

Peri-Implantitis — Implant Infection & Specialist Management

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Description:

Dental implants have a high long-term success rate, but they are not immune to disease. Peri-implantitis is an infectious condition affecting the tissues surrounding a dental implant — the gum and underlying bone — cl...

Details:

Collins Street Specialist Centre — Peri-Implantitis: Implant Infection & Specialist Management

Collins Street Specialist Centre is Melbourne's dedicated multidisciplinary specialist dental centre, and peri-implantitis — an infectious condition affecting the tissues surrounding a dental implant — is among the most clinically serious conditions our specialist periodontists diagnose and manage. Dental implants have a high long-term success rate, but they are not immune to disease. Peri-implantitis affects both the gum tissue and the underlying bone around an implant, and is closely analogous to periodontitis around natural teeth. Left untreated, it causes progressive bone loss around the implant, threatens implant survival, and in advanced cases can ultimately result in implant loss.

Peri-implantitis is increasingly common as the global population of implant patients grows and implants age in place. It is also significantly underdiagnosed: the early stages are frequently asymptomatic, and not all general dental practitioners are equipped to recognise or manage it with confidence. At Collins Street Specialist Centre, our specialist periodontists are experienced in diagnosing and treating peri-implant disease at every stage — from early soft tissue inflammation through to surgical management and regenerative intervention.

Understanding the spectrum: peri-implant mucositis and peri-implantitis

Peri-implant mucositis is the reversible precursor to peri-implantitis. Analogous to gingivitis around natural teeth, it involves inflammation confined to the soft tissue surrounding an implant, with no bone involvement. The hallmarks are bleeding on gentle probing and visible gum redness or swelling. With thorough professional treatment and sustained improvement in home care, peri-implant mucositis is entirely reversible.

Peri-implantitis is the more advanced condition, where inflammation has extended to the supporting bone, causing progressive and irreversible bone loss around the implant. Distinguishing clinical features include:

- Bleeding and/or suppuration (pus) on probing
- Increasing probing depth around the implant over successive assessments
- Radiographic evidence of crestal bone loss beyond what is expected in the first year of loading
- In advanced cases, detectable implant mobility

Unlike periodontitis around natural teeth, peri-implantitis tends to follow a non-linear pattern of progression and can advance rapidly once established. This makes early detection and prompt,

structured treatment particularly important.

Why are implants vulnerable?

Several features of implant-tissue biology differ meaningfully from natural teeth, and these differences contribute to implant susceptibility to infection:

- The implant surface lacks a true connective tissue attachment of the kind teeth form via periodontal ligament fibres. The surrounding tissue instead forms a soft tissue seal that is biologically less robust and more susceptible to bacterial invasion.
- Implant surfaces — particularly those with micro-roughened textures designed to enhance osseointegration — also provide favourable environments for bacterial biofilm once exposed to the oral environment through bone loss.
- Decontamination of implant surfaces is considerably more challenging than root surface debridement around natural teeth, owing to the complex micro-topography of modern implant designs.

When might you have peri-implantitis?

Because peri-implantitis is often asymptomatic in its earlier stages, regular monitoring by a dentist or periodontist experienced in implant assessment is important for all implant patients. Signs that may indicate peri-implant disease include:

- Bleeding, redness, or swelling of the gum around an implant
- Pus or a persistent salty taste in the area of an implant
- Increased tenderness around an implant when touched or when chewing
- The gum around an implant appearing to recede, making the implant crown look longer than it once did
- A change in how the implant feels — a sense of movement, or a different bite sensation
- Pain around an implant (though the absence of pain does not exclude the presence of disease)

Risk factors that increase susceptibility to peri-implantitis include:

- A history of periodontal disease — patients who have experienced periodontitis are at markedly elevated risk of peri-implant complications
- Poor plaque control around implants
- Smoking
- Uncontrolled or poorly managed diabetes
- Thin gum tissue or insufficient keratinised (attached) tissue around the implant
- Prosthetic designs that are difficult to clean adequately
- Occlusal overload — excessive biting forces on the implant
- A prior history of peri-implant complications

If you have dental implants and are experiencing any of the above, specialist assessment at Collins Street Specialist Centre is appropriate and worthwhile.

What to expect: diagnosis and treatment

Assessment

A peri-implantitis assessment at Collins Street Specialist Centre is thorough and structured. It includes:

- Periodontal probing around every implant surface (six sites per implant), with careful recording of pocket depth, bleeding on probing, and any suppuration
- Comparison with prior probing records where available, to establish whether disease is progressing over time
- Digital periapical radiographs and/or CBCT imaging to evaluate bone levels around the implant and compare against baseline radiographs
- Assessment of the prosthetic components for fit, integrity, and retrievability
- A detailed evaluation of oral hygiene practice, home care technique, and individual risk factors

Using the current staging framework for peri-implantitis, your specialist will classify the severity of disease and develop a treatment plan tailored to your situation. Treatment is stepwise, beginning with the least invasive effective approach and escalating only where clinical findings indicate the need.

Step 1: non-surgical decontamination

In early and moderate peri-implantitis, the first phase of treatment is non-surgical decontamination. This involves:

- Thorough supragingival and subgingival debridement using instruments appropriate to implant surfaces — titanium or plastic-tipped curettes and ultrasonic devices with implant-compatible tips — to avoid scratching or damaging the implant surface
- Implant surface decontamination using antiseptic agents, including chlorhexidine, citric acid, or hydrogen peroxide-based protocols, depending on the clinical situation
- Laser-assisted decontamination: the Fotona LightWalker, NV Laser, and VersaWave laser systems allow deep decontamination of implant surfaces and the surrounding pocket environment. Laser energy disrupts and destroys bacterial biofilm on the implant surface and within the pocket walls, without damaging the implant fixture itself. Dr James van den Berg has been employing laser therapy in peri-implant management since 2004.
- Evaluation and modification of prosthetic design where the restoration is contributing to food trapping or plaque accumulation that makes adequate home care difficult or impossible

A clinical reassessment is performed four to eight weeks after non-surgical treatment to evaluate the tissue response and determine whether further intervention is required.

Step 2: surgical intervention

Where non-surgical treatment does not fully resolve the disease — as is frequently the case in moderate-to-advanced peri-implantitis — surgical management becomes necessary. Surgical approaches include:

****Resective surgery:**** For implant sites with primarily horizontal bone loss and limited regenerative potential, the gum is carefully reflected, the bone defect debrided under direct vision, and the bone architecture recontoured to create a shallower, more maintainable tissue environment. The gum is then repositioned at a level that reduces residual pocket depth and improves long-term cleanability.

****Regenerative surgery:**** Where bone defects are of a morphology compatible with regeneration — such as intrabony or crater-form defects — bone graft material and/or barrier membranes are placed to encourage bone fill of the defect. The evidence base for regenerative peri-implantitis surgery is growing, and carefully selected cases can achieve meaningful bone gain. This approach is more technically demanding than resective surgery and requires careful patient selection.

Both surgical approaches require thorough implant surface decontamination under direct vision, which remains the central clinical challenge in peri-implantitis management. Laser-assisted surface decontamination during surgery is routinely employed at Collins Street Specialist Centre.

Step 3: salvage and implant removal

In cases of advanced bone loss where the implant cannot be predictably maintained, removal may be the most appropriate clinical course. This is followed by a period of healing and bone reconsolidation before re-implantation is considered — where appropriate given the residual bone anatomy and the patient's overall health status. The decision between implant salvage and explantation is made on a case-by-case basis, taking into account the degree of bone loss, implant stability, individual risk factors, and patient preferences.

Long-term maintenance — the most important step

Peri-implantitis, like periodontitis, is a chronic disease. Even after successful treatment, regular specialist maintenance is essential to prevent recurrence and protect the long-term investment of implant therapy. The evidence is clear: implants maintained on a structured supportive care programme — typically every three to four months — have significantly lower rates of disease recurrence and

implant loss compared with those that are not.

During maintenance visits at Collins Street Specialist Centre, your periodontist will:

- Probe and assess peri-implant tissue health at all implant sites - Compare current bone levels with prior radiographs to detect any change - Perform professional debridement of implant surfaces - Assess home care and provide updated, practical oral hygiene instruction - Monitor any changes to the prosthetic components for early identification of issues

For patients with a history of peri-implant disease, or those at elevated risk — including those with prior periodontitis, smokers, and patients with diabetes — lifelong specialist maintenance is strongly recommended and forms an integral part of the treatment plan from the outset.

Why see a specialist periodontist for peri-implantitis?

Peri-implantitis is among the most challenging conditions in contemporary dentistry to manage predictably. Effective treatment requires accurate diagnosis of disease stage and individual risk profiling, a thorough understanding of the unique biology of peri-implant tissues, specialist surgical skill for both resective and regenerative approaches, access to advanced laser decontamination technology, and the capacity to coordinate directly with prosthodontic colleagues when restoration modification is needed.

At Collins Street Specialist Centre, the periodontists and prosthodontists work within the same building and communicate directly and routinely. Where a peri-implantitis case requires modification of the prosthetic restoration — to improve cleanability, reduce occlusal load, or address a component contributing to disease — the prosthodontic team is immediately accessible. Dr Ahmed El Hadidi's research into DNA mutations and periodontal disease biology is also relevant to peri-implantitis risk stratification, with the potential to inform more personalised management strategies for individual patients.

All Collins Street Specialist Centre periodontists are AHPRA-registered specialists. We encourage patients and referring practitioners to verify any specialist's registration directly at the AHPRA website.

Our specialists

Peri-implantitis management at Collins Street Specialist Centre is provided by the periodontics team on Level 12 & Tower, Manchester Unity Building:

- **Dr Simon Hinckfuss** — Specialist Periodontist and Specialist Prosthodontist. Uniquely positioned to assess both the periodontal and prosthetic dimensions of peri-implant disease within a single clinical consultation.
- **Dr James van den Berg** — Specialist Periodontist with laser-assisted peri-implant decontamination experience dating to 2004, and more than 25 years of specialist implant maintenance expertise. Victoria's most experienced laser periodontist.
- **Dr Nupur Kataria** — Specialist Periodontist with training and experience in the diagnosis, non-surgical management, and surgical treatment of peri-implant disease.
- **Dr Ahmed El Hadidi** — Specialist Periodontist with research interests in precision medicine and periodontal biology, informing personalised approaches to peri-implantitis risk assessment and treatment planning.
- **Dr Peishan Jiang** — Specialist Periodontist with clinical and research interests in peri-implantitis diagnosis, active management, and supportive therapy.

Related treatments

- **[Gum Disease**

Treatment](/procedures/periodontics/gum-disease-treatment-gingivitis-periodontitis/)** — Periodontitis and peri-implantitis share underlying biological mechanisms; patients with a history of gum disease warrant close monitoring around any implants they carry. - **[Dental Implants**
(Periodontics)](/procedures/periodontics/dental-implants-periodontal-specialist-placement/)** — Specialist implant placement reduces the risk of early peri-implant complications and sets the foundation for long-term implant health. - **[Bone Grafting**
(Periodontics)](/procedures/periodontics/bone-grafting-guided-bone-regeneration/)** — Regenerative procedures to restore bone lost as a consequence of peri-implantitis. - **[Gum Grafting]**
(/procedures/periodontics/gum-grafting-soft-tissue-grafting-recession-treatment/)** — Where peri-implantitis has resulted in gum recession or soft tissue deficiency around an implant, soft tissue augmentation may form part of the overall rehabilitation strategy. - **[Implant Prosthetics**
(Prosthodontics)](/procedures/prosthodontics/dental-implants-prosthetic-restoration/)** — Prosthetic modification is frequently an important component of a comprehensive peri-implantitis management plan, and is readily coordinated within our multidisciplinary team.

Frequently asked questions

What is peri-implantitis? An infectious condition affecting tissues surrounding a dental implant.

Does peri-implantitis affect gum tissue? Yes.

Does peri-implantitis affect bone? Yes, the bone surrounding the implant.

Is peri-implantitis similar to periodontitis? Yes, it is closely analogous to periodontitis around natural teeth.

Can peri-implantitis lead to implant loss? Yes, in advanced cases.

Is peri-implantitis commonly underdiagnosed? Yes, significantly so.

Why is peri-implantitis underdiagnosed? The early stages are frequently asymptomatic.

What is peri-implant mucositis? Inflammation confined to soft tissue around an implant with no bone involvement.

Is peri-implant mucositis reversible? Yes, entirely reversible.

Is peri-implantitis reversible? No, it causes irreversible bone loss.

What distinguishes peri-implantitis from peri-implant mucositis? Bone loss is present in peri-implantitis.

Does peri-implant mucositis involve bone loss? No.

What is a hallmark sign of peri-implant mucositis? Bleeding on gentle probing.

Does peri-implantitis cause suppuration? Yes, pus on probing is a distinguishing feature.

Does peri-implantitis progress linearly? No, it follows a non-linear pattern of progression.

Can peri-implantitis advance rapidly? Yes, once established it can progress quickly.

Do implants have a periodontal ligament? No, implants lack a true periodontal ligament attachment.

Is the soft tissue seal around implants as robust as around natural teeth? No, it is biologically less robust.

****Are rough implant surfaces more susceptible to bacterial biofilm?*** Yes, micro-roughened surfaces favour bacterial biofilm accumulation.

****Is decontaminating implant surfaces harder than natural teeth?*** Yes, considerably more challenging.

****What causes the difficulty in implant surface decontamination?*** The complex micro-topography of modern implant designs.

****Can peri-implantitis be asymptomatic?*** Yes, especially in earlier stages.

****Does absence of pain exclude peri-implantitis?*** No.

****What are visible signs of peri-implant disease?*** Bleeding, redness, or swelling of the gum around an implant.

****Can peri-implantitis cause gum recession?*** Yes, the gum around the implant may appear to recede.

****Can peri-implantitis cause implant mobility?*** Yes, in advanced cases.

****Does a history of periodontitis increase peri-implantitis risk?*** Yes, markedly.

****Does smoking increase peri-implantitis risk?*** Yes.

****Does diabetes increase peri-implantitis risk?*** Yes, if uncontrolled or poorly managed.

****Does poor plaque control increase peri-implantitis risk?*** Yes.

****Can thin gum tissue increase peri-implantitis risk?*** Yes.

****Can occlusal overload increase peri-implantitis risk?*** Yes, excessive biting forces are a risk factor.

****Can prosthetic design contribute to peri-implantitis?*** Yes, designs that are difficult to clean increase risk.

****How many probing sites are assessed per implant?*** Six sites per implant.

****Is radiographic imaging used in peri-implantitis assessment?*** Yes, digital periapical radiographs and/or CBCT imaging.

****Is treatment stepwise?*** Yes, beginning with the least invasive approach.

****What is the first phase of treatment?*** Non-surgical decontamination.

****Are standard metal curettes used on implants?*** No, titanium or plastic-tipped curettes are used.

****Is laser therapy used for peri-implantitis at Collins Street Specialist Centre?*** Yes.

****What laser systems are used at Collins Street Specialist Centre?*** Fotona LightWalker, NV Laser, and VersaWave.

****Does laser therapy damage the implant fixture?*** No.

****How long has Dr James van den Berg used laser therapy for peri-implant management?*** Since 2004.

****When is surgical treatment required?*** When non-surgical treatment does not fully resolve disease.

****What are the two main surgical approaches for peri-implantitis?*** Resective surgery and regenerative surgery.

****What is resective surgery for peri-implantitis?*** Bone recontoured to create a shallower, more maintainable tissue environment.

****What is regenerative surgery for peri-implantitis?**** Bone graft and/or barrier membranes placed to encourage bone fill.

****Is regenerative surgery suitable for all peri-implantitis cases?**** No, it requires careful patient selection.

****Is laser decontamination used during surgery at Collins Street Specialist Centre?**** Yes, routinely.

****When is implant removal considered?**** When the implant cannot be predictably maintained due to advanced bone loss.

****Can an implant be replaced after removal?**** Yes, after a period of healing and bone reconsolidation.

****How often should maintenance visits occur after peri-implantitis treatment?**** Typically every three to four months.

****Does structured maintenance reduce implant loss?**** Yes, significantly lower rates of disease recurrence and implant loss.

****Is peri-implantitis a chronic disease?**** Yes.

****Is lifelong maintenance recommended after peri-implantitis?**** Yes, strongly recommended.

****Who is recommended for lifelong specialist maintenance?**** Patients with prior peri-implant disease, smokers, and diabetics.

****Does Collins Street Specialist Centre have prosthodontists on site?**** Yes.

****Can prosthetic modifications be coordinated within Collins Street Specialist Centre?**** Yes, directly within the multidisciplinary team.

****Does Dr Simon Hinckfuss hold dual specialist qualifications?**** Yes, Specialist Periodontist and Specialist Prosthodontist.

****Can Dr Simon Hinckfuss assess both periodontal and prosthetic dimensions in one consultation?**** Yes.

****How long has Dr James van den Berg been practising specialist implant maintenance?**** More than 25 years.

****What is Dr Ahmed El Hadidi's research focus?**** DNA mutations and periodontal disease biology.

****Can Dr El Hadidi's research inform peri-implantitis risk stratification?**** Yes.

****Are all Collins Street Specialist Centre periodontists AHPRA-registered specialists?**** Yes.

****Where can patients verify specialist registration?**** At the AHPRA website.

****Where is Collins Street Specialist Centre located?**** Level 12 and Tower, Manchester Unity Building, Melbourne.

****What specialty manages peri-implantitis at Collins Street Specialist Centre?**** Periodontics.

****Is gum grafting ever part of peri-implantitis rehabilitation?**** Yes, where gum recession has resulted from peri-implantitis.

****Is bone grafting used to restore bone lost to peri-implantitis?**** Yes.

****Does a history of gum disease warrant closer implant monitoring?**** Yes.

****Is peri-implantitis among the most challenging conditions in contemporary dentistry?**** Yes.
