

TMJ Disorder — Diagnosis and Surgical Treatment

Canonical: <https://directory.collinsstreetspecialistcentre.com.au/procedures/oral-maxillofacial-surgery/tmj-disorder-diagnosis-and-surgical-treatment/>

Description:

The temporomandibular joint (TMJ) is the bilateral hinge and sliding joint connecting the lower jaw (mandible) to the base of the skull (temporal bone), located just in front of each ear. It is one of the most anatomical...

Details:

Collins Street Specialist Centre — TMJ Disorder Diagnosis and Surgical Treatment

What is the temporomandibular joint?

Collins Street Specialist Centre provides specialist diagnosis and surgical management of temporomandibular joint (TMJ) disorders for patients across Melbourne CBD and beyond. The temporomandibular joint — the TMJ — is the bilateral hinge and sliding joint connecting the lower jaw (mandible) to the base of the skull (temporal bone), sitting just in front of each ear. It is one of the most anatomically complex joints in the human body, combining rotational and translational movement to enable the full range of jaw motion required for chewing, speaking, and swallowing.

Between the bony surfaces of the joint sits the articular disc, a fibrocartilaginous cushion that distributes load and facilitates smooth, coordinated movement. A network of muscles, ligaments, and a surrounding joint capsule maintain the joint's position and stability. When any part of this system is disrupted — whether the disc, the bone, the muscles, or the capsule — the result is what clinicians classify as a temporomandibular disorder, or TMD.

TMD covers a wide spectrum of conditions, from muscular pain and minor disc displacement through to degenerative joint disease, ankylosis, and condylar resorption. How these conditions present varies considerably from patient to patient. Some people experience intermittent clicking with no associated pain or functional limitation; others live with severe, chronic jaw pain, markedly restricted mouth opening, persistent headaches, and progressive structural change within the joint itself. Accurate diagnosis is therefore essential — treatment must be matched to what is actually happening within the joint.

When might you need assessment or treatment?

Several signs and symptoms warrant a thorough TMJ evaluation. If you are experiencing any of the following, a referral to an oral and maxillofacial surgeon with experience in TMJ management is worth considering:

- **Jaw pain or facial pain** that worsens with chewing, yawning, or prolonged talking - **Clicking, popping, or grating sounds** from one or both jaw joints - **Limited mouth opening** — difficulty opening the mouth fully, or the jaw deviating noticeably to one side on opening - **Jaw locking** — the jaw becoming stuck in an open or closed position - **Ear pain, tinnitus, or a sensation of fullness** in

the ear in the absence of primary ear pathology - ****Headaches****, particularly temporal or pre-auricular headaches associated with jaw muscle activity - ****Bite changes**** — a perceived shift in how the teeth come together, which can indicate joint or condylar changes - ****Chronic bruxism or clenching**** accompanied by pain and muscular hypertrophy - ****Prior jaw trauma**** with persistent joint symptoms that have not resolved - ****Condylar resorption**** — progressive loss of the condylar head, which occurs most commonly in young women and leads to skeletal change and deterioration of the bite

It is worth emphasising that the great majority of patients with TMD symptoms are managed conservatively and do not require surgery. Surgical intervention is considered only when structural joint pathology has been confirmed on imaging, conservative management has been appropriately and thoroughly exhausted, and the anticipated benefit clearly outweighs the procedural risk.

What to expect — step by step

Phase 1: Diagnosis and conservative management

****Clinical assessment****

Every assessment begins with a detailed history of your symptoms — when they started, how long they have been present, what makes them better or worse, what treatment you have already tried, and whether there is any history of jaw trauma or systemic arthropathy. Clinical examination then assesses your range of mouth opening, any joint sounds, tenderness over the joint and surrounding muscles, and the way your teeth meet (your occlusion).

****Imaging****

Diagnosing TMJ disorders accurately requires more than one type of imaging. Cone beam CT (CBCT) using the Planmeca ProMax 3D Max — available in-house at Collins Street Specialist Centre — provides high-resolution bony detail of the condyle, glenoid fossa, and joint space, allowing identification of degenerative change, bony erosion, osteophytes, and structural irregularity. Magnetic resonance imaging (MRI), requested through an external imaging service, remains the gold standard for assessing disc position and morphology. MRI can identify disc displacement with or without reduction, joint effusion, and changes to the retrodiscal tissue — information that is essential for surgical planning.

****Conservative treatment****

The majority of TMD patients — including those with disc displacement, muscular pain, and mild degenerative change — achieve satisfactory management through non-surgical means. Conservative treatment is always the appropriate starting point and includes:

- ****Occlusal splint therapy**** — a custom-fabricated hard acrylic or soft appliance worn over the teeth to reduce loading on the joint, interrupt parafunctional habits such as clenching or grinding, and allow the surrounding muscles to decompress. Splints are the cornerstone of TMD management and are constructed in close collaboration with the patient's treating dentist or prosthodontist.

- ****Physiotherapy**** — targeted jaw exercises, manual therapy techniques, and postural correction to address the muscular contributions to joint loading and pain
- ****Anti-inflammatory pharmacology**** — NSAIDs, muscle relaxants, or short-term corticosteroid therapy where clinically indicated

- ****Intra-articular injections**** — corticosteroid or hyaluronic acid injections administered under imaging guidance for acute inflammatory episodes
- ****Behaviour modification**** — jaw rest, dietary modification, and correction of habits that place unnecessary load on the joint, such as jaw clenching, bruxism, nail-biting, and certain chewing postures

Phase 2: Minimally invasive surgical intervention

When conservative management has not resolved symptoms and structural joint pathology has been confirmed, minimally invasive surgical options are considered before any open procedure.

****Arthrocentesis****

Arthrocentesis involves lavage — a thorough wash-out — of the joint space using saline solution delivered through two small-gauge needles inserted into the joint under local anaesthesia. It is an office-based procedure performed to remove inflammatory mediators, break down adhesions, and restore disc mobility. Recovery is rapid, and arthrocentesis is frequently the first surgical intervention trialled when the joint is acutely locked or when conservative splinting has not provided adequate relief.

****Arthroscopy****

Arthroscopic surgery involves inserting a small fibre-optic camera (the arthroscope) and fine instruments through puncture incisions into the joint space. Under direct arthroscopic vision, the surgeon can lavage the joint, lyse adhesions, reposition the disc, smooth irregular bony surfaces (a procedure known as eminoplasty), or take a tissue biopsy where indicated. Arthroscopy offers substantially greater diagnostic and therapeutic capability than arthrocentesis while remaining far less invasive than open joint surgery. Recovery typically involves a few days on a soft diet with a period of joint rest.

Phase 3: Open joint surgery

Open joint surgery — open arthroplasty — is reserved for cases where the underlying pathology cannot be adequately addressed through an arthroscopic approach.

****Disc repair or repositioning****

Where the articular disc is displaced but structurally intact, open surgery allows the surgeon to directly reposition the disc and stabilise it in place using sutures to the surrounding ligament and capsule. Restoring the disc to its correct anatomical position can significantly improve joint function and reduce pain.

****Discectomy****

In cases where the disc is severely degenerated, perforated, or otherwise non-salvageable, it may need to be removed. Whether to reconstruct using an autogenous graft — such as dermis or temporalis fascia — or to proceed without replacement depends on the extent of degenerative change and individual patient factors, and will be discussed with you in detail during your consultation.

****Total joint replacement****

For end-stage joint disease — including severe bilateral degenerative arthritis, bony ankylosis, or failed prior joint surgery — total alloplastic joint replacement using custom titanium-and-polyethylene prostheses offers highly predictable functional restoration. These custom devices are designed directly from the patient's own CT scan geometry, ensuring an accurate anatomical fit. Recovery involves a phased return to function over several months, supported by physiotherapy.

Recovery and aftercare

Recovery depends on the procedure performed:

- ****Arthrocentesis:**** Most patients return to a normal diet within 24–48 hours; discomfort is generally mild and short-lived. - ****Arthroscopy:**** A soft diet is recommended for approximately one to two weeks; most patients resume full activity within two weeks. - ****Open arthroplasty or total joint replacement:**** This requires a hospital admission. A soft diet is maintained for four to six weeks, and physiotherapy is an essential part of recovery to progressively restore range of motion. Full functional recovery typically

occurs over three to six months.

Your treating surgeon will provide detailed post-operative instructions tailored to your procedure, and the team at Collins Street Specialist Centre is available to support you throughout your recovery.

Why see an oral and maxillofacial surgeon?

TMJ disorders sit at the intersection of dentistry, medicine, surgery, and physiotherapy. No single discipline manages the full spectrum of TMD in isolation — but when structural pathology is confirmed and surgical intervention becomes necessary, the oral and maxillofacial surgeon is the specialist trained to provide it. An OMS is the only specialist qualified to perform the complete range of TMJ procedures — from arthrocentesis through to total joint replacement — within a full medical-surgical framework.

Oral and maxillofacial surgeons complete 15 to 17 years of training, encompassing both a dental degree and a medical degree. This dual qualification equips them to interpret TMJ pathology within the broader context of systemic arthritides, connective tissue disorders, and medication effects; to co-manage patients alongside rheumatologists and physiotherapists; and to perform joint surgery in a hospital environment under general anaesthesia when required.

Referring clinicians can be confident that patients presenting to Collins Street Specialist Centre for TMJ assessment will receive a thorough, evidence-based evaluation, and that any surgical recommendation will be made judiciously — only after conservative pathways have been appropriately explored. We are committed to keeping referring practitioners informed at each stage of the patient's care. We encourage you to verify your specialist's credentials and registration status with the Australian Health Practitioner Regulation Agency (AHPRA) at [www.ahpra.gov.au](<https://www.ahpra.gov.au>).

At Collins Street Specialist Centre, the OMS team has access to in-house 3D imaging technology and works in close collaboration with orthodontic and prosthodontic colleagues located within the same building. This integrated model ensures that TMD management is appropriately considered alongside occlusal and bite factors — particularly important in cases where joint pathology has led to, or coexists with, significant skeletal or dental change.

Our specialists

****A/Prof Patrishia Bordbar**** is a Specialist Oral and Craniomaxillofacial Surgeon holding the qualifications BDSc, MBBS (Hons), MDSc (OMS), FRACDS (OMS), and FRCS (Edinburgh). She is a Clinical Associate Professor at the University of Melbourne, Past President of ANZAOMS, and Chair of the AOMI Board Oceania, and holds consultant surgeon positions at the Royal Children's Hospital and Western Hospital Melbourne. A/Prof Bordbar brings extensive experience across the full spectrum of TMJ diagnosis and surgical management, from minimally invasive arthroscopic procedures through to complex total joint reconstruction.

****Dr Ricky Kumar**** is a Specialist Oral and Maxillofacial Surgeon with qualifications BHB, MBChB, BDS, and FRACDS (OMS). He completed fellowship training at the Royal Children's Hospital Melbourne and Oxford University Hospitals. TMJ disorder is a noted sub-specialty interest within Dr Kumar's practice. *Please confirm Dr Kumar's availability at the time of booking.*

Our OMS team consults from ****Level 12 & Tower, Manchester Unity Building, 220 Collins Street, Melbourne CBD****.

Related treatments

- **Orthognathic**

Surgery[/procedures/oral-maxillofacial-surgery/orthognathic-surgery-corrective-jaw-surgery/] — Jaw repositioning surgery that may be indicated when TMD coexists with a significant underlying skeletal jaw discrepancy - **Oral & Maxillofacial Surgery**

Hub[/procedures/oral-maxillofacial-surgery-at-collins-street-specialist-centre/] — An overview of the full range of OMS procedures available at Collins Street Specialist Centre -

Orthodontics[/procedures/orthodontics-at-collins-street-specialist-centre/] — Orthodontic management of occlusal factors that contribute to TMJ loading may be recommended as part of a coordinated, multidisciplinary TMD treatment plan
