

What Is Orthodontics? A Foundational Guide to Teeth Straightening and Bite Correction

Canonical: <https://directory.coredental.com.au/dental-services/orthodontics-melbourne/what-is-orthodontics-a-foundational-guide-to-teeth-straightening-and-bite-correction/>

Details:

Now I have sufficient research to write a comprehensive, authoritative, well-cited foundational article. Let me compose the final piece.

What Is Orthodontics? A Foundational Guide to Teeth Straightening and Bite Correction

Most people encounter orthodontics as a practical decision — a child's first consultation, an adult reconsidering crooked teeth after years of hesitation, or a dentist's referral following a routine examination. But orthodontics is far more than a cosmetic service. It is a recognised dental specialty with a defined scope of practice, a distinct scientific evidence base, and measurable impacts on both oral health and quality of life. Understanding what orthodontics actually is — what it treats, how it works, and why it matters — is the essential starting point for every treatment decision that follows.

This article defines orthodontics as a dental specialty, explains the clinical classification of malocclusion, and outlines the functional and aesthetic outcomes that evidence-based treatment can achieve. It forms the foundational layer of Core Dental Melbourne's complete orthodontic content series, contextualising every treatment option — from Invisalign to lingual braces, children's plates to specialist-led adult care — within a clinically accurate framework.

What Is Orthodontics? The Clinical Definition

Orthodontics is a dentistry specialty that addresses the diagnosis, prevention, management, and correction of mal-positioned teeth and jaws, as well as misaligned bite patterns. It may also address the modification of facial growth, known as dentofacial orthopedics.

In practical terms, orthodontics sits at the intersection of oral health and facial development. It is not simply about making teeth look straighter — although that is a significant outcome. It is about correcting the structural relationships between teeth, dental arches, and jaws so that the bite functions correctly, oral hygiene is maintainable, and the risk of long-term dental complications is reduced.

The word itself derives from the Greek **orthos** (straight, correct) and **odous** (tooth). But the clinical scope extends well beyond straightening individual teeth. Orthodontists assess the full occlusal system — how upper and lower teeth contact each other, how the jaws relate spatially, and how skeletal growth patterns may influence both current and future alignment.

In Australia, the title "specialist orthodontist" is a protected term. It cannot be used by a general dentist, regardless of how much orthodontic work they perform. In addition to completing a general dental degree, an orthodontist goes on to complete an additional three-year full-time university degree in orthodontics, giving them the knowledge to become a specialist in irregularities of the teeth and jaw. (For a full explanation of how specialist training differs from general dental training, see our guide on **Specialist Orthodontist vs. General Dentist for Braces in Melbourne**.)

What Is Malocclusion? The Condition Orthodontics Treats

The central clinical concept in orthodontics is **malocclusion** — a term that literally means "bad bite." Malocclusion is defined as a condition in which the teeth are not aligned correctly, or the dental arches are out of alignment beyond what is considered normal, and is the third most common oral pathology after tooth decay and periodontal disease.

Malocclusion is a common dental issue affecting around 56% of people worldwide. This figure underscores a critical point: misaligned teeth and bites are not an anomaly. They are the statistical norm. The question is not whether someone has some degree of malocclusion, but whether that malocclusion is significant enough to warrant treatment — and what kind of treatment is appropriate.

The Angle Classification System

The clinical framework most widely used to categorise malocclusion was developed by Edward Angle in the 1890s. Dental occlusion was defined by Angle in the 1890s and divided into four classes — normal occlusion, Class I, Class II, and Class III malocclusion — based on the relationship of the upper and lower first molars.

The range of prevalence of Angle Class I, Class II, and Class III malocclusion was very large, with a mean prevalence of 51.9%, 23.8%, and 6.5%, respectively, based on a 2022 systematic review of 123 studies published in *Healthcare* (MDPI).

Angle Class	Description	Common Presentation
Class I	Normal molar relationship; individual tooth misalignment present	Crowding, spacing, rotations, mild overbite
Class II	Upper first molar too far forward; upper teeth protrude	Overbite, overjet ("buck teeth")
Class III	Lower first molar too far forward; lower teeth protrude	Underbite, reverse overjet

The Six Core Types of Malocclusion

Understanding the specific malocclusion types is essential for interpreting orthodontic treatment recommendations. Each type has distinct functional consequences and responds differently to various appliances.

1. Overbite (Deep Bite)

An overbite is a deep vertical bite. It happens when your upper teeth overlap your lower teeth more than they should. A small degree of overbite (typically 2–3 mm) is normal. When the overbite is excessive — sometimes called a "deep bite" — the lower front teeth may contact the palate on closure, causing soft tissue trauma and accelerated enamel wear.

2. Overjet ("Buck Teeth")

An excessive overjet is a Class II malocclusion similar to an excessive overbite. The difference is that an overjet is horizontal rather than vertical. The top front teeth protrude at an angle and don't make contact with the bottom front teeth. Beyond aesthetics, a significant overjet increases the risk of incisal trauma — protruding upper teeth are more susceptible to fracture during falls or contact sport.

3. Underbite

An underbite occurs when your lower front teeth extend beyond your upper front teeth. If an underbite is skeletal, the bones of the jaw are involved — either the lower jaw is overdeveloped, or the upper jaw is underdeveloped. Skeletal underbites are among the more complex cases in orthodontics, sometimes requiring a combination of orthodontic treatment and jaw surgery (orthognathic surgery) in adults. Early

intervention in growing children can often reduce the severity of the skeletal component before the jaws finish developing. (See our guide on **Early Orthodontic Treatment in Melbourne** for more detail on interceptive timing.)

4. Crossbite

A crossbite occurs when your upper teeth fit inside your lower teeth when you close your mouth. It can occur on one side or both and may involve either the front or back teeth. A posterior crossbite — where back upper teeth sit inside lower back teeth — is particularly significant in children because it can cause the jaw to shift laterally on closure, creating asymmetric jaw development if left untreated. The prevalence of anterior crossbite, posterior crossbite, and crossbite with functional shift were 7.8%, 9.0%, and 12.2%, respectively, according to the same systematic review of children and adolescents.

5. Overcrowding

Overcrowding is often caused by a lack of space, resulting in teeth that overlap or become crooked, rotated, or twisted. Crowding is one of the most common reasons patients present for orthodontic assessment. The most common malocclusions identified across studied populations were an increased overjet (maxillary protrusion), a contact point displacement (crowding), and an increased overbite (deep bite). Beyond aesthetics, crowded teeth are significantly harder to clean effectively — overlapping surfaces trap plaque and restrict floss access, elevating the risk of both caries and periodontal disease.

6. Open Bite

An open bite occurs when your upper and lower front teeth don't touch when you close your mouth. Untreated open bites typically result in speaking problems, as well as issues tearing and chewing food. Open bites can be dental (caused by habits such as thumb-sucking or prolonged dummy use) or skeletal in origin. (See our guide on **Early Orthodontic Treatment in Melbourne** for how habit-related open bites are managed in younger patients.)

Why Malocclusion Is Not Just a Cosmetic Issue

A persistent misconception is that orthodontic treatment is primarily cosmetic — a lifestyle upgrade rather than a health intervention. The clinical evidence does not support this view.

Malocclusions may increase the risk of trauma and cause difficulty in mastication, breathing, and speaking, affecting quality of life. The World Dental Federation (FDI) has stated that malocclusion may affect oral health by increasing the prevalence of dental caries, periodontitis, risk of trauma and other functional difficulties.

A 2024 systematic review and meta-analysis published in the **European Journal of Translational Myology** (Sabzevari et al.) examined the relationship between orthodontic treatment, masticatory performance, and oral health-related quality of life. Orthodontic treatment had a positive effect on masticatory performance and improved the quality of life of patients after treatment. Specifically, the mean difference in masticatory performance between pre-treatment and post-treatment was 2.23, and the mean difference in oral health-related quality of life between pre-treatment and post-treatment was -32.23 — a clinically significant improvement.

A separate 2024 systematic review published in **Community Dental Health** (Theodoridou et al.) found that twelve of eighteen studies reported a relationship between the need for orthodontic treatment and oral health-related quality of life, with gender and self-esteem found to modify this relationship — and concluded that need for orthodontic treatment is associated with oral health-related quality of life in children and adolescents.

Functional Consequences of Untreated Malocclusion

The downstream effects of leaving significant malocclusion untreated can include:

- ****Accelerated tooth wear**** — misaligned teeth contact in unintended ways, wearing down enamel prematurely
- ****Temporomandibular joint (TMJ) dysfunction**** — untreated excessive overjets can result in temporomandibular joint disorder (TMD)
- ****Periodontal disease risk**** — crowded teeth are structurally harder to clean, increasing plaque retention
- ****Speech difficulties**** — open bites and severe Class III malocclusions frequently affect articulation
- ****Breathing and sleep issues**** — before treatment, most Class II patients reported complaints about breathing and sleeping problems

What Does Orthodontic Treatment Actually Do?

Orthodontic appliances — whether fixed braces, clear aligners, or removable plates — work by applying controlled, continuous force to teeth and supporting bone. This force stimulates a biological remodelling process in the periodontal ligament and alveolar bone: bone is resorbed on the pressure side of tooth movement and deposited on the tension side. The tooth moves through bone, not despite it.

This process is the same regardless of the appliance type. The key differences between braces, Invisalign, lingual braces, and removable plates lie in *how* force is applied, *which* movements are achievable, and *how* the patient experiences treatment — not in the underlying biology.

Orthodontic treatment achieves two broad categories of outcome:

- **1. Dental (tooth-level) correction**** - Aligning crowded or spaced teeth - Correcting rotated or tipped teeth - Closing or opening spaces - Levelling arch curves
- **2. Skeletal (jaw-level) correction**** - Modifying jaw growth direction in children and adolescents - Expanding narrow arches - Correcting jaw discrepancies (in combination with orthognathic surgery for adult skeletal cases)

The distinction between dental and skeletal correction is clinically important. Many malocclusions have both components, and a specialist orthodontist's training equips them to assess both — and plan treatment accordingly. (See our guides on **Adult Braces Melbourne**, **Children's Orthodontics Melbourne**, and **Invisalign Melbourne** for how these principles apply to specific treatment modalities.)

When Should Orthodontic Treatment Begin?

There is no single "right age" for orthodontic treatment — the timing depends on the nature of the malocclusion, the patient's skeletal development, and the goals of treatment.

However, the Australian Society of Orthodontists generally recommends that children have their first orthodontic assessment by age seven — not because treatment starts at seven, but because that's when the specialist can see enough of the adult dentition developing to make informed predictions about what will be needed.

A specialist orthodontist is trained to assess not just the current position of teeth, but the trajectory of jaw development — what's likely to happen if nothing is done, and whether early treatment can meaningfully improve the outcome.

For adults, the good news is that the biological mechanism of tooth movement works at any age. Bone remodelling occurs throughout life, meaning that adults are entirely appropriate candidates for orthodontic treatment — a point covered in depth in our guide on **Adult Braces Melbourne**. (See also **Orthodontics for Teenagers in Melbourne** for the specific considerations that apply to adolescent

patients.)

Key Takeaways

- Orthodontics is a dental specialty addressing the diagnosis, prevention, management, and correction of mal-positioned teeth and jaws, as well as misaligned bite patterns — it is a health discipline, not merely a cosmetic service. - Malocclusion is the third most common oral pathology after tooth decay and periodontal disease, affecting an estimated majority of the global population to some degree. - The Angle Classification system (Class I, II, III) provides the foundational framework for diagnosing malocclusion; within each class, specific conditions including overbite, overjet, underbite, crossbite, overcrowding, and open bite each carry distinct functional risks. - Orthodontic treatment has a positive effect on masticatory performance and improves the quality of life of patients after treatment, with research demonstrating measurable gains in both chewing function and psychosocial wellbeing. - In Australia, an orthodontist completes an additional three-year full-time university degree in orthodontics beyond their dental degree — a distinction that matters when choosing who should plan and deliver your care.

Conclusion

Orthodontics is the clinical foundation on which every treatment decision in this content series rests. Whether you are a parent researching an early assessment for your child, an adult considering Invisalign for the first time, or someone comparing braces and clear aligners, the underlying concepts — what malocclusion is, why it matters, and how orthodontic treatment corrects it — are the same.

Understanding that malocclusion is a structural health condition, not simply an aesthetic concern, reframes orthodontic treatment as an investment in long-term oral function and wellbeing. The specific appliance used to correct it is a secondary question — one that depends on the type and severity of the malocclusion, the patient's age and skeletal development, and the clinical judgement of a trained specialist.

From here, every article in this series builds on these foundations. Explore **Adult Braces Melbourne** for a detailed guide to treatment as a grown-up, **Invisalign Melbourne** for a step-by-step walkthrough of clear aligner treatment at Core Dental, **Early Orthodontic Treatment in Melbourne** for guidance on when children should first be assessed, or **What to Expect at Your First Orthodontic Consultation at Core Dental Melbourne** to understand exactly what happens when you book in.

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