

The Art of Tooth Replacement

The Andent Implant Hybrid – A true success story

By Matthew Smith

The art of implantation is not new, archaeologists have discovered compelling evidence of early versions of dental implants, dating back to China 2000 BC, Ancient Egypt 1000 BC and Celtic skeletal remains 300 BC; one can only hope these procedures were limited to burial ceremonies and carried out post-mortem.

Many designs and materials were used throughout the nineteenth and twentieth century to achieve predictable, achievable success rates for dental implants; with varying and limited degrees of success. It was not until 1965 that Dr Branemark, an orthopaedic surgeon showed compelling evidence that implant fixtures made from titanium did successfully integrate with bone.

This was an enormous revelation in the dental industry and provided endless possibilities for the conservation of bone and replacement of lost teeth. It also came shrouded in a veil of guidelines more akin to the Ten Commandments. The procedures were ridged, loading of fixtures was ultra conservative and any fixture failures were deemed to be a straying from the ridged guidelines.

Design, especially on large edentulous implant cases, was influenced by mechanical outcomes, rather than the patient's anticipated aesthetic desire. This saw many early edentulous full mouth implant restorations protrude in neiging fashion from the gum line, with teeth mounted on elevated metal piers. In terms of cleaning they were excellent, but for aesthetics not so accommodating.

The early edentulous full mouth implant cases required large metal substrates and created difficulties in construction, the frames provided strength and support and were bonded with porcelain or denture teeth. Inherent difficulties in lost wax casting techniques and the bonding of porcelain made the accuracy of these restorations difficult. Introduction of laser welding for smaller components improved results, but there were often inaccuracies, which placed stress on the implant fixtures and influencing longevity.

Fortunately, with success sustained



over a long time period, predictable outcomes for edentulous full mouth restorations with excellent aesthetics are achievable.

The question now is the choice of materials?

The current substructure materials of choice for edentulous full mouth implant construction are titanium or zirconia, with both these materials milled to fine tolerances. The advancement of modern technology allows laser scanning, computer aided design (CAD) and computer aided milling (CAM). The substructure tolerances are excellent, ensuring a passive fit of restoration to fixtures.

But the substrate is only half the story we now need to select the material to give us both function and aesthetics, which can be zirconia or PMMA.

We have in more recent times noted an increase in demand for a PMMA and zirconia combination, with the lower restoration being PMMA opposing zirconia, which provides comfortable occlusal function.

The long term results from denture teeth attached to metal frames did not prove successful, with the acrylic and teeth requiring ongoing maintenance, replacement and repair. We have milled the superstructure from a pressure cured solid multi-coloured disc, achieving excellent long term function, strength and

aesthetic results.

The combination Titanium/PMMA edentulous full mouth implant restoration has proved to be an excellent restoration, highly aesthetic and functional over many years.

Benefits:

- ◆ Cost-effective option.
- ◆ Precision milled titanium frame.
- ◆ High strength and biocompatible Titanium frame.
- ◆ Solid high strength milled PMMA providing both resilience, function and aesthetics.
- ◆ PMMA easy replaced over existing frame, in minimal time.
- ◆ Interchangeable with other materials should it be required in the future.
- ◆ Try-in resin printed bridge available prior to commencing final restoration.

Available at no extra cost! The opportunity to receive a resin printed try-in restoration, which provides for any adjustments, allows confirmation of occlusion/ aesthetics, prior to the commencement of the final restoration.

Andent's Hybrid PMMA Implant restoration provides many benefits and the convenient of being locally manufactured in Melbourne, Victoria.

For more information contact
Andent on 03 9650 6766 or visit
<https://www.andent.com>