

All-on-4 Full Arch Implant Rehabilitation

Canonical: <https://directory.collinsstreetspecialistcentre.com.au/procedures/prosthodontics/all-on-4-full-arch-implant-rehabilitation/>

Description:

--- title: "All-on-4 Full Arch Implant Rehabilitation" slug: /prosthodontics/all-on-4/ type: procedure specialty: prosthodontics specialists: ["Prof Vasileios Chronopoulos", "Dr Fotios Angelis", "Dr J..."]

Details:

--- title: "All-on-4 Full Arch Implant Rehabilitation" slug: /prosthodontics/all-on-4/ type: procedure specialty: prosthodontics specialists: ["Prof Vasileios Chronopoulos", "Dr Fotios Angelis", "Dr Jamie Foong", "Dr Simon Hinckfuss"] related: - /prosthodontics/dental-implants-prostho/ - /prosthodontics/full-mouth-rehabilitation/ - /prosthodontics/dentures/ - /periodontics/dental-implants-perio/ - /periodontics/bone-grafting-perio/ - /oral-maxillofacial-surgery/dental-implants-oms/ - /oral-maxillofacial-surgery/bone-grafting-oms/ seo_target: "All-on-4 implants Melbourne specialist prosthodontist" ---

All-on-4 Full Arch Implant Rehabilitation

What Is All-on-4?

All-on-4 is a full-arch dental implant rehabilitation protocol that replaces an entire upper or lower dentition — all the teeth in one jaw — using only four strategically placed implants. A fixed prosthetic bridge is then attached to these four implants, giving the patient a complete, permanent set of non-removable teeth.

The clinical concept was developed to address one of the central challenges in implant dentistry: most patients who have lost all their teeth also have significant bone loss, which traditionally made implant placement difficult or impossible without extensive bone grafting. All-on-4 solves this by positioning the two posterior implants at an angle of up to 45 degrees into denser, more available bone — minimising the need for grafting in the majority of cases and enabling immediate loading with a provisional bridge on the day of surgery.

The name simply reflects the concept: all teeth in the arch supported by four implants. Several other similar protocols (All-on-6, Quad Zygoma, and others) exist for more complex cases, but All-on-4 is the foundational framework on which full-arch implant rehabilitation is built.

At Collins Street Specialist Centre, All-on-4 treatment is a coordinated multidisciplinary process. The prosthodontist leads the prosthetic planning and fabrication; the implant surgery is performed by the specialist periodontists or the oral and maxillofacial surgeons — specialists whose surgical training and scope extends well beyond what general dental practice encompasses.

When Might You Need All-on-4?

All-on-4 is a significant investment and is appropriate for patients who:

- ****Have lost all or nearly all teeth in one or both arches**** — from advanced decay, severe periodontal (gum) disease, trauma, or a combination - ****Are wearing a full conventional denture**** and find it unstable, uncomfortable, or limiting to their quality of life - ****Wish to avoid a removable prosthesis**** — the psychological and functional difference between fixed and removable teeth is substantial for many patients - ****Have been assessed as having sufficient bone volume**** for four implants — or where bone volume can be addressed surgically. All-on-4 specifically minimises the need for bone grafting compared with traditional implant approaches, but some patients still require adjunctive grafting - ****Are medically suitable for implant surgery**** — your specialist will review your health history and any medications that may affect healing or osseointegration - ****Are committed to the maintenance required**** — while the prosthesis is fixed, thorough cleaning beneath it daily is essential

All-on-4 may not be indicated in patients with uncontrolled diabetes, heavy smoking, certain bone or immune conditions, or severe bruxism unless managed — your specialist will assess your individual situation in full.

What to Expect: Step-by-Step

Multidisciplinary Planning

All-on-4 at Collins Street Specialist Centre begins before any treatment is undertaken. The prosthodontist and the surgical specialist — periodontist or oral and maxillofacial surgeon — review the case together. This is a central advantage of having all disciplines under one roof: the prosthodontist who will make the final teeth communicates directly with the surgeon who will place the implants, ensuring that implant position is driven by the prosthetic outcome rather than dictated by anatomy alone.

Imaging requirements include a cone beam CT (CBCT) scan to assess bone volume, density, and anatomy in three dimensions. CBCT imaging is available through Collins Street Imaging at Level 9 of the Manchester Unity Building. The 3D data is used alongside coDiagnostiX implant planning software to position implants virtually before any surgery occurs.

Diagnostic records — including digital scans using the 3Shape TRIOS 3 intraoral scanner, photographs, and face-bow records — are used to plan the prosthetic outcome. In many cases, a diagnostic wax-up or digital design of the planned teeth is produced, allowing the patient to see the planned result before committing to surgery.

Provisional Prosthesis Preparation

The provisional bridge — the set of teeth the patient will leave with on the day of surgery — is designed and partially pre-fabricated by the in-house dental laboratory before surgery day. The Segal 3D printers at the laboratory are used for model fabrication that supports the prosthetic workflow. This allows the provisional restoration to be completed rapidly after implant placement.

Surgery Day

Surgery is performed under local anaesthetic with sedation (intravenous or oral), or in some complex cases under general anaesthetic coordinated through the appropriate facility. The surgical specialist extracts any remaining teeth, shapes the bone ridge where necessary, and places four implants according to the virtual plan — two in the front of the arch and two angled posteriorly.

Torque values (implant stability measurements) are assessed. If primary stability is sufficient, the provisional bridge is attached and adjusted to the correct bite on the same day. The patient leaves with a fixed provisional set of teeth.

Healing and Osseointegration

The implants integrate with the surrounding bone over approximately three to six months. During this period, the patient wears the provisional bridge — which looks and functions like teeth but is not subjected to the full forces that the final prosthesis will bear. Diet is modified toward softer foods during healing.

Follow-up appointments monitor healing, gum tissue health, and any required adjustments to the provisional.

Final Prosthesis

Once osseointegration is confirmed, definitive impressions or scans are taken. The final prosthesis is fabricated in the in-house laboratory — typically from zirconia or acrylic with a titanium framework, depending on the clinical situation. The final bridge is fitted and attached to the implants using retaining screws that allow the prosthesis to be removed by the specialist for maintenance purposes.

Recovery and Aftercare

Immediately Following Surgery

- Swelling, bruising, and soreness are expected for several days; prescription pain relief and anti-inflammatory medication are provided - A soft diet is required for the osseointegration period — typically 6–12 weeks; the provisional prosthesis is not designed for hard or crunchy foods - Smoking significantly impairs healing and increases implant failure risk; smoking cessation is strongly advised before and after surgery - Rest and avoidance of strenuous activity for the first 48–72 hours

Long-Term Maintenance

The All-on-4 bridge is fixed but not self-cleaning. Food and bacteria accumulate beneath the bridge at the gum level — an area that requires deliberate daily cleaning.

- A water flosser (oral irrigator) is the most effective tool for cleaning beneath the full-arch bridge - Interdental brushes of appropriate size are used at the implant abutment access points - Twice-yearly professional cleaning by the specialist team is essential - Annual implant review with imaging allows bone levels around the implants to be monitored - If bruxism is present, a night-time occlusal splint is fabricated to protect the prosthesis

A well-maintained All-on-4 prosthesis, in the right patient, can last many years. The implants themselves, if properly cared for, are designed to be a lifelong intervention.

Why See a Specialist Prosthodontist?

All-on-4 rehabilitation is one of the most complex procedures in dentistry. It combines surgical implantology, full-arch occlusal reconstruction, aesthetic design, and laboratory fabrication into a single coordinated treatment episode — where errors at any stage can compromise the entire outcome.

The prosthodontist's role is to be the architect of the final teeth from the very beginning of the planning process. Implants placed without the final prosthetic design in mind may end up in positions that make it difficult or impossible to achieve optimal aesthetics or function. This is why the collaboration between the prosthodontist and the surgical specialist — planned together before a single cut is made — is fundamental to a predictable outcome.

Prof Vasileios Chronopoulos has over 30 years of specialist experience including All-on-4 rehabilitation at the highest level. The surgical team at Collins Street Specialist Centre — comprising specialist periodontists and oral and maxillofacial surgeons — brings specific training in implant surgery to the collaboration, ensuring that both the biology and the engineering of the case are in experienced hands.

This is not a procedure to be approached by a single clinician operating without specialist-level credentials in both the prosthetic and surgical domains.

Our Specialists

****Prof Vasileios Chronopoulos**** DDS, MS, PhD (Pros) Specialist Prosthodontist with over 30 years of experience including aesthetic full-mouth reconstructions, All-on-4 implant rehabilitation, and dental management of sleep-disordered breathing. International lecturer.

****Dr Fotios Angelis**** BDS (Hons)(Melb), DClinDent (Melb) Specialist Prosthodontist with expertise in complex reconstructive dental care including full-arch implant rehabilitation.

****Dr Jamie Foong**** BDS (Melb), DClinDent (Melb) Specialist Prosthodontist with a focus on crown, bridge, and occlusal rehabilitation as components of comprehensive implant treatment.

****Dr Simon Hinckfuss**** BDS, DCD (Pros), Cert.Perio MS (Minn) Dual-registered Specialist Prosthodontist and Specialist Periodontist. His surgical and prosthetic expertise spans the full scope of implant treatment, making him uniquely suited to coordinate complex implant rehabilitation cases.

****Surgical partners (implant placement):**** - Specialist Periodontists: Dr Simon Hinckfuss, Dr James van den Berg, Dr Ahmed El Hadidi, Dr Peishan Jiang - Specialist Oral & Maxillofacial Surgeons: A/Prof Patrishia Bordbar

All specialists are registered with the Dental Board of Australia. AHPRA specialist registration can be independently verified online.

Related Treatments

- ****[Dental Implants (Prosthodontic Restoration)](/prostodontics/dental-implants-prostho/)**** — Single and multiple implant restoration by the prosthodontist - ****[Full Mouth Rehabilitation](/prostodontics/full-mouth-rehabilitation/)**** — Comprehensive reconstruction when not all teeth require replacement via implants - ****[Dentures](/prostodontics/dentures/)**** — Removable full-arch alternative; also implant-retained over-denture options - ****[Dental Implant Surgery (Periodontics)](/periodontics/dental-implants-perio/)**** — Surgical placement by the specialist periodontist - ****[Bone Grafting (Periodontics)](/periodontics/bone-grafting-perio/)**** — Bone augmentation where needed before or concurrent with implant placement - ****[Dental Implant Surgery (OMS)](/oral-maxillofacial-surgery/dental-implants-oms/)**** — Complex surgical placement by the oral and maxillofacial surgeon - ****[Bone Grafting (OMS)](/oral-maxillofacial-surgery/bone-grafting-oms/)**** — Major grafting procedures coordinated by OMS for severely deficient bone