A New Knee or Hip:
More than Just a Referral?

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As the population ages, more and more individuals will require reconstructive joint surgery. Given the limited orthopedic manpower currently available, careful selections for surgical referral will become a necessity. It is estimated that by 2016, there will be approximately 20,000 hip replacements and 54,000 knee replacements done in Ontario. This is a huge increase and will require the streamlining of referral systems from what was previously needed. As a result, the new challenge for family practitioners will be to recognize and investigate large-joint related conditions and filter out others.

Joint reconstruction is a lifestyle surgery. It provides surgical treatment to relieve pain and improves functions of the weightbearing joints in the lower extremity. Indications for surgery include:

- pain,
- stiffness,
- deformity and
- instability.

Ralph's Concern

- Ralph, 58, presents with a six-month history of recurrent pain and swelling in his right knee.
- There was no specific injury that brought on his symptoms.
- His pain became worse with prolonged weightbearing, squatting and/or running.
- He feels no pain while he is resting and he has no significant pain in bed at night.
- Ralph's physical examination reveals a moderate build with varus alignment of his right extremity when compared to his left lower extremity.
- He has a range of motion from five to 125 degrees of flexion with slight discomfort at maximum flexion.
- There is a moderate effusion present in his knee.
- He has definite medial and lateral joint line tenderness.
- He has valgus pseudolaxity and painful crepitation in the medial compartment with loading.
- His X-rays are shown in Figure 1.

For more on Ralph, go to page 84.

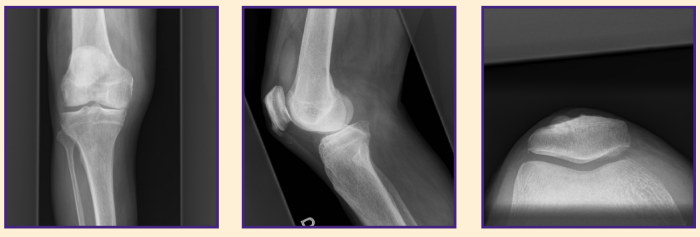

Figure 1. Ralph's X-rays on presentation.

Treating Ralph

- Ralph works in an office and his job requires mild physical exertion.
- Clearly, the medial compartment of his knee joint is worn and it is a matter of selecting treatments appropriate for the degree of the disease and the physical demands that will be required.
- From a surgical perspective, his current activity level is compatible with that recommended for a total joint arthroplasty.
- The simplest treatment option may be an unloading type of brace to see if he could cope with the physical demands until he is closer to retirement.

The presence of degenerative joint disease is confirmed by narrowing localized joint space, osteophyte formation, subchondral cyst formation and sclerosis.

The challenge is to recognize the severity of the pain, the cause of the stiffness and the severity of the deformity and instability.

What should the physician look for?

Given Ralph's symptoms, the astute clinician who performs a clinical examination is looking for joint effusion, loss of range of motion, joint pseudolaxity and bone-on-bone crepitation. This is most easily detected at the knee. Findings of degenerative arthritis of the hip would include a positive Thomas test (fixed flexion deformity) and loss of internal rotation with possible leg length discrepancy.

The clinical assessment should lead to the appropriate radiologic investigation. The gold standard is plain X-rays of the hip and weightbearing X-rays of the knee. The presence of degenerative joint disease is confirmed by narrowing localized joint space, osteophyte formation, subchondral cyst formation and sclerosis.

In contrast, inflammatory joint disease causes generalized narrowing of joint spaces, relative osteopenia and juxta-articular erosions.

A patient should be referred for surgery when he or she complains of pain or instability that interferes with function. This must be supported by a clinical examination localized to the hip or knee joint and supported by X-rays. This should demonstrate structural pathology.

What is the next step for the family physician?

The surgical challenge in degenerative joint disease is matching the treatment to the underlying disease process and meeting the physical demands of the individual patient. Younger, more physically demanding patients will often put up with some discomfort in order to be able to pursue their active lifestyles. Older, or more sedentary individuals, may opt for total joint arthroplasty in the hope of significant pain relief and a moderate level of

function. The surgeon must strive to understand what the physical demands on the patient are and he must provide a treatment that enables the patient to exert themselves at their individual level without compromising long-term joint survival.

In addition, the surgeon has to help the patient understand the risks, as well as the benefits, of joint replacement surgery. For example, the risks associated with hip relacements are:

- hematoma formation,
- deep infection,
- dislocation,
- leg length inequality,
- post-operative stiffness,
- deep venous thrombosis,
- pulmonary embolism and
- the possibility of ongoing pain.

The risks of each of these complications vary with the peri-operative regimen that can include:

- techniques of thromboprophylaxis,
- the type of surgical exposure and
- the type of surgical implant and post-operative care.

Complications following knee surgery can include:

- hematoma,
- deep infection,
- malalignment in the lower extremity,
- stiffness and deep venous thrombosis,
- pulmonary embolus,
- anterior knee pain,
- patellar instability,
- patellar fracture and
- ongoing pain.

After surgery, how can the family physician help the patient?

The family physician can assist in the early post-operative care by assessing wounds and removing non-absorbable sutures as directed. The surgical wounds are often warm for six to eight weeks after surgery. They should not be erythematous or particularly tender. Passive range of motion should be painfree except at extremes. The goal of early rehabilitation is to regain range of motion and motor strength around the operated joint, followed by normalizing gait and function.

How can a family physician help a patient in need of a hip replacement?

Timely referral of suitable patients with a brief note documenting the severity of symptoms and investigations to date, can speed up a patient's access to care. We need to build a relationship with our referral sources so patients in need of prompt care can be distinguished from routine assessments.

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Resources:
1 Atlas of Arthritis and Related Conditions in Ontario. Institute for Clinical Evaluative Sciences. 2004.

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