



Dear Colleague

Oral & maxillofacial surgeons Brian Whitley and Angus Colquhoun have carried out Braemar Hospital's first temporomandibular (TMJ) operation, giving new hope to a young woman running out of options...

When this failed to bring relief, the first surgical procedure was carried out: a bilateral TMJ arthrocentesis, in which both joints were washed out to eliminate accumulated chemicals at sites of inflammation, which add to pain. The aim was to also break down any early scar tissue forming, to improve movement of the joints.

That also proved unsuccessful, so a second, more invasive, procedure (bilateral TMJ Meniscectomies) was carried out at Braemar in July 2015. The damaged discs were removed, and fat harvested from the belly button was grafted to prevent the ball part of the joint from fusing to the socket. Again, there was no improvement in the pain or the range of movement.

"This is the point where we get to the end stage," says Brian. "Before we consider alloplastic joint replacements, people have typically had multiple less invasive operations." In Patricia's case, when the decision was made to do a temporomandibular (TMJ) joint replacement, the fat grafts had been re-absorbed and there was almost a bony union fusing the ball to the socket. While the procedure is expensive (around \$70,000, including the prosthesis) the operation was supported by ACC because the injury had been caused by an accident.

The implants are manufactured by US company TMJ Concepts, one of only three registered suppliers worldwide. They are FDA approved and made from titanium, cobalt-chromium-molybdenum, and ultra-high-molecular-weight polyethylene, also used in the reconstruction of hip and



When oral & maxillofacial surgeon Brian Whitley first met Patricia (not her real name), she could barely open her mouth without pain or chew hard food. Visits to the dentist were difficult, and she was consuming anti-inflammatory and pain medication, with little relief.

Patricia had rheumatoid arthritis in her jaw, uncommon in a young woman, but

routinely kept under control with medication. However, her condition was exacerbated in a car accident in 2014, when her dog's head struck the point of her chin. The injury had caused haemarthroses (bleeding into the joints) and fibrosis (scar tissue) leading to further restriction of the joints on both sides. She could open her mouth only 23mm – less than half the normal range.

"She was in constant pain, she was on pain relief all the time and what she could eat and where she could eat were severely limited," says Brian. While her condition was extreme, before surgery was contemplated, she went through an exhaustive list of non-surgical management, including home physical therapy, heat packs, massage, jaw exercises, muscle relaxants and bite splint therapy in which a small hard mouth guard opens the bite and takes the load off the joints each side.



knee joints. An anatomical bone model is produced from a CT scan of the patient's mandible and maxilla, to be used by the surgeon as a reference in planning and performing the implantation. Brian says the data on the device is extensive and now spans 30 years.

The operation on Patricia lasted eight hours and was carried out by Brian and fellow Braemar oral and maxillofacial surgeon Angus Colquhoun. While this was the first operation of its kind at Braemar Hospital, both surgeons have carried out several successful procedures at Waikato DHB.

The operation is technically difficult. There are two approaches to the jaw joint. One is pre-auricular, just below the ear, followed by a second incision under the jawline, which enables the surgeon to place the prosthesis in the jaw from below. The major risk is damage to branches of the facial nerves, but normally, any symptoms are temporary. Following the operation, a patient can expect to have increased mouth opening and jaw movement – up to 30-35mm – reduced pain and be able to chew normal food. Many stop taking analgesics.

Total joint replacements are not common in New Zealand, and of the 1-2 per cent of people with jaw joint problems, only 1 per cent will need total joint replacement, figures consistent with other countries. Around 6-10 oral and maxillofacial surgeons in New Zealand specialise in the procedure. The main reasons for deterioration of the jaw joint are rheumatoid arthritis and osteoarthritis, with a small number the result of injuries. There is a higher incidence among women, but the reasons for that are not known.

Patricia has recovered well. She was discharged from Braemar after two nights, and immediately reported the pain in her joints had gone. A period of rest will be followed by physical therapy programmes and jaw stretching, using a therabyte device to stretch the jaw.

Brian says he was hugely appreciative of Angus Colquhoun's skills, and the professionalism and facilities at Braemar Hospital. "It takes the weight off surgeons."

Dr Greg Spark – Deputy Chairman

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Facial trauma; Dental/facial implants;
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Specialist Training

Bachelor of Dental Surgery 1983
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Positions & Memberships

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