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Dental implants offer options for missing teeth

When people lost their natural teeth in the past, there were few options open other than dental bridges or dentures. Today, thanks to the pioneering work of prosthodontist Dr. George Zarb and researchers who preceded him, implants offer an attractive option.

“Implants offer far more than enhanced aesthetics,” said Dr. Zarb. “As a permanent replacement for healthy teeth, they enable people to chew food properly, ensuring they get adequate nutrition. For people with only partial tooth loss, implants help maintain a stable occlusion and prevent problems to the teeth and jaw alignment. They offer a strong preventive component to both oral and overall health.”

Dr. Zarb, until recently head of Prosthodontics at the University of Toronto, is an internationally known researcher and speaker who was recently in Alberta to present at the Alberta Dental Association and College annual congress.

“Implants are a boon to seniors, in particular,” added Dr. Zarb. “As we grow older and teeth are lost, we lose bone mass in our jaw and it’s difficult to get dentures to fit properly. The tongue and lips push dentures around when we talk or eat - that looks bad and causes clicking sounds; it makes people shy away from the elderly at a time they need positive human contact the most. Seniors are our most vulnerable citizens; implants can do much to improve their quality of life.”

Though implant dentistry is as successful with seniors as it is with younger patients, it is not without a downside. The procedure requires one or two surgeries and visits to specialists like Dr. Zarb, making the work demanding and the cost high. “The good news is that, unlike other prosthetic work such as knee and hip replacements that often need revisions, dental implants are permanent and low maintenance.”

Implant work was pioneered by a Swedish physician and bone physiologist named Per-Ingvar Branemark in the late 1960s. He was fascinated by the idea of taking foreign material and attaching it directly to bone, allowing the body’s own healing properties to reorganize and accept the foreign substance as an integral part of the body. His work began with a focus on amputations and orthopedic replacements.

Dr. Branemark's procedure, called osseointegration, uses both a technique and materials linked to dentistry: instead of trying to replace damaged cells with natural materials from the patient's own body that could be rejected, he proposed drilling into the jaw bone to create a sterile wound and then filling the cavity with a tooth root substitute made out of commercially prepared titanium. This new procedure contrasted with the original cemented hip replacement prostheses, which revolutionized prosthetic medicine and gave patients mobility within 24-30 hours with a reduction in the incidence of embolisms and other negative side effects.

It was Dr. Zarb who first recognized the wide potential of the technique for routine dentistry. Before he heard of Dr. Branemark's work, Dr. Zarb and his Toronto colleagues were experimenting with only limited success on the cementing of artificial teeth roots to the jaw bone. Dr. Zarb visited Dr. Branemark in Sweden in the late 1970s and convinced him to support a clinical trial with osteointegrated dental implants in Canada where he applied the osseointegration technique with remarkable success. (The failure rate is less than 5% and is usually due to complications with healing at the interface between the bone and the implant surface.) Dr. Branemark presented his team's findings in 1982 at a seminal International Symposium that Dr. Zarb organized in Toronto. "The clinical academics came to criticize and they stayed to pay homage," he said with a grin.

Today dental implants are an increasingly popular technique for replacing missing teeth. "Basically they enable us to change the ecology of the mouth by blending biotechnical aids with the mouth's natural environment," said Dr. Zarb. "An analogy in nature would be building a tastefully designed resort in a wilderness setting – it serves a practical purpose without destroying the environment. Implant treatment is a significant and ecologically sound health intervention."

To find out more about oral health care and treatment, talk to your dentist or go to the Alberta Dental Association and College website www.abda.ab.ca.-

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