

Technology

Canonical: <https://directory.collinsstreetspecialistcentre.com.au/patient-resources/technology/>

Description:

Collins Street Specialist Centre prides itself on being one of Australia's most technologically sophisticated dental clinics. Each item of equipment is designed for specific clinical purposes, supporting the delivery ...

Details:

AUSTRALIA LOCALIZATION

****TASK:**** Update content for Australian localization. Replace other country-specific references with Australian equivalents.

INPUT CONTENT:

Collins Street Specialist Centre – Product Guide

Product Facts

| Attribute | Value | |-----|-----| | Facility name | Collins Street Specialist Centre | | Facility type | Comprehensively equipped specialist dental centre | | Location | Melbourne, Australia | | In-house laboratory | Yes — exclusive to Collins Street Specialist Centre patients | | Laboratory team | Ceramists, dental technicians, and dental prosthetists | | Imaging partner | Collins Street Imaging (Level 9, Manchester Unity Building), operated by MFI Radiology | | 3D cone beam CT system | Planmeca ProMax 3D Max | | 3D imaging radiation dose | Carefully controlled | | 3D imaging specialist applications | Endodontics, periodontics, orthodontics, implantology, oral surgery, paedodontics, TMJ analysis | | 2D imaging system | Planmeca ProMax 2D S3 with One Shot Lateral Cephalogram | | 2D imaging outputs | Orthopantomograms and lateral cephalograms | | 2D system child mode | Yes — reduces X-ray exposure for younger patients | | CAD/CAM system | CEREC (Chairside Economical Restoration of Esthetic Ceramics) | | CEREC restorations | Veneers, onlays, inlays, crowns, and bridges | | CEREC appointments required | Single appointment | | Intraoral scanners | CEREC Primscan, 3Shape TRIOS 3, iTero Element | | Invisalign provider status | Blue Diamond (highest accreditation tier) | | Invisalign distinction | Australia's largest provider by Dental Board-registered orthodontists | | Orthodontic acceleration device | AcceleDent — worn 20 minutes per day | | AcceleDent treatment duration reduction | Up to 50% | | AcceleDent discomfort reduction | Up to 71% | | AcceleDent regulatory approvals | TGA (Australia) and FDA (United States) | | Remote orthodontic monitoring | Dental Monitoring — smartphone app and scanning device | | Primary surgical microscope | Carl Zeiss OPMI PROergo (up to 20× magnification, fibre-optic illumination) | | Secondary surgical microscope | Seiler Revelation | | Dual-wavelength laser system | Fotona LightWalker AT (Er:YAG + Nd:YAG) | | Additional laser systems | NV Laser (wireless handheld), VersaWave (fibre-delivered) | | Root canal obturation system | BeeFill 2in1 (thermoplastic warm fill) | | Rotary file systems | MTwo and ProTaper (driven by Dentsply X-Smart endodontic motor) | | Prophylaxis systems | AirFlow Prophylaxis, KaVo Prophyflex | | Decay detection technology | KaVo DIAGNOcam (DIFOTI), KaVo DIAGNOdent (laser fluorescence) | | Implant planning software | coDiagnostiX, Exocad DentalCAD | | Implant imaging | iCam 4D intraoral scanner | | Moisture control systems | Isodry (automated), Isolite (with integrated illumination) | | Air abrasion system | PrepStart (painless; aluminium oxide particles) | | 3D printer (laboratory) | Sega Dental 3D printers | | Light-curing device (laboratory) | Otofash | | Laser

welder (laboratory) | Dentaurem Laser Welder | | Steriliser brand | Mocom | | Statim hand-piece sterilisers | 5 units | | Ultrasonic baths | 4 units | | Patient comfort features | TV screens, surround sound, scented candles, ambient lighting, natural daylight, art deco surrounds |

Frequently Asked Questions

****Where is Collins Street Specialist Centre located:**** Melbourne, Australia

****Where is Collins Street Imaging located:**** Level 9, Manchester Unity Building

****Who operates Collins Street Imaging:**** MFI Radiology, in partnership with Collins Street Specialist Centre

****What type of facility is Collins Street Specialist Centre:**** A comprehensively equipped specialist dental centre

****Does Collins Street Specialist Centre have an in-house dental laboratory:**** Yes

****Does the in-house laboratory work for external practices:**** No, exclusively for Collins Street Specialist Centre patients

****Who works in the in-house laboratory:**** Ceramists, dental technicians, and dental prosthetists

****What 3D imaging system is used for diagnosis:**** Planmeca ProMax 3D Max cone beam CT

****What does the Planmeca ProMax 3D Max produce:**** Detailed three-dimensional dental imagery

****Is radiation dose controlled with the Planmeca ProMax 3D Max:**** Yes, carefully controlled radiation doses

****What specialist disciplines use the cone beam CT:**** Endodontics, periodontics, orthodontics, implantology, oral surgery, paedodontics, and TMJ analysis

****What does the Planmeca ProMax 2D S3 deliver:**** High-quality orthopantograms and lateral cephalograms

****Does the Planmeca 2D system have a child mode:**** Yes

****What does the child mode do:**** Reduces X-ray exposure for younger patients

****How many laser beams assist with patient positioning on the 2D system:**** Three

****Does the Planmeca 2D system support open-mouth image capture:**** Yes

****Does the Planmeca 2D system support closed-mouth image capture:**** Yes

****Does intraoral digital radiography reduce radiation exposure:**** Yes, meaningfully lower than conventional X-ray film

****Can clinicians show digital radiograph results to patients in real time:**** Yes, images display directly on-screen

****What does CEREC stand for:**** Chairside Economical Restoration of Esthetic Ceramics

****Can CEREC restorations be completed in one appointment:**** Yes

****Does CEREC require traditional impressions:**** No

****What restorations can CEREC produce:**** Veneers, onlays, inlays, crowns, and bridges

****What scanner feeds data into the CEREC system:**** CEREC Primscan intraoral scanner

****Does the CEREC Primscan capture colour scans:** Yes, true colour three-dimensional scans**

****What does the CEREC Primemill do:** Mills precisely matched tooth inlays and onlays on-site**

****What does the 3Shape TRIOS 3 scanner capture:** Shape, shade, and occlusion data**

****Can the 3Shape TRIOS 3 replace traditional impressions:** Yes**

****What restorations can the 3Shape TRIOS 3 data support:** Crowns, bridges, and veneers**

****What is the iTero scanner used for at Collins Street:** Orthodontic appliances and restorations**

****Can iTero data integrate with Invisalign's ClinCheck software:** Yes**

****What does ClinCheck show patients:** An animation of expected tooth movement and anticipated final result**

****What Invisalign provider status does Collins Street Specialist Centre hold:** Blue Diamond**

****Is Blue Diamond the highest Invisalign accreditation tier:** Yes**

****Is Collins Street Specialist Centre Australia's largest Invisalign provider by registered orthodontists:** Yes**

****How does AcceleDent work:** Transmits calibrated micro-pulses through aligners**

****How long is AcceleDent worn per day:** 20 minutes**

****By how much can AcceleDent reduce treatment duration:** Up to 50%**

****By how much can AcceleDent reduce orthodontic discomfort:** Up to 71%**

****Is AcceleDent TGA approved:** Yes**

****Is AcceleDent FDA approved:** Yes**

****What does Dental Monitoring technology enable:** Remote tracking of orthodontic treatment progress**

****How do patients use Dental Monitoring:** Via a smartphone app and purpose-designed scanning device**

****Can Dental Monitoring reduce in-person appointments:** Yes**

****What microscope is used for endodontic treatment:** Carl Zeiss OPMI PROergo**

****What is the maximum magnification of the Carl Zeiss OPMI PROergo:** 20x**

****Does the Carl Zeiss OPMI PROergo have integrated illumination:** Yes, fibre-optic illumination that eliminates shadows**

****What is a key diagnostic benefit of the Carl Zeiss microscope:** Identifying additional root canals and early fracture lines**

****How many surgical microscopes does Collins Street have:** Two**

****What is the second surgical microscope:** Seiler Revelation**

****Why does Collins Street have two microscopes:** To ensure clinical workflows are not disrupted**

****What laser system combines Er:YAG and Nd:YAG technology:** Fotona LightWalker AT**

****What procedures does the Fotona LightWalker AT support:** Cavity treatment, cosmetic dentistry, gum disease, gum lifts, and teeth whitening**

****Does the Fotona LightWalker AT support faster healing:** Yes, typically faster than conventional methods**

****What design feature distinguishes the NV Laser:** Wireless handheld design**

****What modes does the NV Laser operate in:** Continuous wave or pulsed mode**

****What is the NV Laser used for:** Oral soft-tissue surgery and periodontal procedures**

****What does the VersaWave laser support:** General dentistry, endodontics, periodontics, prosthodontics, and paediatric dentistry**

****What technology does the iCam 4D use:** Intraoral cameras for implant placement simulation**

****What does coDiagnostiX software provide:** Three-dimensional imaging of jaw structure for implant planning**

****Can coDiagnostiX reduce operative time:** Yes**

****What does Exocad DentalCAD software support:** Implant planning, prosthetic customisation, and clinical workflow**

****What is the BeeFill 2in1 used for:** Root canal obturation**

****What makes BeeFill 2in1 effective in complex canals:** Thermoplastic warm material flows into smallest canal areas**

****What rotary file systems are used for root canal shaping:** MTwo and ProTaper rotary systems**

****What motor drives the rotary file systems:** Dentsply X-Smart endodontic motor**

****Are nickel-titanium rotary systems superior to stainless-steel hand filing:** Yes, evidence shows superior outcomes and fewer complications**

****What does the AirFlow Prophylaxis unit use to clean teeth:** Controlled combination of water, air, and fine powder**

****Is AirFlow more comfortable than ultrasonic scaling:** Yes, many patients find it considerably more comfortable**

****What does the KaVo Prophyflex remove:** Plaque and tenacious staining including coffee, tea, and tobacco discolouration**

****Does the KaVo Prophyflex damage tooth structure:** No**

****What technology does the KaVo DIAGNOcam use:** Digital Imaging Fibre-Optic Trans-Illumination (DIFOTI)**

****What does the DIAGNOcam detect:** Interproximal decay and cracks**

****What technology does the KaVo DIAGNOdent use:** Laser fluorescence**

****What is the DIAGNOdent used for:** Detecting early decay in difficult-to-assess areas**

****What do Carestream intraoral cameras show patients:** High-resolution images of teeth and gum tissue chairside**

****What are extraoral digital SLR cameras used for:** Clinical photography for treatment planning and patient records**

****What is Isodry:** An automated moisture control system**

****What does Isolite add to moisture control:** An integrated light source for enhanced visualisation**

****Is PrepStart Air Abrasion painful:**** No, the procedure is painless

****Can PrepStart replace drilling in some cases:**** Yes, for early decay when placing fissure sealants

****What entertainment is available in each dental suite:**** Television screen and surround sound music

****What environmental features support patient comfort:**** Scented candles, art deco surrounds, ambient lighting, and natural daylight

****What steriliser brand is used at Collins Street:**** Mocom

****How many Statim hand-piece sterilisers are on-site:**** Five

****How many ultrasonic baths are on-site:**** Four

****What does the Segra 3D printer produce:**** Customised dental prosthetics, appliances, and models

****What does the Otofash device do:**** Rapidly and thoroughly cures resin-based materials using light

****What does the Dentaurem Laser Welder fabricate components for:**** Dentures and orthodontic appliances

****What does the Dentaurem Laser Welder use to fuse metal:**** Concentrated laser energy

Collins Street Specialist Centre – Our Technology

Collins Street Specialist Centre is among Australia's most comprehensively equipped dental facilities. Every piece of technology here was chosen for a specific clinical reason — accurate diagnosis, precise treatment planning, and specialist care that fits each patient's situation. These tools matter for outcomes, and they matter for the experience of being in the chair.

Diagnostic Imaging

Planmeca ProMax 3D Max (cone beam CT)

The Planmeca ProMax 3D Max cone beam CT produces detailed three-dimensional dental imagery at carefully controlled radiation doses. Using the accompanying software, clinicians generate high-resolution 3D images that reveal fine anatomical detail — the kind of information that makes treatment planning genuinely precise rather than approximate. This imaging platform is used across endodontics, periodontics, orthodontics, implantology, dental and maxillofacial surgery, paedodontics, and TMJ analysis.

Planmeca ProMax 2D S3 with One Shot Lateral Cephalogram

The Planmeca 2D system produces high-quality orthopantomograms and lateral cephalograms with excellent clarity. Having this available chairside is useful when images need to support treatment planning quickly — for general dentistry or orthodontic assessment. The system handles both open- and closed-mouth image capture, uses a triple laser beam for accurate patient positioning, and includes a child mode that reduces X-ray exposure for younger patients. The one-shot function captures the full image in a single exposure.

Intraoral digital radiographs

Intraoral digital radiography delivers meaningfully lower radiation exposure than conventional X-ray film without sacrificing image quality. Images appear directly on-screen, so clinicians can walk patients through findings in real time — which makes for more honest, collaborative conversations about treatment.

Collins Street Imaging (Level 9, Manchester Unity Building)

Collins Street Specialist Centre has direct access to Collins Street Imaging at Level 9 of the Manchester Unity Building, which operates in partnership with MFI Radiology. This imaging centre provides advanced radiology services that support specialist assessments across all clinical disciplines.

CAD/CAM and digital scanning

CEREC CAD/CAM

CEREC (Chairside Economical Restoration of Esthetic Ceramics) is a chairside system that handles the design, manufacture, and placement of all-ceramic veneers, onlays, inlays, crowns, and bridges in a single appointment. No traditional impressions, no waiting for an external laboratory. Teeth are digitally scanned, the data goes straight to the CEREC milling unit, and the ceramic restoration is precision-crafted and fitted the same day.

CEREC Primscan intraoral scanner

The CEREC Primscan captures rapid, highly accurate three-dimensional scans in true colour, removing the need for conventional impression materials. It integrates directly with the CEREC system, which keeps the fabrication of personalised prosthodontic restorations accurate and efficient.

CEREC Primemill milling machine

Scan data from the Primscan transfers to the on-site CEREC Primemill, where precisely matched tooth inlays and onlays are milled to specification. This closed-loop digital workflow produces consistent, accurate results.

3Shape TRIOS 3 intraoral scanner

The 3Shape TRIOS 3 scans teeth and surrounding gum tissue efficiently and in detail. It captures shape, shade, and occlusion data, replacing traditional impression-taking entirely, and provides everything needed to fabricate custom-fit crowns, bridges, and veneers.

iTero scanners (orthodontics)

The iTero Element creates accurate virtual impressions of the dentition, transmitted digitally to dental laboratories for the manufacture of orthodontic appliances — including Invisalign — and restorations. It's faster and more dimensionally accurate than conventional impressions. iTero scan data also integrates with ClinCheck, Invisalign's treatment simulation software, generating an animation that shows patients how their teeth are expected to move and what the final result should look like.

Surgical microscopes

Carl Zeiss OPMI PROergo microscope

The Carl Zeiss OPMI PROergo is the current standard of care for endodontic treatment. At up to 20x magnification with fibre-optic illumination that eliminates shadows, it lets clinicians see the internal anatomy of a tooth and root canal system in a level of detail that simply isn't possible with the unaided eye. This is particularly valuable for identifying anatomical variations like additional root canals, and for catching fracture lines early — findings that can change both diagnosis and treatment direction significantly.

Seiler Revelation microscope

A second high-powered surgical microscope with multiple magnification settings, the Seiler Revelation provides additional capacity for microsurgical precision across endodontic and other specialist procedures. Having two microscopes means clinical workflows aren't disrupted and the highest standards of care can be maintained consistently.

Laser technology

Fotona LightWalker AT laser

The Fotona LightWalker AT is a dual-wavelength dental laser combining Er:YAG and Nd:YAG technology. It enables minimally invasive approaches to cavity treatment, cosmetic dentistry, gum disease management, gum lift procedures, and teeth whitening. Patients generally heal faster and experience greater comfort than with equivalent conventional methods — which matters across both routine and more complex treatment scenarios.

NV Laser

The NV Laser has a wireless handheld design that delivers laser energy in either continuous wave or pulsed mode. It's used for oral soft-tissue surgery — including removal of diseased fibrous tissue and lesion excision — and for periodontal procedures such as removing diseased, infected, inflamed, or necrosed soft tissue within the periodontal pocket.

VersaWave laser

The VersaWave is a fibre-delivered dental laser known for engineering reliability. It supports fast, comfortable, and clinically effective treatment across a wide range of tissue types, and is used in general dentistry, endodontics, periodontics, prosthodontics, and paediatric dentistry.

Orthodontic technology

Invisalign (Blue Diamond provider)

Invisalign uses a series of custom-designed clear aligners to progressively reposition teeth over the course of treatment. Each aligner is manufactured to fit the patient's dentition at each stage of the prescribed tooth movement sequence. Collins Street Specialist Centre holds Blue Diamond provider status — the highest tier of Invisalign accreditation — reflecting the volume and depth of experience our orthodontists have accumulated. As Australia's largest provider of Invisalign by Dental Board-registered orthodontists, our clinicians bring considerable expertise to aligner-based treatment planning and management.

AcceleDent

AcceleDent is a supplementary mouthpiece device used alongside Invisalign. Worn for 20 minutes per day, it transmits calibrated micro-pulses through the aligners to accelerate tooth movement. Studies indicate it can reduce overall treatment duration by up to 50% and orthodontic discomfort by up to 71%. AcceleDent is approved by both the Therapeutic Goods Administration (TGA) and the United States Food and Drug Administration (FDA).

Dental Monitoring

Dental Monitoring lets orthodontists track treatment progress remotely using a dedicated smartphone app and a purpose-designed scanning device. Patients capture regular scans of their teeth, which are uploaded for clinical review. This reduces the frequency of in-person appointments while keeping treatment under close oversight — a practical benefit for patients with busy schedules.

Implant technology

iCam 4D implant scanner

The iCam system uses intraoral cameras to capture detailed images for precise measurements and virtual implant placement simulations. Clinicians can plan implant positioning with a high degree of accuracy, factoring in bone density and soft tissue contours before any surgical intervention takes place.

Exocad DentalCAD software

Exocad DentalCAD supports precise planning and visualisation of implant placement, customisation of prosthetic components, and streamlining of clinical workflow. It contributes to more accurate treatment planning and more predictable restorative outcomes.

coDiagnostiX software

coDiagnostiX provides detailed three-dimensional imaging of jaw structure to support accurate implant planning and placement. This software-assisted planning process improves surgical precision, can reduce operative time, and supports better overall treatment outcomes.

Endodontic equipment

BeeFill 2in1

BeeFill 2in1 is current best practice in root canal obturation. Warm filling material is delivered rapidly into the root canal system, where it sets into a dense, cohesive mass. The thermoplastic material flows reliably into the smallest and most complex areas of the canal anatomy. Used in combination with the MTwo and ProTaper rotary systems and the X-Smart Endo Motor, BeeFill 2in1 supports consistently high-quality root canal treatment.

MTwo and ProTaper rotary systems with Dentsply X-Smart endodontic motor

These nickel-titanium rotary file systems, used with the Dentsply X-Smart endodontic motor, are the current standard for efficient canal cleaning and shaping during root canal treatment. The literature indicates that rotary nickel-titanium systems produce superior clinical outcomes and fewer procedural complications than traditional stainless-steel hand filing.

Cleaning and prophylaxis

AirFlow Prophylaxis

The AirFlow Prophylaxis unit uses a controlled combination of water, air, and fine powder to remove plaque, staining, and bacteria from tooth surfaces and along the gum line. Many patients find it considerably more comfortable than traditional ultrasonic scaling, making it a well-tolerated option for routine hygiene care.

KaVo Prophyflex

The KaVo Prophyflex removes plaque and tenacious staining — including discolouration from coffee, tea, or tobacco — by combining pressurised air with powder and water. It clears surface staining safely and effectively without compromising tooth structure.

Decay detection

KaVo DIAGNOcam

The DIAGNOcam uses Digital Imaging Fibre-Optic Trans-Illumination (DIFOTI) technology to detect interproximal decay and cracks, and to illuminate teeth during treatment. Used alongside clinical examination and dental radiographs, it lets clinicians identify and visually demonstrate areas of concern to patients during the appointment — which supports more informed conversations about treatment options.

KaVo DIAGNOdent

The KaVo DIAGNOdent uses laser fluorescence to detect early decay in areas that are difficult to assess through visual examination and radiographs alone. It works quickly as a supplementary diagnostic tool, contributing to earlier detection and more conservative management of carious lesions.

Cameras

Carestream intraoral camera

Carestream intraoral cameras give clinicians high-resolution images of teeth and gum tissue chairside. These images serve an important communication function — patients can see clear visual evidence of conditions like plaque accumulation, decay, and tooth fractures, which supports genuine understanding and shared decision-making.

Extraoral cameras (digital SLR)

High-resolution digital SLR cameras capture clinical photographs for treatment planning, particularly for cosmetic and restorative treatment sequencing. These images form part of the patient's clinical record and provide a visual reference documenting each stage of treatment.

Patient comfort

Isodry and Isolite

Isodry is an automated moisture control system that's more comfortable than conventional suction. Isolite adds an integrated light source for better visualisation. Both support more consistent and efficient clinical outcomes across restorative procedures, hygiene appointments, and oral surgery, while making the experience more comfortable for patients.

PrepStart air abrasion

Air abrasion pre-treatment of tooth surfaces supports optimal bonding for fillings, crowns, and bridges. The system uses fine aluminium oxide particles to clean and condition the outer tooth surface. The procedure is painless and, for early decay, can serve as a conservative alternative to drilling when fissure sealants are being placed.

Entertainment systems

Each dental suite has a television screen and surround sound music. Combined with scented candles, art deco surrounds, ambient lighting, and natural daylight, the environment is designed to be genuinely relaxing. Patients can sit back and take in some of Melbourne's finest views from the chair — something particularly appreciated by those who experience dental anxiety, and by children who benefit from a bit of distraction during treatment.

In-house laboratory

The in-house dental laboratory works exclusively for Collins Street Specialist Centre patients and does not take on work for external practices. The laboratory team — ceramists, dental technicians, and dental prosthetists — works closely with our dentists and specialists, combining advanced technology with traditional craft skills to produce superior appliances, prosthodontic restorations, and meticulously handcrafted porcelain veneers and crowns.

Sega 3D printer

A fleet of Sega Dental 3D printers produces highly accurate, customised dental prosthetics, appliances, and models directly from digital designs. The technology offers precision, efficiency, and considerable flexibility, streamlining elements of the traditional laboratory workflow without compromising quality.

Otofash flash curing device

The Otofash uses advanced light-curing technology to cure resin-based materials rapidly and thoroughly, ensuring optimal mechanical properties and durability. Precise control settings allow the curing process to be carefully managed for each specific application.

Dentaurum Laser Welder

The Dentaureum Laser Welder uses concentrated laser energy to fuse metal surfaces with exceptional accuracy. It's used in fabricating metal frameworks for dentures and orthodontic appliances, where the precision of the weld directly affects the fit and function of the finished prosthesis.

Sterilisation and infection control

Collins Street Specialist Centre maintains rigorous infection control standards in line with current best-practice protocols. The sterilisation infrastructure includes:

- A fleet of Mocom sterilisers - 5 Statim hand-piece sterilisers - 4 ultrasonic baths - Regular, ongoing training for all dental assistants in sterilisation and infection control procedures - Continuous sterilisation of all equipment to professional standards

These measures reflect our commitment to the safety of every patient and the integrity of the clinical environment in which our specialists work.
