

Surgical Orthodontics (Orthognathic Treatment)

Canonical: <https://directory.collinsstreetspecialistcentre.com.au/procedures/orthodontics/surgical-orthodontics-orthognathic-treatment/>

Description:

--- title: "Surgical Orthodontics (Orthognathic Treatment)" slug: /orthodontics/surgical-orthodontics/ type: procedure specialty: orthodontics specialists: ["Dr David Austin", "Dr Andrea Phatouros", "...

Details:

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Surgical Orthodontics (Orthognathic Treatment)

What Is Surgical Orthodontics?

Surgical orthodontics — also called orthognathic treatment — is the coordinated use of orthodontic treatment and corrective jaw surgery (orthognathic surgery) to correct bite problems that cannot be resolved by orthodontics alone.

Orthodontic treatment moves teeth within the jaw bones. It is highly effective at repositioning individual teeth, correcting crowding and spacing, and managing tooth-level alignment. However, when the underlying problem is that the jaws themselves are in the wrong position — one jaw too far forward, too far back, too narrow, or asymmetric — teeth cannot be straightened enough to compensate. Attempting to camouflage a significant skeletal discrepancy with orthodontics alone risks compromising facial appearance, dental function, and long-term stability.

Surgical orthodontics addresses the problem at its source by physically repositioning one or both jaws through planned surgical cuts, moving the bone segments to their correct anatomical positions, and fixing them there with titanium plates and screws. The combined orthodontic-surgical approach corrects the bite, optimises facial balance, and produces stable, long-term results.

At Collins Street Specialist Centre, surgical orthodontic cases are managed as a true collaboration between specialist orthodontists (on Level 12 & Tower) and specialist oral and maxillofacial surgeons (also at CSSC). Treatment planning, record review, and staged care are coordinated between the two disciplines within the same centre.

When Might Surgical Orthodontics Be Needed?

Surgical orthodontics is indicated when a patient has a significant skeletal jaw discrepancy that cannot be corrected adequately by orthodontic treatment alone. This commonly includes:

- **Skeletal Class III** — the lower jaw (mandible) is too large or sits too far forward relative to the upper jaw, causing an underbite. This may be combined with a small upper jaw (maxillary deficiency). - **Skeletal Class II** — the lower jaw is significantly underdeveloped or set too far back, causing a pronounced overbite with a receded chin profile. Often associated with airway concerns. - **Vertical facial excess** — the lower face is disproportionately long, causing the mouth to be open at rest (incompetent lip seal) and a gummy smile. Correction requires moving the upper jaw upward. - **Vertical facial deficiency** — the lower face is too short, causing excessive lip strain to achieve closure - **Jaw asymmetry** — one side of the jaw has developed more than the other, creating a crooked bite and facial imbalance - **Open bite with skeletal cause** — where the front teeth do not touch due to the jaw relationship, not tooth position - **Sleep-disordered breathing** — certain jaw positions are associated with upper airway restriction; surgical repositioning can improve airway dimensions as part of comprehensive treatment - **Cleft palate–related jaw discrepancy** — secondary jaw problems following previous cleft palate repair

A patient typically becomes aware of the need for surgical orthodontics when orthodontic treatment alone does not resolve their bite problem, or when a dentist or specialist identifies that the jaw relationship is beyond the scope of tooth movement alone.

What to Expect: Step by Step

Surgical orthodontic treatment is a multi-year process with three distinct phases.

Phase 1: Pre-Surgical Orthodontics (12–18 months) This phase is counterintuitive for many patients: orthodontic treatment in the months before surgery often appears to make the bite look temporarily worse. This is intentional.

The job of pre-surgical orthodontics is to align the teeth within each jaw separately — decompensating any tooth-tipping or crowding that has developed as the patient's teeth adapted to the jaw discrepancy over time. Once the teeth are positioned correctly within their respective jaws, those jaws can be moved surgically to create a correct bite.

Braces or, in selected cases, clear aligners are used during this phase. Records are reviewed at regular intervals with both the orthodontist and oral and maxillofacial surgeon to monitor readiness for surgery.

Pre-Surgical Planning Before surgery, advanced digital planning is undertaken. At CSSC this includes three-dimensional imaging (CBCT if indicated) and digital surgical simulation to plan the precise bone movements required. Virtual surgical planning allows the surgical and orthodontic team to review the planned outcome in three dimensions, anticipate any complications, and in many cases fabricate custom surgical splints (bite guides) to position the jaws precisely during the operation.

Phase 2: Orthognathic Surgery Surgery is performed in a hospital under general anaesthesia by a specialist oral and maxillofacial surgeon. The specific procedure depends on the problem being corrected:

- **Le Fort I osteotomy** — the upper jaw (maxilla) is cut free and repositioned in all three planes of space (up, forward/back, rotated) - **Bilateral sagittal split osteotomy (BSSO)** — the lower jaw (mandible) is cut on both sides and advanced, set back, or corrected asymmetrically as required - **Genioplasty** — repositioning of the chin point for additional profile refinement, sometimes performed concurrently - **Bimaxillary osteotomy** — both upper and lower jaws are moved in a coordinated correction

Most surgical orthodontic procedures require a hospital stay of one to two nights. The surgeon manages all aspects of the surgical admission; your orthodontist continues coordinating the orthodontic component before and after.

Phase 3: Post-Surgical Orthodontics (6–12 months) Once the jaws have healed sufficiently — typically 4–8 weeks after surgery — orthodontic treatment resumes. The final phase of orthodontics fine-tunes individual tooth positions within the now-correct jaw relationship: closing any residual spaces, correcting rotations, and perfecting the bite. This phase is typically shorter and more predictable than pre-surgical orthodontics because the jaws are now in the correct relationship.

Retention After orthodontic appliances are removed, retainers are fitted. Given the nature of the correction, both fixed bonded retainers and removable retainers are commonly used to ensure long-term stability.

Recovery and Aftercare

The recovery from orthognathic surgery is the most significant aspect of this treatment. Patients should plan for:

- **Hospital admission:** typically 1–2 nights
- **Liquid to soft diet:** typically for 4–8 weeks following surgery, progressing gradually as bone healing occurs and jaw function returns
- **Swelling and bruising:** significant facial swelling is expected for the first 1–2 weeks, with residual swelling taking several months to fully resolve. The final result in terms of facial contour may not be apparent for six months or longer.
- **Numbness:** temporary altered sensation in the lips, chin, and teeth (from surgical retraction of nerves) is common and usually resolves over weeks to months. Permanent sensory change is uncommon but is discussed by the surgeon during consent.
- **Time off work or study:** most patients take two to four weeks off depending on the nature of their occupation
- **Physical restrictions:** no contact sport or heavy lifting during the initial healing phase

Pain is managed with prescribed medication in the immediate post-operative period, typically transitioning to over-the-counter analgesia within a few days.

The jaw function improvements — normalised bite, improved chewing efficiency, and in many cases improved speech and breathing — typically become apparent once initial healing is complete.

Why See Specialists for Surgical Orthodontics?

Surgical orthodontic treatment requires two distinct specialists working in close coordination throughout a multi-year treatment. This is not a procedure that can be managed by a general dentist. The case requires:

- A **specialist orthodontist** to manage pre- and post-surgical tooth movements, integrated with the surgical plan
- A **specialist oral and maxillofacial surgeon** with specific training in orthognathic procedures, hospital surgical privileges, and experience in virtual surgical planning

At CSSC, both of these specialists operate within the same centre. Treatment planning conferences, record reviews, and surgical planning are conducted between disciplines without the friction of managing external referrals across different practices. This integrated approach minimises treatment errors, improves communication, and produces more predictable outcomes.

Our Orthodontic Specialists

Surgical orthodontics at Collins Street Specialist Centre is managed by the specialist orthodontic team:

- **Dr David Austin** — BSc (Melb), MDS Orth (HK), MOrth RCS (Edin). Experienced in complex orthodontic cases including surgical treatment.
- **Dr Andrea Phatouros** — BSc (WA), MDS Orth

(WA), FRACDS. Full-range specialist orthodontic treatment including complex adult and surgical cases. - **Dr Joshua Ch'ng** — BSc (Melb), FRACDS, D.Clin.Dent (Melb). Research experience in digital treatment planning, including 3D imaging relevant to surgical planning. - **Dr Steven Smith** — BSc (Hons), MSc (Ortho) (Qld). Specialist orthodontist with postgraduate training from the University of Queensland.

The surgical component is performed by CSSC's specialist oral and maxillofacial surgeons — see the [\[Orthognathic Surgery page\]](#) for surgeon details.

All orthodontic specialists are registered with the Dental Board of Australia. Verify specialist registration at AHPRA (ahpra.gov.au).

Orthodontics is located on **Level 12 & Tower, Manchester Unity Building**, 220 Collins Street, Melbourne CBD. No referral is required for an initial orthodontic consultation.

Related Treatments

- [\[Orthognathic Surgery \(OMS\)\]](#) — the surgical component of surgical orthodontic treatment, managed by our oral and maxillofacial surgeons - [\[Traditional Metal Braces\]](#) — the fixed appliance system most commonly used for pre- and post-surgical orthodontic phases - [\[Invisalign\]](#) — in selected cases, clear aligners can be used for pre- or post-surgical orthodontic phases - [\[Adult Orthodontics\]](#) — broader context on orthodontic treatment in adult patients - [\[Early Intervention Orthodontics\]](#) — jaw growth modification during childhood can sometimes reduce or eliminate the need for surgical correction in adulthood