Dental Bridges

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Dental Bridges

What Is a Dental Bridge?

A dental bridge is a fixed prosthetic restoration that replaces one or more missing teeth by anchoring to the teeth or implants on either side of the gap. Unlike a removable denture, a bridge is permanently cemented in place — it cannot be taken out and functions as an integrated part of the dental arch.

The name is descriptive: the restoration literally bridges the space where a tooth is absent. The artificial tooth (or teeth) suspended within the gap is called a pontic; the anchor restorations on either side are called retainers or abutment crowns. Together, they form a single, rigid unit that restores biting force, prevents adjacent teeth from drifting into the space, and recreates the natural appearance of a complete smile.

Bridges have been a foundational solution in restorative dentistry for many decades. Modern materials and digital fabrication techniques have transformed what was once a relatively approximate process into a highly precise discipline — with all-ceramic and zirconia bridges now capable of matching natural teeth in both colour and translucency.

Types of Dental Bridges

Traditional fixed bridge The most common type. Two or more prepared natural teeth adjacent to the gap serve as abutments; each receives a crown, and the pontic spans between them. This is the appropriate option when adjacent teeth already require crowning, when they have been previously restored, or when bone volume does not support implant placement.

Cantilever bridge Supported by a single abutment tooth on one side only. Used when there is only one suitable natural tooth adjacent to the space, typically in lower-stress areas of the mouth. Less commonly used than bilateral bridges due to the mechanical disadvantage of the cantilevered design.

Maryland (resin-bonded) bridge A minimally invasive design in which metal or ceramic wings are bonded to the inner surface of adjacent teeth without crown preparation. The natural teeth are largely untouched. This is an excellent option for replacing a single front tooth, particularly in younger patients where preserving tooth structure is a priority. Maryland bridges are less suited to high-load posterior positions.

Implant-supported bridge Instead of relying on natural teeth as anchors, the retainers are supported by dental implants surgically placed in the jaw. This eliminates the need to prepare adjacent healthy teeth and provides the most biomechanically sound long-term solution. Implant-supported bridges are particularly valuable when replacing multiple consecutive teeth.

At Collins Street Specialist Centre, the surgical placement of implants for bridge support is performed by the specialist periodontists or oral and maxillofacial surgeons; the prosthodontist designs, plans, and places the final bridge restoration.

When Might You Need a Dental Bridge?

A bridge may be the most appropriate solution when:

- **One or more teeth are missing** — from extraction, trauma, or congenital absence - **Adjacent teeth require crowning** — making a traditional bridge logical since the anchor teeth will be prepared regardless - **Bone volume is insufficient for implants** — or where implant placement is contraindicated for medical or anatomical reasons - **A rapid solution is needed** — bridges can be completed in fewer appointments than implants - **A Maryland bridge is preferred** — for younger patients or where preserving adjacent tooth structure is paramount - **Multiple consecutive missing teeth** — an implant-supported bridge can span a long edentulous section without requiring an implant for every missing tooth

Your specialist prosthodontist will discuss all viable options — including dental implants — before any irreversible preparation of natural teeth is undertaken.

What to Expect: Step-by-Step

Initial Assessment

A comprehensive assessment includes clinical examination, intraoral photography, and digital radiographs. Where implant-supported options are under consideration, cone beam CT (CBCT) imaging may be arranged through the imaging centre at Level 9 of the Manchester Unity Building to assess bone volume precisely.

The prosthodontist maps out the design of the bridge — number of units, material selection, and whether any adjunctive treatment (gum recontouring, root canal therapy on an abutment tooth, or implant surgery) is required before bridge fabrication begins.

Preparation and Impressions

For traditional and cantilever bridges, abutment teeth are shaped under local anaesthetic to accommodate the retainer crowns. A digital impression is taken using the 3Shape TRIOS 3 intraoral scanner, capturing the prepared teeth, adjacent teeth, and bite registration in three dimensions. Temporary crowns and a temporary pontic are placed to protect the prepared teeth and maintain aesthetics during fabrication.

The digital data is sent to the in-house dental laboratory, which serves exclusively Collins Street Specialist Centre patients. Technicians design the full bridge unit using Exocad DentalCAD software, with close communication to the prosthodontist throughout.

For Maryland bridges, only minimal enamel preparation of the bonding surfaces is required — no full crown preparation necessary.

Fitting and Cementation

At the fitting appointment, the bridge is tried in before cementation. The prosthodontist checks the fit at each margin, the contact between the pontic and gum tissue (the pontic-tissue interface), the bite, and the aesthetics. Where necessary, adjustments are made. Once all criteria are satisfied, the bridge is permanently cemented.

Recovery and Aftercare

Dental bridges require a different approach to cleaning than natural teeth, because the floss cannot pass between the pontic and adjacent teeth in the conventional manner.

Essential daily care: - **Interdental brushes** — slim brushes that pass beneath the pontic to clean the tissue-facing surface - **Floss threaders or water flossers** — to access below the pontic from the gum side - **Twice-daily brushing** — paying particular attention to the margins where the retainer crowns meet the gum line

Failure to clean below the pontic leads to gum inflammation, bone loss, and ultimately failure of the abutment teeth.

Functional care: - Avoid habits such as ice-chewing, nail-biting, or using teeth as tools - If bruxism (teeth grinding) is present, a protective occlusal splint will likely be recommended - Regular specialist review allows the bridge, abutment teeth, and supporting bone to be monitored

A well-maintained bridge typically lasts 10–15 years or more. Implant-supported bridges, when well maintained, can last significantly longer.

Why See a Specialist Prosthodontist?

Replacing a missing tooth with a bridge involves irreversible decisions: abutment teeth are permanently shaped, and the design of the pontic determines long-term gum health at that site. Errors in bridge design — incorrect margins, a pontic that presses on the gum rather than resting passively against it, or a bite that is even fractionally off — lead to progressive complications that are difficult to correct.

A specialist prosthodontist has three additional years of postgraduate clinical training beyond the dental degree, focused on exactly this: the precision design, fabrication, and cementation of fixed prostheses. The assessment includes not just the gap to be filled but the entire occlusal system — how the patient's teeth meet in all excursive movements, and how the bridge will function over years of normal use.

When natural teeth are being used as abutments, the prosthodontist also considers their long-term prognosis. Crowning a tooth that is already compromised beyond its useful life to support a bridge creates a predictable failure. Specialist assessment reduces the risk of this outcome.

Our Specialists

Dr Fotios Angelis BDS (Hons)(Melb), DClinDent (Melb) Specialist Prosthodontist with a focus on complex reconstructive care, including fixed bridges as part of comprehensive dental rehabilitation.

Prof Vasileios Chronopoulos DDS, MS, PhD (Pros) Specialist Prosthodontist with over 30 years of experience in aesthetic and functional reconstruction, including full-arch fixed bridgework.

Dr Jamie Foong BDSc (Melb), DClinDent (Melb) Specialist Prosthodontist with particular expertise in crown and bridge work and occlusal rehabilitation.

Dr Simon Hinckfuss BDSc, DCD (Pros), Cert.Perio MS (Minn) Australia's only dual-registered Specialist Prosthodontist and Specialist Periodontist — uniquely placed to assess how gum and bone

health interacts with bridge design and abutment prognosis.

All specialists at Collins Street Specialist Centre hold current registration with the Dental Board of Australia. Specialist status can be independently verified through the Australian Health Practitioner Regulation Agency (AHPRA).

Related Treatments

- **[Dental Crowns](/prosthodontics/dental-crowns/)** — The individual unit that anchors each end of a bridge - **[Dental Implants (Prosthodontic Restoration)](/prosthodontics/dental-implants-prostho/)** — Implant-supported bridges avoid the need to prepare adjacent natural teeth - **[Dental Implant Surgery (Periodontics)](/periodontics/dental-implants-perio/)** — Surgical placement of implants to support an implant bridge - **[Dentures](/prosthodontics/dentures/)** — A removable alternative when bridgework is not suitable - **[Full Mouth Rehabilitation](/prosthodontics/full-mouth-rehabilitation/)** — When bridges form part of a comprehensive reconstruction plan - **[Gum Lift / Crown Lengthening](/periodontics/gum-lift/)** — Sometimes required to create the correct emergence profile beneath a bridge pontic