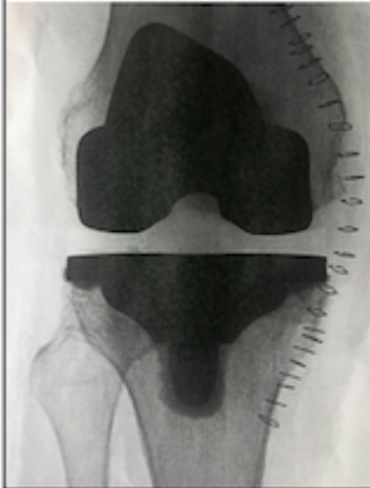
JointHealth™ insight
Arthritis research, education and advocacy news : September 2019

Arthritis Awareness Month Series



Part II
The Road to Joint Replacement Surgery

For some individuals with severe osteoarthritis (OA) or different forms of inflammatory arthritis (IA), their rheumatologist or family doctor may recommend a joint replacement if other forms of treatment have not improved function or failed to prevent further joint damage. In part two of our three-part JointHealth™ insight series for Arthritis Awareness Month, we discuss joint replacement for arthritis with a focus on the time before surgery. This special issue of JointHealth™ insight will include information about what a joint replacement is, decision making for surgery, bilateral knee replacements and preparing for surgery. Stay tuned for part 3 of the series, Recovering from Joint Replacement Surgery, where we hear from a patient who has recently undergone a total knee replacement and is in the recovery and rehabilitation process.

What is a joint replacement?

The American Academy of Orthopaedic Surgeons define a total joint replacement as "a surgical procedure in which parts of an arthritic or damaged joint are removed and replaced with a metal, plastic or ceramic device called a prosthesis. The prosthesis is designed to replicate the movement of a normal, healthy joint." The most commonly performed joint replacements are hip and knee replacements but the procedure can also be performed on other joints, such as the ankle, wrist, shoulder, and elbow. If treatments such as medication and physiotherapy are not enough to manage your arthritis pain and problems with day-to-day function, your doctor may refer you to a surgeon to see if surgery is right for you.

Deciding whether to get surgery

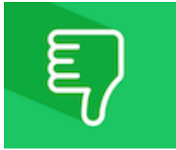
There are three main goals of joint surgery in arthritis: to reduce pain, to prevent joint damage and to improve one's ability to function day to day. Joint surgery for arthritis is considered an elective surgery rather than an emergency surgery because its purpose is to improve quality of life, not to reduce mortality. For this reason, it is important to consider the risks and benefits. If surgery is appropriate for you, expected health benefits should outweigh potential risks.

Benefits

The key benefits of surgery are pain relief, improved movement and improved use. These can have very positive impacts on one's quality of life. Another benefit of surgery is improved appearance, particularly for severely damaged joints. While this should not be the main goal of surgery, it offers a valuable psychological benefit.

More good news: A study called "How long does a knee replacement last? A systematic…" from the Musculoskeletal Research Unit at the University of Bristol shows that most knee replacements last 25 years. More specifically, approximately 82% of total knee replacements last 25 years and 70% of partial knee replacement last 25 years. In a separate study[1] conducted by the same research team, it was concluded that patients and surgeons can expect a hip replacement to last 25 years in around 58% of patients.

Risks



Some risks can be predicted, and others cannot. With careful planning, you and your healthcare team may be able to minimize the risks, especially those health factors that can actually predict poorer surgical results. Things that can jeopardize good surgical results:

- **Having a heart or lung condition** – these and other serious health conditions should be under control prior to having surgery; otherwise, the stress of surgery may pose a greater health risk.
- **Poor general health** – preserving strength and range of motion can help speed the post-surgery recovery process.
- **Being overweight** – carrying excess weight on the body means greater pressure on the joints during recovery and can delay the recovery process.

Sometimes, no matter how carefully you plan ahead, complications still arise during or after surgery. The three most commonly occurring complications after surgery are infection, blood clots and loosening of artificial joint replacements.

Over time, it is also possible that a joint replacement will fail for a variety of reasons. In this case, your doctor may recommend a second surgery known as a revision surgery, where some parts or all parts of your prosthesis are removed and replaced. A revision surgery is often longer and more complex than one's original joint surgery. Patients who are under 50 are at a higher long-term risk for revision surgery in knee replacements, as they may "outlive" their artificial joint due to loosening or wear.

According to Dr. Jonathan Cluett in *Verywell Health*, under 50 year-old's happen to be the fastest growing segment of people having knee replacement surgery. He adds that the benefits of knee replacement for younger patients may outweigh the risks of revision surgery when they have severe arthritis and all other means have been tried.

Deciding whether surgery is appropriate for you is a complex subject, but Dr. Deborah Marshall from Arthritis Research Canada[2] has identified several important factors, in addition to benefits and risks that are important for patients and their healthcare team to consider before joint surgery. These include:

- **Social circumstances;** does the patient have a support system that will help with rehab and post-opt care?
- **Pre-operative management;** has there been adequate trial of non-surgical arthritis treatment?
- **Readiness/motivation;** is the patient physically and mentally ready to have surgery?
- **Ability to cope;** will the patient be able to cope with the pain of surgery and the work required to prepare and recover from surgery?

- **Willingness/ attitude;** does the patient have a positive attitude towards surgery?
- **Patient expectations;** are the patient's expectations for joint surgery reasonable? Do they align with the surgeon's expectations?

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1. Evans JT et al."How long does a hip replacement last? A systematic review and meta-analysis of case series and national registry reports with more than 15 years of follow-up", Lancet. February 16, 2019. doi: 10.1016/S0140-6736(18)31665-9
2. Marshall D. "ROAR 2015 – The RAW deal on Knee Replacement: Are you Ready, Able and Willing?", Arthritis Research Canada. October 16, 2015.

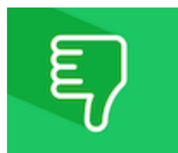
Should I get two knee replacements at the same time?

In some cases, where both knees are severely affected and other treatment options have not been sufficient, patients might consider getting both knees replaced during the same surgery, a procedure known as a bilateral knee replacement. A recent story published in MedPage Today explored the mixed evidence and patient experience related to bilateral knee replacement.

Benefits

The primary advantage to getting a combined surgery is that there is only one hospital stay and one recovery/rehabilitation period for both knees. This means less time off work, in pain and needing supportive care. In addition, the combined procedure often costs less for the patient and the provider than having them done at different times. In 2016, the Canadian Institute for Health Information (CIHI) found that the overall cost of the simultaneous procedure was $20,800 compared to $23,700 for two separate procedures. In Canada, knee replacement surgery, hospital stay and post-surgery care (such as physiotherapy) are covered by provincial healthcare plans.

Risks



There is some evidence that simultaneous bilateral knee replacement can come with increased risk. For one, there is a higher possibility of serious falls and more severe debilitation during the recovery period as patients don't have one good leg to stand on for several weeks. This means that every day activities like using the bathroom or making dinner can become very challenging. In addition, one longer surgery rather than two shorter ones means more time under anaesthesia which can increase risks of complications. Several studies have tried to quantify the risk associated with

bilateral knee replacement but there is little consistency between the studies, making it difficult to draw sound conclusions.

When considering surgery, patients must consider what is best for themselves in terms of employment, care, and recovery. It might be helpful to consider the following questions:

- Is my home accessible? For example, will I be able to get from room to room while both of my knees are recovering? If not, is there another facility where I could stay during recovery?
- Will I have the support I need during recovery (such as from family and friends)?

Surgeons that were interviewed by *MedPage Today* said that ultimately, it is a shared decision process, where both the patient and the surgeon work together to determine what is the best option. To learn strategies for communicating with your healthcare provider, visit JointHealth™ Education.

Preparing for Surgery: the power of prehabilitation

A 2017 study[3] conducted by a team of Canadian Physiotherapists at The University of Western Ontario has discovered valuable information regarding the impact of *prehabilitative* care prior to joint replacement. The team wanted to see if education and exercises for patients *before* surgery (prehabilitation) impacts pain, function, strength, anxiety and length of hospital stay *after* surgery (post-operative outcomes).

The team used a specific research method known as a systematic review and meta-analysis. This means that they carefully selected a number of existing studies on the topic and then combined and analyzed the results. Thirty-five studies, with a total of 2,956 patients, were included in the analysis. After a comprehensive evaluation, the researchers concluded the following:

- Total knee replacement (TKR): Patients who received education and exercise before surgery experienced significantly greater improvements in function and muscle strength and were able to stay in hospital for fewer days.
- Total hip replacement (THR): Patients who received education and exercise before surgery experienced the same improvements as TKR patients, as well as significantly less pain.

This study illustrates the power of **education and exercise**, which can provide us with great benefits not only for surgical outcomes but in all circumstances. For example, using up-to-date, credible resources, patients can develop the skills and knowledge to better manage their disease. As for exercise, making physical activity a daily habit is shown to reduce fatigue, strengthen bones and muscles as well as increase stamina and flexibility.

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3. Moyer R, Ikert K, Long K, Marsh J. "The Value of Preoperative Exercise and Education for Patients Undergoing Total Hip and Knee Arthroplasty: A Systematic Review and Meta-Analysis", The Journal Of Bone And Joint Surgery. December 5, 2017. doi: 10.2106/JBJ

Preparing for a knee replacement: mobility aids and accessibility devices

It's important that your home is all ready for your recovery and rehabilitation process after surgery. You will need to set up different devices and mobility aids so you're able to have ample accessibility in your home and everyday life. Cheryl Koehn, Founder and President of Arthritis Consumer Experts kindly shared her experience of preparing her home for a total right knee replacement surgery. In this video, Cheryl walks us through each item she will be using and how to use it: https://www.youtube.com/watch?v=FqxneF2Ax1w

Arthritis Consumer Experts (ACE)

Who we are

Arthritis Consumer Experts (ACE) operates as a non-profit and provides free research based education and information to Canadians with arthritis. We help (em)power people living with all forms of arthritis to take control of their disease and to take action in healthcare and research decision making. ACE activities are guided by its members and led by people with arthritis, scientific and medical experts on the ACE Advisory Board. To learn more about ACE, visit www.jointhealth.org

Guiding Principles

Healthcare is a human right. Those in healthcare, especially those who stand to gain from the ill health of others, have a moral responsibility to examine what they do, its long-term consequences and to ensure that all may benefit. The support of this should be shared by government, citizens, and non-profit and for-profit organizations. This is not only equitable, but is the best means to balance the influence of any specific constituency and a practical necessity. Any amount remaining from our annual budget at year end remains with ACE and is used to support the following year's core programs to continue helping Canadians living with arthritis.

For its past 20 years, ACE has consistently honored a commitment to its members and subscribers, academic and healthcare professional colleagues, collaborators, government and the public that its work is free from the influence of its funders.

To inform ACE employees and our stakeholders, members, subscribers that we will operate our organization with integrity and abide by the highest standards of lawful and ethical behaviour, ACE has adopted this strict set of guiding principles:

- ACE requests grants from private and public organizations to support its core program and plans and allocates those funds free from influence;
- ACE discloses all funding sources in all its activities;
- ACE does not promote any "brand", product or program on any of its materials or its website, or during any of its educational programs or activities.
- ACE employees do not receive equity interest or personal "in-kind" support of any kind from any health-related organization;
- ACE identifies the source of all materials or documents used;
- ACE develops positions on health policy, products or services in collaboration with people living with arthritis, academic research community, health care providers and governments free from concern or constraint of its funders or other organizations; ACE employees do not engage in personal activities with its funders;
- Cheryl Koehn does not own stock or any financial interest in any of its private or public funders.

Scientific Review

ACE thanks Arthritis Research Canada (ARC) for its scientific review of all ACE and JointHealth™ materials.

Disclosures

Over the past 12 months, ACE received grants-in-aid from: Amgen, Arthritis Research Canada, Canadian Biosimilars Forum, Canadian Institutes of Health Research, Canadian Rheumatology Association, Eli Lilly Canada, Hoffman-La Roche Canada Ltd., Knowledge Translation Canada, Merck Canada, Novartis Canada, Pfizer Canada, Sandoz Canada, Sanofi Canada, UCB Canada, and the University of British Columbia. ACE also received unsolicited donations from its community members (people with arthritis) across Canada.

ACE thanks funders for their support to help the nearly 6 million Canadians living with osteoarthritis, rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis and the many other forms of the disease.

Disclaimer

The material contained in this publication should not be relied on to suggest a course of treatment for a particular individual or as a substitute for consultation with qualified health professionals who are familiar with your individual medical needs. Please contact your physician for your own health care related questions.

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ACE does not promote any "brand", product or program on any of its materials or its website, or during any of its educational programs or activities.

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