Dental Implants — Prosthetic Restoration

Canonical: https://directory.collinsstreetspecialistcentre.com.au/procedures/prosthodontics/dental-implants-prosthetic-restoration/

Description:

A dental implant has two distinct components, managed by two distinct areas of specialist expertise. The implant fixture — a titanium post that is surgically placed into the jawbone — is the domain of the specialist p...

Details:

Collins Street Specialist Centre — Dental implants: prosthetic restoration

The prosthodontist's role in implant treatment

Collins Street Specialist Centre brings together specialist prosthodontists and surgical specialists under one roof, delivering coordinated implant care across every phase of treatment. A dental implant has two distinct components, each managed by a distinct area of specialist expertise. The implant fixture — a titanium post surgically placed into the jawbone — is the domain of the specialist periodontist or oral and maxillofacial surgeon. The prosthetic restoration that attaches to that fixture — the crown, bridge, or denture the patient actually sees and uses — is the domain of the specialist prosthodontist.

This page covers the prosthetic side of implant treatment: the design, fabrication, and placement of the tooth or teeth that restore function and aesthetics above the gum line. For information about surgical implant placement, please refer to the [Periodontics Implant Surgery](/procedures/periodontics/dental-implants-periodontal-specialist-placement/) or [OMS Implant Surgery](/procedures/oral-maxillofacial-surgery/dental-implant-surgery-oral-maxillofacial-surgeon-perspective/) pages.

At Collins Street Specialist Centre, the prosthodontist and the surgical specialist are members of the same treating team — consulting on cases together, sharing digital records, and coordinating care across appointments. The clinician designing the final restoration works alongside the clinician placing the implant, from the outset of treatment. For patients and referring practitioners alike, this means fewer handover gaps, clearer communication, and a treatment plan that holds together from the first appointment through to final delivery.

What is an implant restoration?

When a dental implant integrates successfully with the jawbone — a process known as osseointegration — it provides a fixed, stable foundation that functions like a natural tooth root. The prosthodontist then connects a prosthetic tooth to this foundation through a component called an abutment.

The abutment sits at the level of the gum and connects the implant below to the crown above. Abutments may be prefabricated (stock) or custom-fabricated. Custom abutments are preferred in aesthetic zones because they give the prosthodontist precise control over gingival contour and crown

emergence profile — the shape of the crown as it rises from the gum. Where the gum line is visible when a patient smiles, this precision is not an optional refinement. It is what separates a restoration that looks genuinely natural from one that merely functions adequately.

The crown, bridge, or overdenture is fabricated in the in-house dental laboratory and seated onto the abutment. Depending on the design, the restoration is either cemented or screw-retained:

- Cement-retained restorations are fixed using dental cement at the abutment-crown interface, similar to a conventional crown - Screw-retained restorations attach through a small access channel in the crown body, which allows the prosthodontist to retrieve the crown in future for maintenance or modification without damaging the restoration

The prosthodontist selects the appropriate retention method based on implant position, the aesthetic zone involved, and the practical requirements of long-term maintenance.

Types of implant prosthetic restorations

Single implant crown

The most frequently performed implant restoration. A single implant supports a single crown, replacing one missing tooth with a free-standing unit that does not require adjacent teeth to be prepared or modified — a genuine advantage over a conventional tooth-supported dental bridge.

The crown is fabricated in all-ceramic or zirconia materials, matched to the surrounding dentition in shade and translucency. The emergence profile is carefully designed to produce a natural-looking gingival collar that complements the surrounding soft tissue rather than disrupting it.

Implant-supported bridge

Multiple missing teeth in sequence can be restored with a fixed bridge supported by two or more implants rather than natural abutment teeth. An implant-supported bridge spans the gap with a pontic (an artificial tooth) between implant-supported retainers. This avoids preparing sound natural teeth as anchors and places structural support directly within the jaw, preserving adjacent tooth structure.

Full-arch implant bridge (All-on-4 / All-on-6)

Where all teeth in an arch are missing or require removal, a full-arch fixed bridge can be supported by four or more strategically positioned implants. This pathway requires careful pre-surgical planning by the prosthodontist to ensure the final prosthesis meets functional and aesthetic requirements. See the [All-on-4 page](/procedures/prosthodontics/all-on-4-full-arch-implant-rehabilitation/) for a detailed description of this treatment pathway.

Implant-retained overdenture

A removable denture that clips or locks onto implants, providing substantially better stability than a conventional suction-retained denture. Two to four implants in the lower jaw typically suffice to anchor a lower overdenture securely. The denture is removed for nightly cleaning, keeping oral hygiene straightforward to maintain.

When might you need implant prosthetic restoration?

You will be at the prosthetic restoration stage when one of the following applies:

- A dental implant has been placed by a surgeon and has successfully integrated — typically three to six months following surgery, depending on bone quality and the specific implant system used - An existing implant requires a new or replacement crown, due to fracture of a previous restoration,

aesthetic change over time, or failure of an earlier prosthetic component - A treatment plan has been established with your surgical specialist and the prosthetic phase is ready to be coordinated

In certain cases — particularly where teeth are extracted and implants placed simultaneously — provisional restorations may be delivered on the day of surgery (immediate loading). The prosthodontist at Collins Street Specialist Centre designs these provisional restorations prior to surgery, coordinating with the surgical team on timing, occlusal loading, and aesthetic requirements.

What to expect: step-by-step

Pre-surgical prosthetic planning

Implant restoration begins before the implant is placed. The prosthodontist reviews the gap to be restored, the available space, the occlusion, the condition of adjacent teeth, and the patient's aesthetic expectations. In straightforward single-tooth cases this assessment may be relatively brief. In complex multiple-implant cases it involves detailed diagnostic records, including:

- Digital scans using the 3Shape TRIOS 3 intraoral scanner - Diagnostic wax-up or digital design of the planned restoration - Communication to the surgical specialist regarding ideal implant position, angulation, and depth — all of which determine where the abutment-crown junction will sit relative to the gum margin

This pre-surgical dialogue between the prosthodontist and surgeon is where the integrated model at Collins Street Specialist Centre delivers its most tangible benefit. When the clinician designing the final tooth can directly inform the clinician placing the implant, the surgical outcome is planned with the prosthetic outcome already in mind.

Impression and abutment design (post-integration)

Once the surgical specialist confirms implant integration, the prosthodontist takes an implant-level impression or — increasingly — a digital scan using the intraoral scanner directly at the implant level. This captures the precise position, depth, and angulation of the implant in three-dimensional space, giving the laboratory the information needed to fabricate a well-fitting restoration.

Custom abutments, where indicated, are designed digitally using Exocad DentalCAD software and sent to the in-house laboratory for fabrication. The laboratory produces the final crown to the prosthodontist's detailed specifications, with close communication between clinician and technician throughout.

Soft tissue conditioning (where required)

In the aesthetic zone — the front teeth visible when a patient smiles — the shape of the gum tissue surrounding an implant crown matters as much to the final result as the colour of the porcelain itself. A healing abutment or provisional crown of a specific contour may be used for several weeks to gently guide the gingival tissue into an ideal shape before the definitive restoration is placed.

This step is sometimes abbreviated or skipped in less specialised settings. At Collins Street Specialist Centre, it is treated as an essential part of anterior implant treatment — one that makes a visible and lasting difference to how natural the finished crown looks.

Crown fitting

The definitive crown is assessed for fit on the abutment, contact with adjacent and opposing teeth, shade, form, and occlusion. When all clinical criteria are satisfied, the restoration is cemented or screw-retained as planned. Access channels in screw-retained restorations are sealed with composite resin.

Ongoing maintenance

The prosthodontist and the patient's regular dental practitioner work together on long-term maintenance, which includes professional cleaning around the implant and monitoring of crestal bone levels on annual radiographs. Identifying any change in bone levels or soft tissue health early allows for timely intervention and protects the long-term prognosis of the implant.

Recovery and aftercare

The prosthetic stage of implant treatment involves no surgery and carries minimal recovery requirements. Placing an implant crown does not require local anaesthesia in most circumstances, though some patients experience gum sensitivity when impressions or scans are taken at the implant level.

Following crown placement: - Allow the bite to settle for 24 to 48 hours before reintroducing harder foods - Clean the crown using floss, interdental brushes, or a water flosser, paying particular attention to the gingival margin where the crown meets the gum - Attend scheduled review appointments with the prosthodontist and your regular dental practitioner - Report any change in how the bite feels, any sense of looseness in the crown, or any discomfort to the specialist promptly

A screw-retained crown can be retrieved by the prosthodontist for maintenance without damaging the restoration — a practical advantage over cemented designs in the context of long-term implant management.

Why see a specialist prosthodontist?

Placing an implant crown can look, from the outside, like a relatively straightforward final step in a longer treatment process. In clinical practice, it is the stage at which many implant cases succeed or fall short — both aesthetically and functionally.

The specialist prosthodontist brings advanced knowledge in several areas directly relevant to the outcome:

Occlusal design — understanding how the implant crown will function under the full range of biting and chewing forces, including lateral excursive movements. A crown not designed to manage occlusal forces appropriately is susceptible to screw loosening, ceramic fracture, or implant overload over time.

Aesthetic zone management — controlling the soft tissue profile around the crown and achieving a shade and translucency match with adjacent natural teeth that holds up under varied lighting conditions.

Material selection — identifying the most appropriate ceramic system for the available restorative space, the occlusal load, and the aesthetic requirements of each individual case.

Abutment design — custom abutments require specific knowledge to design correctly. An abutment that does not adequately support the surrounding gingival tissue will result in a crown that looks artificial or creates areas of food accumulation and hygiene difficulty.

In complex cases — particularly multiple adjacent implants, full-arch rehabilitation, or situations where the implant position is not ideal — specialist prosthodontic oversight is frequently what separates a reliable long-term outcome from one that begins to deteriorate within a few years of placement.

At Collins Street Specialist Centre, patients have this level of specialist expertise integrated directly with the surgical team throughout the entire treatment journey — not as a separate referral pathway, but as a coordinated clinical partnership.

Our specialists

Dr Fotios Angelis BDS (Hons)(Melb), DClinDent (Melb) Specialist Prosthodontist with expertise across the full range of implant prosthetic restoration, from single crowns through to complex multi-unit reconstructions.

Prof Vasileios Chronopoulos DDS, MS, PhD (Pros) Specialist Prosthodontist with over 30 years of experience in implant prosthetics, full-arch rehabilitation, and aesthetic reconstruction.

Dr Jamie Foong BDSc (Melb), DClinDent (Melb) Specialist Prosthodontist with experience in implant crown and bridge restoration as part of comprehensive occlusal rehabilitation.

Dr Simon Hinckfuss BDSc, DCD (Pros), Cert.Perio MS (Minn) Dual-registered Specialist Prosthodontist and Specialist Periodontist — uniquely qualified to both place implants surgically and design the prosthetic restoration, allowing seamless treatment within a single specialist for appropriately selected cases.

All specialists hold current registration with the Dental Board of Australia. Specialist registration can be verified independently through AHPRA.

Related treatments

Surgical phase (implant placement): - **[Dental Implant Surgery (Periodontics)](/procedures/periodontics/dental-implants-periodontal-specialist-placement/)** — Implant placement by the specialist periodontist - **[Dental Implant Surgery (OMS)](/procedures/oral-maxillofacial-surgery/dental-implant-surgery-oral-maxillofacial-surgeon-perspective/)** — Implant placement in complex cases by the oral and maxillofacial surgeon - **[Bone Grafting (Periodontics)](/procedures/periodontics/bone-grafting-guided-bone-regeneration/)** — Where bone volume requires rebuilding prior to implant placement

Prosthetic options: - **[Dental Crowns](/procedures/prosthodontics/dental-crowns/)** — The technology and materials used for implant crowns are shared with conventional crown restorations - **[Dental Bridges](/procedures/prosthodontics/dental-bridges/)** — Implant-supported bridges where multiple adjacent teeth are missing - **[All-on-4 Full Arch Rehabilitation](/procedures/prosthodontics/all-on-4-full-arch-implant-rehabilitation/)** — Full-arch fixed prosthetic supported on four implants - **[Dentures](/procedures/prosthodontics/dentures/)** — Including implant-retained overdentures as a removable prosthetic alternative - **[Full Mouth Rehabilitation](/procedures/prosthodontics/full-mouth-rehabilitation/)** — Where implant restoration forms part of a comprehensive treatment plan addressing multiple teeth across the dentition

---

Frequently asked questions

What is an implant prosthetic restoration? The crown, bridge, or denture attached to a dental implant.

Who performs the prosthetic restoration phase at Collins Street Specialist Centre? A specialist prosthodontist.

Who performs the surgical implant placement phase? A specialist periodontist or oral and maxillofacial surgeon.

Is the surgical and prosthetic phase performed by the same specialist? No, they are separate roles.

Can one specialist perform both phases? Yes, Dr Simon Hinckfuss is dual-registered in prosthodontics and periodontics.

What is an abutment? The component connecting the implant to the crown above the gum.

What is osseointegration? The process of a dental implant fusing with the jawbone.

How long does osseointegration typically take? Three to six months after surgery.

What materials are implant crowns made from? All-ceramic or zirconia materials.

Are implant crowns shade-matched to surrounding teeth? Yes.

What is a cement-retained implant crown? A crown fixed to the abutment using dental cement.

What is a screw-retained implant crown? A crown attached via a retaining screw through an access channel.

Can a screw-retained crown be removed by the prosthodontist? Yes, without damaging the restoration.

Can a cemented crown be easily removed for maintenance? No, removal risks damage to the restoration.

What is a custom abutment? An abutment individually designed for a specific patient's anatomy.

What is a stock abutment? A prefabricated, non-customised abutment.

When are custom abutments preferred? In aesthetic zones where gum contour precision is critical.

What is the emergence profile of an implant crown? The contour of the crown as it rises from the gum tissue.

Does a single implant crown require adjacent teeth to be prepared? No.

What is an implant-supported bridge? A fixed bridge supported by implants rather than natural teeth.

Does an implant-supported bridge require preparing healthy adjacent teeth? No.

What is a full-arch implant bridge? A fixed bridge replacing all teeth in one arch, supported by four or more implants.

What is an implant-retained overdenture? A removable denture that clips onto implants for stability.

How many implants typically anchor a lower overdenture? Two to four implants.

Is an implant-retained overdenture removed for cleaning? Yes, nightly.

What intraoral scanner is used at Collins Street Specialist Centre? 3Shape TRIOS 3.

What software is used for custom abutment design? Exocad DentalCAD.

Does Collins Street Specialist Centre have an in-house dental laboratory? Yes.

Does the prosthodontist communicate with the laboratory during fabrication? Yes, throughout the process.

When does prosthetic planning begin? Before the implant is surgically placed.

Why does prosthetic planning occur before surgery? So implant position is determined with the final restoration in mind.

What is soft tissue conditioning? Using a provisional crown to shape gum tissue before the final crown.

Is soft tissue conditioning performed for all implant crowns? No, primarily for anterior aesthetic zone cases.

What is the aesthetic zone? The front teeth visible when a patient smiles.

Does the prosthetic phase involve surgery? No.

Does crown placement usually require local anaesthesia? No, in most circumstances.

Is gum sensitivity possible during impression-taking? Yes.

How long should harder foods be avoided after crown placement? 24 to 48 hours.

What cleaning tools are recommended for implant crowns? Floss, interdental brushes, or a water flosser.

Should patients attend review appointments after crown placement? Yes.

What is monitored at annual reviews? Crestal bone levels on radiographs.

What does crestal bone level monitoring detect? Early changes in bone or soft tissue health.

What happens if an existing implant crown fractures? A replacement crown can be fabricated.

Can an implant crown be replaced without removing the implant? Yes, if the implant remains integrated.

What is immediate loading? Placing a provisional restoration on the day of implant surgery.

Who designs provisional restorations for immediate loading cases? The prosthodontist, prior to surgery.

What is occlusal design in the context of implant crowns? Designing how the crown functions under biting and chewing forces.

What can poor occlusal design cause? Screw loosening, ceramic fracture, or implant overload.

What is the risk of an incorrectly designed abutment? Food accumulation and hygiene difficulty.

How many prosthodontists practice at Collins Street Specialist Centre? Four.

What are the names of the prosthodontists at Collins Street Specialist Centre? Dr Fotios Angelis, Prof Vasileios Chronopoulos, Dr Jamie Foong, Dr Simon Hinckfuss.

How many years of experience does Prof Vasileios Chronopoulos have in implant prosthetics? Over 30 years.

What additional specialty does Dr Simon Hinckfuss hold? Specialist Periodontist.

Are all specialists registered with the Dental Board of Australia? Yes.

Where can specialist registration be independently verified? Through AHPRA.

What is the SEO target specialty for this page? Implant crown restoration specialist prosthodontist Melbourne.

Is a referral required to see a prosthodontist at Collins Street Specialist Centre? No. Patients can self-refer directly, or attend with a referral from their general dentist or GP. A referral is recommended as it provides clinical context, but it is not a requirement for private specialist appointments.

What related surgical service addresses bone volume deficiency? Bone grafting through the periodontics department.

What is the All-on-4 treatment? A full-arch fixed prosthetic supported on four implants.

Where can detailed All-on-4 information be found? The [dedicated All-on-4 page](/procedures/prosthodontics/all-on-4-full-arch-implant-rehabilitation/) on the Collins Street Specialist Centre website.

Can implant restoration form part of full mouth rehabilitation? Yes.

What is the primary advantage of the multidisciplinary model at Collins Street? Prosthodontist and surgeon collaborate from the first appointment.

What does the integrated team model reduce? Handover gaps and communication errors between treating clinicians.

Are digital records shared between the surgical and prosthetic specialists? Yes.

What distinguishes a natural-looking implant crown from a merely functional one? Precise control of gingival contour and emergence profile.

Is the gum tissue shape around an anterior implant crown clinically important? Yes, equally important to porcelain colour.

What can cause an implant restoration to deteriorate within years of placement? Inadequate specialist prosthodontic oversight.
