



OCEAN
SURGICAL Pty
Ltd

Implants

Maxillary Premolars and Sinus Lift Grafts

Dental Implants are titanium devices which are surgically inserted into alveolar (jaw) bone by Oral and Maxillofacial Surgeons.

Once "integrated", they are used by an "implant-restorative dentist" to support individual dental crowns, bridges, or whole dental spans.

Implants are a relatively new surgical means of fixing dental appliances directly to your living, natural jaw bone. Based on technology used in orthopaedic surgery, titanium dental implants have similar design elements to knee or hip joint prostheses.

Only qualified medically trained Maxillofacial surgeons have the skills and facilities to provide a comprehensive way of managing your bone, soft tissue and titanium implant needs. Surgery is provided in combination with a specially trained implant-restorative-dentist who ultimately places the final titanium-zirconia-porcelain dental crown.

Titanium implants offer the most conservative and long term means of restoring your lost teeth, and dramatically improves your chewing ability.

WHY REPLACE A LOST TOOTH WITH AN IMPLANT?

When you lose a tooth, complex things start to happen. Firstly the teeth either side of the space start to tilt, and opposing teeth start to over-erupt. Adjacent teeth may also have restorations in them, which are no longer wedged and supported by the lost tooth. Chewing habits change, forces shift, and finally teeth with extra loads start to break, chip, crack and split; before they eventually become lost.

Losing your first tooth is akin to the beginning of the end. Like the first fall of a domino, tooth loss starts a domino procession that can take thirty to fifty years, but which eventually leads you to having no teeth at all.

Losing a finger can be as devastating as losing an arm. Losing any part of you can be depressing, upsetting, and catastrophic. Paradoxically, losing teeth has mixed emotions depending on who you are. For some it is dramatic, but for others it means nothing at all. Some expect to lose their teeth because it is in the nature of ageing, or maybe in the genes.

If you're like us, you'll think teeth are very important to maintain and keep. Teeth are needed for chewing, for smiling, and for speaking. Most importantly teeth are part of you; like fingers and arms. Losing teeth may be part of ageing, but unlike other body parts you have the unique opportunity to get teeth back.

When you lose teeth, your dentist may offer simple, short to medium-term solutions such as replacement dentures or bridge-work. These treatments are the cornerstone of restorative dentistry; whilst dentures and bridges are biologically the most expensive options, for many people they are relatively immediate and cheap treatments.

Implants are biologically the cheapest treatments, and offer the only actual chance of a real and permanent replacement; both for looks and function.

Dental titanium implants are the most conservative and long-term means of replacing individual teeth. Under ideal circumstances, they can be indistinguishable from natural teeth, and last a life-time.

Only a dedicated, multi-disciplined specialist implant team can coordinate your care to a degree where the final product is cost-effective, clinically stable and maximally functional.

Implant supported prostheses are not for everyone. You should carefully discuss your treatment options with your general dentist, or specialist Maxillofacial surgeon. It is important that you gain as much information as possible before you embark on any treatment régime.

UPPER POSTERIOR TEETH (PREMOLARS) AND SINUS LIFT PROCEDURES

The following cases illustrate implants placed in maxillary (upper jaw) premolar regions, and which were accompanied or preceded by relatively painless procedures called "sinus lifts". Sinus lifts aim to create bone above the implant, allowing for longer implants to be placed, and in turn catering for substantial and stable implant crowns to be placed.

CASE 1. 23 YEAR OLD FEMALE WITH FIRST TOOTH LOSS INVOLVING UPPER SECOND PREMOLAR FOLLOWING FAILED ENDODONTIC TREATMENT

Sinus lifts, or sinus floor grafts, utilise off-the-shelf mineral granules (porous hydroxy-apatite), and pure Type I/III collagen membranes to provide scaffolds for natural bone growth and consolidation.

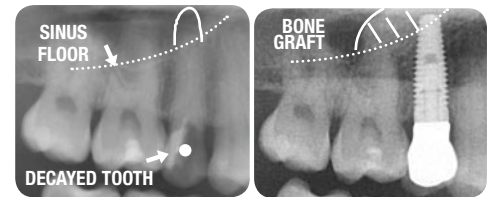
Sinus lift surgery aims to produce increased maxillary alveolar bone depth to help retain longer and wider implants, and to maximise life-time use of final dental restorative crowns to premolar and molar areas.



Right second premolar replaced with titanium implant and zirconia based crown.



Close up photos showing titanium healing abutment, followed by a replacement crown with perfect enamel colour blends and normal final gum contour.



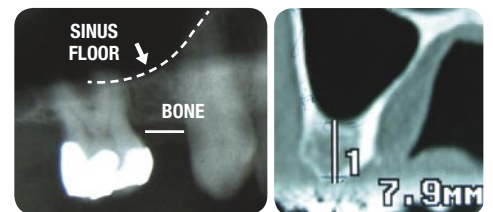
Before and after OPG close up's showing hopelessly decayed premolar tooth, replaced on the right with titanium implant and zirconia-based crown. Area of bone graft/sinus lift is seen surrounding tip of implant point.

Sinus lift procedures may either be done pre-emptively or at the same time as local implant placement. Choice of surgical sequence is determined during your consultation with the Maxillofacial surgeon.

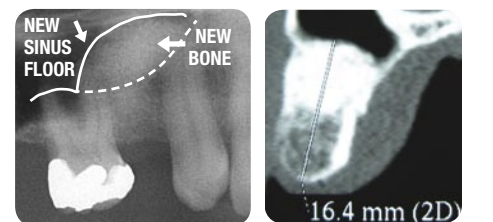
In this case, implant surgery was provided at the same time as sinus lift bone graft, and total treatment time from point of surgery to final crown placement was ~6 months.

Over this six month period, slight natural tilting of the adjacent posterior molar occurred, but which did not abnormally affect the final treatment result. Molar tilting and migration into the forward space is more pronounced beyond 12 months and which may affect the appearance of the final dental-crown.

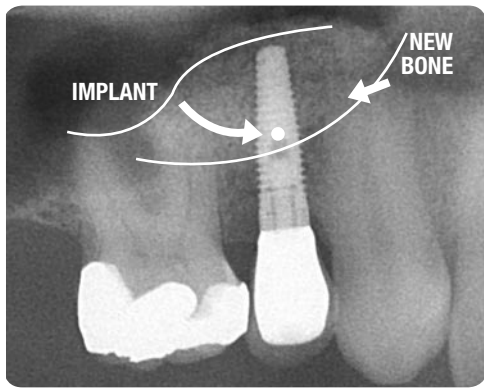
CASE 2. 44 YEAR OLD MALE SEEKS REPLACEMENT OF UPPER RIGHT FIRST PREMOLAR TOOTH SPACE



Alveolar height, from the crest of bone to the sinus floor is demonstrated on OPG and cross-sectional CT as being only 7.9mm deep... too shallow for a conventional implant to be placed.



Pre-emptive bone-graft surgery to the sinus floor allows for bone depth to increase to 16.4mm, with graft consolidation occurring over 4 months.



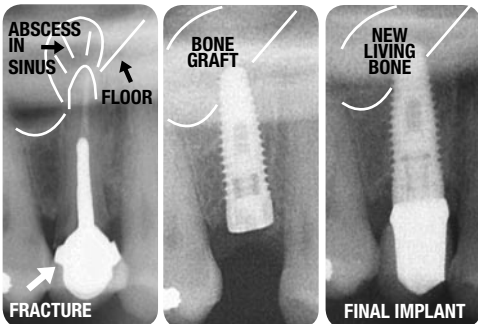
Implant placement to the site, now accommodates a narrow platform 15mm length collared implant, and which is now entirely embedded and osseo-integrated with grafted, living bone. X-ray shows relationship of implant to grafted bone, and supporting the final dental-crown.



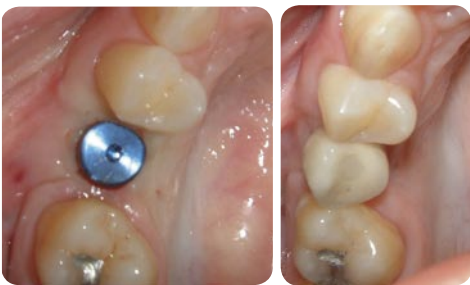
Pre- and post-operative views showing premolar space, compared to final restored dental-crown product.

CASE 3. 42 YEAR OLD FEMALE SEEKS REPLACEMENT OF UPPER RIGHT 2ND PREMOLAR TOOTH SPACE FOLLOWING FRACTURE OF ROOT FILLED TOOTH

Failed endodontics is a major cause of tooth loss. Whilst effective for years, endodontically treated teeth commonly fracture due to brittleness, or the extent of associated dental restorations.



Three x-rays illustrating: 1. Failed post-core and crown on root-filled tooth, 2. Stage 1 implant present with associated sinus lift bone graft, and 3. Implant supported dental crown supported by underlying osseo-integrated implant fixture. Treatment time is ~6 months, and implant was placed at same time as sinus-floor bone graft procedure.



Occlusal photographs showing presence of healing abutment and final implant crown.

POSTERIOR TEETH WITHOUT SINUS LIFT PROCEDURES

In special circumstances, premolar and molar implants may be placed without a need for bone grafting or sinus lift procedures. CT scans are important in determining this need; for or against.

CASE 4. 52 YEAR OLD FEMALE WITH FRACTURED 2ND MOLAR CROWN, SEEKING IMPLANT REPLACEMENT

Not all premolar or molar teeth require sinus lift bone grafts. With this client, pre-operative CT confirmed that there was sufficient bone height available for placement of the desired implant length.



Before and after photos showing position of removed 2nd premolar tooth, and final implant supported crown.



Close up showing the final restored dental space (before and after).



Serial x-rays showing... 1. Failed endodontically treated and crowned 2nd premolar tooth. 2. An intermediate healing phase after removal of the tooth, and 3. The final implant with attached precision crown. Total treatment span was 7 months.

It is important to carefully choose a dentist or dental surgeon to place the final implant supported crown. Experienced implant-restorative-dentists have special skills, techniques and technician relationships to construct ideal, aesthetic and lasting crown forms.

IMPORTANT POINTS ON IMPLANTS AND SINUS LIFT SURGERY

1. Implants are a potentially permanent solution to individual tooth loss.
2. Sinus lift procedures are only used for premolar or molar implants placed into the maxilla (upper jaw). Your consultation importantly determines the need or otherwise for bone and soft tissue grafting to precede, accompany or follow your implant surgery.
3. Sinus lifts incorporating bone grafts normally use protein-free hydroxy-apatite mineral scaffolds and Type I-III collagen membrane overlays; these materials are normally off-the-shelf.
4. Sinus lift procedures aim to increase bone height above the implant base, enabling a longer and deeper implant to be placed. Ultimately longer implants are capable of supporting greater loads, and in bearing greater crown volumes.
5. Not all cases of premolar or molar implant surgery in the maxilla may require sinus lift bone grafts. Check with your Maxillofacial surgeon about the necessity or otherwise of a sinus lift procedure.
6. Implants placed in the maxilla normally require 4-6 months of burial to allow for osseo-integration to occur with surrounding natural bone.
7. Bone-graft procedures and materials are partially covered by Medicare and medical insurance when performed by accredited Maxillofacial surgeons. Implant and restorative costs are partially subsidised by dental insurance.
8. Following an assessment of integration (at 4-6 months after primary surgery), implants can then be assessed by the implant-restorative-dentist towards final crown manufacture and fitting. You should check with your dentist as to the costs of crowns before embarking on implant surgery.
9. Patients with chronic medical disorders may be eligible for placement onto Enhanced Primary Care (EPC) programmes. With EPC you may benefit from substantial subsidy for your implant surgery and denture provision... Through Medicare.
10. Only your Maxillofacial Surgeon and implant-restorative-dentist can coordinate your overall rehabilitative occlusal needs. Many (but not all) aspects of your care are Medicare or Federal-tax subsidised.
11. Consultations and in-house x-rays by the maxillofacial surgeon, as well as CT scans ordered by a surgical specialist attract Medicare rebates, and further subsidy through Medicare Safety-Net.