consistently discuss/assess all of the appropriateness criteria that were identified.” Dr Hawker and colleagues have also found that health care funders and hospital administrators would like a greater level of transparency about the selection criteria that surgeons apply. Having criteria by which to reliably identify those patients most likely to benefit from surgery could be used by surgeons alongside their patients, could help them make better informed decisions and help reduce the

Dr Hawker seeks to emphasise the importance of helping patients make their own informed healthcare decisions

number of patients who experience a suboptimal surgical result. The financial implications of the increasing number of surgeries are also an important consideration. Within the study area of Alberta, Canada more than \$800 million are spent each year solely on knee replacement surgeries. The importance

of collaborative decision making when considering knee replacement surgery cannot be overstated. With significant human and financial implications, it seems clear that helping patients and surgeons to make better decisions together will benefit everyone.



Behind the Bench

Dr Gillian Hawker

E: gillian.hawker@wchospital.ca T: +1 416 323 7722 W: <http://ihpme.utoronto.ca/faculty/gillian-hawker/>

Research Objectives

Dr Hawker has established a record of academic excellence in the field of osteoarthritis (OA) outcomes. A predominant theme of her research is the appropriate use of hip and knee joint replacement surgery for OA. Joint replacement surgery reduces pain and disability in people with hip and knee arthritis. Her work has a broad impact, important in understanding the roles of arthritis severity, other health conditions, patient preferences, and sex/gender and physician bias in determining rates of use of joint replacement surgery.

Funding

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Collaborators

Deborah Marshall, University of Calgary; Tom Noseworthy, University of Calgary; Eric Bohm, Concordia Hip and Knee Institute, University of Manitoba; Michael Dunbar, Dalhousie University; Peter Faris, Alberta Health Services; Allyson Jones, University of Alberta; Bheeshma Ravi, University of Toronto; Linda Woodhouse, University of Alberta

Bio

Dr Gillian Hawker is the Sir John and Lady Eaton Professor and chair of the Department of Medicine at the University of Toronto, where she is also a rheumatologist and clinician scientist at Women's College Hospital, University of Toronto. Dr Hawker has published over 240 peer-reviewed

articles and received a number of honours for her research, including the Canadian Rheumatology Association Distinguished Investigator Award in 2011.

Contact

Dr Gillian Hawker
Women's College Hospital
190 Elizabeth Street, Suite RFE 3-805
Toronto, ON M5G 2C4

Q&A

Will the development of this tool allow patients and surgeons to contribute equally to decisions about healthcare?

No, surgeons and potentially the health care system will always be able to trump a patient's decision to have surgery when they won't benefit from it, but patients who understand their likelihood of a good outcome with surgery will hopefully make better decisions.

How important do you think is the psychological readiness of the patient for surgery, compared with the physical suitability?

Both are important, but I think we have undervalued the importance of psychological readiness – in our prior work, patients talked about this a lot... And in research we clearly find that the 'optimists' and 'copers' are more likely to adhere to their post-operative rehabilitation, etc – so it matters!

Do you find that patients are becoming more interested in understanding all their healthcare options before commencing surgery?

Patients are definitely more engaged in their health care decisions period... not just for surgery. They are way more likely now than a decade ago to arrive at their doctor's office having done their own investigation into the treatment options – our job now is to help them decipher the good evidence based information from the bad stuff – with respect to knee replacement however, people are also wanting more from the surgery than in the past – whereas previously folks wanted surgery mainly to be able to do their basic activities of daily living, now folks are wanting ALSO to be able to exercise, travel, do sports – much more vigorous high impact activities that knee surgery wasn't designed for.

As lifespans lengthen, are higher rates of revision surgery sadly inevitable, regardless of primary surgery success or failure?

Yes and no... if we reduce need for the

first surgery, that will help a lot – knee osteoarthritis is very much impacted by our weight – reducing body weight and maintaining a healthy weight along with keeping physically active would go a long way to reducing the number of people who require a first joint replacement. With respect to the second or revision surgery, again, guidance for people who receive a first knee replacement about what will enable the prosthesis to last longer or need revision sooner can be helpful.

You were honoured by The Arthritis Society of Canada with a Queen's Jubilee Medal in 2013 for your continued contributions to osteoarthritis research. What has been the highlight of your career?

I am fortunate to have had many highlights – the many successes of my trainees over the years for sure is amazing... especially those who are now going on to establish their own careers focused on improving the lives of people with osteoarthritis.