

Doctors Gerald Baker and David Psutka bring relief to long-suffering patients with painful, debilitating jaw disorders.

The pain can be agonizing. The impact on quality of life is immeasurable. The path to an effective treatment can be, for some patients, long and tortuous. Some patients with the most severe cases of Temporomandibular Joint disorder have suffered through 10 to 20 operations, with no permanent relief. Fortunately, these patients are finding relief thanks to a prosthetic total joint replacement procedure at Toronto's Mount Sinai Hospital.

technology overview

The Temporomandibular Joint (TMJ) prosthesis is a "ball-and-socket" type prosthetic joint similar to a hip implant. The complete system includes three main components: A "Condyle" – a "ball" type mandibular implant which attaches to the jaw; a "Fossa" or "socket" implant which attaches to the skull; and screws which attach both implants to the bone.

The Temporomandibular Joints (TMJ) are the two complex joints that connect the jaw to the skull, one on either side of the face, allowing the jaw to open and close. It can also slide forward and back, and from side to side. Any number of conditions that include rheumatoid, psoriatic and osteo-arthritis and traumatic injuries can impair the joint's function. In its mildest form, patients with TMJ disorders have a painful "clicking" noise when they move their jaws. In its most severe form, the condi-

tion can make it extremely painful or impossible to open the jaw wide, or at all. There may be other associated problems such as severe headaches and when the TMJ is severely diseased, jaw deformities can occur.

"Then it starts to interfere with nutrition and enjoyment of life," says Dr. Gerald Baker, Head of Oral and Maxillofacial Surgery and Director of the Total Joint Reconstruction Program at Mount Sinai Hospital. "Patients have to alter the foods they eat, they can't easily brush their teeth and they have dental decay. It can have a very severe effect on the psyche of the whole patient."

Most patients with TMJ disorders can be treated conservatively. A small fraction of patients, those with the most severe form of the condition, often find little or no satisfaction from conventional treatments. Most patients who need surgery for TMJ problems will do well with simpler operations such as arthroscopy or open repair procedures. There is however, a group of patients with complex disorders of the TMJ, some who have already had multiple surgeries, who continue to have severe problems. These patients become candidates for total TMJ prosthetic replacement.

"Many of our patients have had multiple operations, some as many as 10 or 20," says Dr. David Psutka, a senior surgeon, who works closely with Dr. Baker at Mount Sinai Hospital. "If patients wind up in the downward

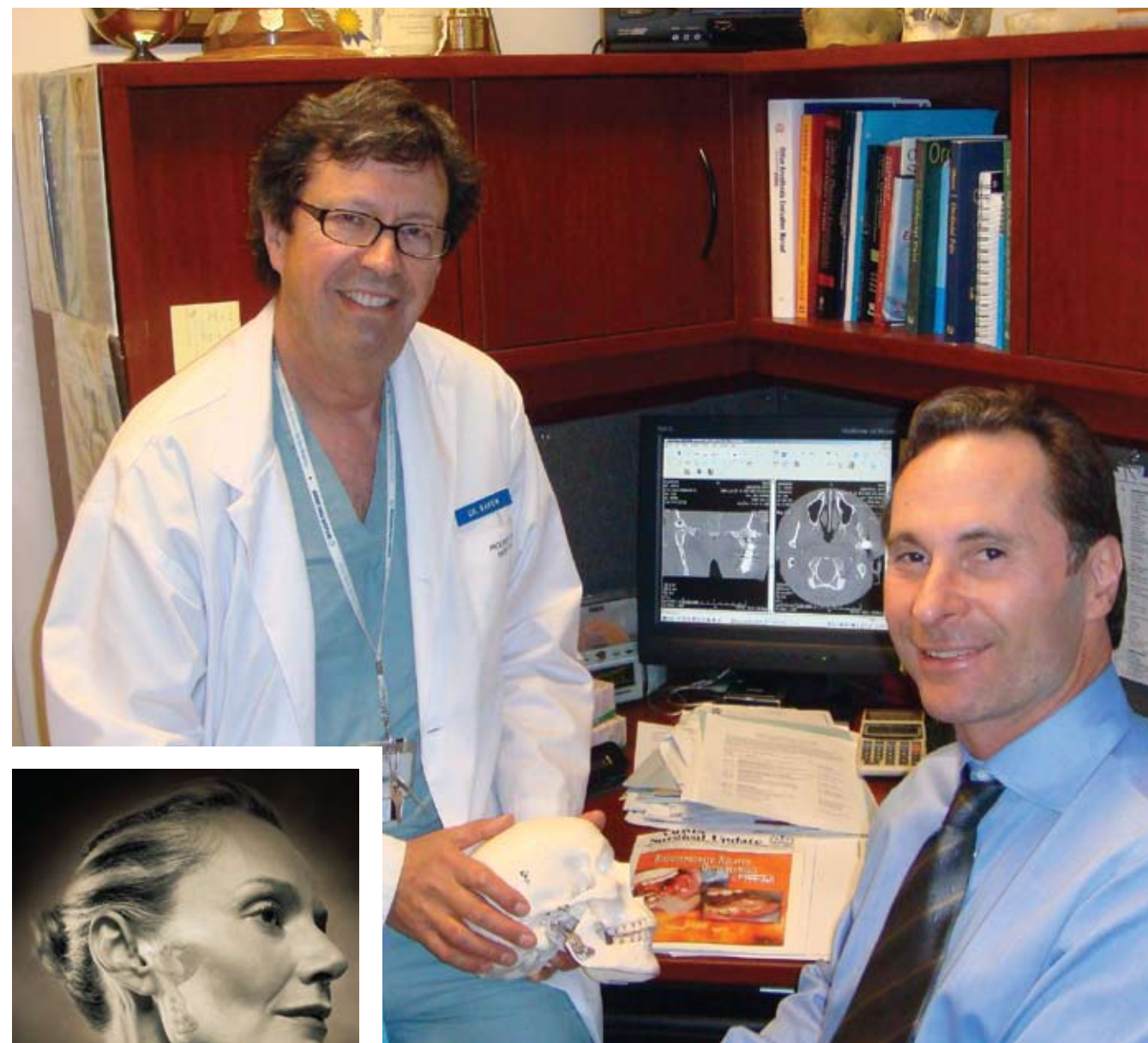
spiral of severe arthritic changes to their TMJ that ultimately cause them to have a major surgical intervention, the question is how many operations do you want them to have?" asks Dr. Baker. "If you can do one operation instead of 10, there's got to be a benefit there."

Together, Drs. Baker and Psutka run the largest centre of its kind in Canada; there is one smaller centre in Alberta. They perform about 35 prosthetic TMJ replacements on about 22 Ontario patients annually, with additional patients arriving from outside the province who are funded separately. They also train foreign surgeons in the procedure.

The surgery typically takes eight to 10 hours for a "bilateral" replacement – replacement of both joints in the jaw. Patients normally spend three or four days in hospital, then go home for post-operative care that includes "exercise, exercise, exercise," says Dr. Baker.

"Patients are given a special exercise device they can use at home," agrees Dr. Psutka. "If they're motivated, they'll do very well."

Following recovery, patients can expect to be able to open their mouths wider, chew better and feel less pain. Most report a high degree of satisfaction with the results.¹



fast facts

- Since 1995, Mount Sinai Hospital has performed 545 TMJ replacements on 317 patients.²
- Mount Sinai is officially funded to perform about 20 bilateral TMJ replacements per year. The funding is based on 1997 dollars and has not changed since then.²
- The waiting list for total TMJ replacement at Mount Sinai is about 18 to 24 months.²
- Most patients have had multiple unsatisfactory surgeries prior to prosthetic total TMJ replacement.²
- Following total prosthetic TMJ replacement, most patients report reduction in pain, reduction in interference with eating, increase of function, increased ability to open their mouths wide, and over 90 per cent satisfaction with their outcomes.¹

¹ Bonett, J. "The Right Fit: Developing a Safe and Effective TMJ Joint Replacement System" Penn Dental Journal p.3 (Spring 2005)

² Dr. Gerald Baker, interview, April 28, 2008. Information from Mount Sinai Hospital files.

