

Excellence with Aesthetics in Mind

Best solutions from Malaysia's best dental experts.



The mouth is the gateway to our body and its vital organs. Despite being one of the system's most vital instruments, we sometimes take it for granted through total disregards of oral care and hygiene. Furthermore, and because many are terrified of dentists, we delay dental treatment and forego the recommended bi-annual check-up. This, according to all dental practitioners, is one of the most irresponsible choices one can make. Once the oral cavity is not maintained, cavities will form, followed by pain and gum disease. In truth, gum disease is just the tip of the iceberg, as it not only leads to missing teeth, but has also been

linked to diabetes, heart disease, strokes and premature births.

While healthy mouths are basic human necessities, what about straight teeth? Despite many believing orthodontic treatments to be cosmetic in nature, that is irrevocably not the case. With abilities of not only straightening teeth for grander smiles, orthodontics can similarly enhance and restore oral and daily function through improved confidence and quality of life. Four doctors from the Imperial Dental Specialist Centre speak to us to explain some of dentistry's most popular treatments, and how they work.



Invisalign with Consultant Orthodontist, Dato' Dr. How Kim Chuan

What we'll firstly discuss is a difficult Invisalign case. Based on the photos presented, we can see this patient suffered severe crowding. The patient's profile was overtly proclined, where she wasn't able to fully occlude, or close her lips. In order to provide her with better aesthetic and functional outcomes, we first addressed the teeth by extracting her four first premolars. The empty spaces were then closed with Invisalign. According to the images, you may also find that the upper left canine was completely excluded from the arch. Such indications are very difficult to manage even if fixed appliances were recommended and attached.

Many patients assume that Invisalign is only able to address simple cases not able to manage severe crowding and extractions. However, and as you can clearly see, we not only treated her indications successfully, but additionally managed problems in a superior manner – especially if compared against fixed appliances and its related outcomes. Besides addressing her teeth, we also centralised the midline, improved her facial/skeletal profile and even made the lips competent. Likewise, and what's even more remarkable, is the enduring results. In fact, during this patient's post-Invisalign review, she presented gums and teeth which proved stable and healthy even after three years. Fixed appliance cases conversely, have tendencies of relapsing following three years of retention.

Pictures courtesy of Dato' Dr. How Kim Chuan.



Neuromuscular balance is key to achieving nice facial profiles. Such aesthetic outcomes are highly reliant on teeth alignment and torque control.



Midline was corrected with the creation of a beautiful anterior smile arc.



The teeth presented better occlusion or 'fits' through maximum interdiggitation. This significantly improved the mouth's chewing efficiency.



This patient presented with severe crowding of the lateral incisor and a "squeezed out" canine. Her severe crowding was corrected through extractions of the first premolars to yield extraction spaces which were closed bodily with Invisalign.



After archform symmetry was achieved, it offered profound effects on neuromuscular balance and facial harmony.



Invisalign is a powerful appliance for root control. The palatally trapped instanding lateral incisor roots were addressed by torquing the roots labially to ensure bodily movement.



Lower incisor crowding caused gingival swelling due to calculus deposits deep between the teeth. Straightened teeth with Invisalign encourages better health and oral hygiene as teeth are more easily cleaned.



Invisalign Teen with Consultant Orthodontist, Dato' Dr. How Kim Chuan

The second case I will discuss also pertains to Invisalign, particularly Invisalign Teen. Invisalign Teen is interceptive in nature. Interceptive orthodontics are related to treatments which consider growing patients who present with baby teeth which haven't yet fully erupted. Invisalign teen is actually a special package and procedure which helps a patient correct early severe problems. For example, this patient presented with proclined and protruding teeth. He also suffered severe overjet, or in layman's terms an overbite. If we were to wait for all permanent teeth to erupt, extractions would be undoubtedly needed. Because the patient was treated very early, we managed to correct the overjet without extractions and in a timely manner. In other words, we have capacities of treating indications early and eliminating added procedures by intercepting a child growth and future difficulties.

The principle behind interceptive Invisalign procedures is actually growth modifications. Through Invisalign teen, we have capacities of transforming unfavourable growth conditions to better and improved developmental patterns. In my opinion, Invisalign Teen remains one of our core orthodontic procedures because of its ability to change a child's life through early interceptive care.

Pictures courtesy of Dato' Dr. How Kim Chuan.



Invisalign teen offers interceptive and preventive features for early correction of developing malocclusion among teenagers. It also prevents worsening indications.



The nose/lip angle was very proclined, this not only affects facial aesthetics, but similarly affects the speech. In addition, such indications are vulnerable to dental fractures due to injury.



Invisalign Teen not only corrects protruded teeth but also helps set correct developmental pathways. This is manifested in marked facial improvement in terms of the vertical, sagittal and frontal 3D profiles.



Notice that the patient's face is longer. This chubby, short facial structure was improved with early interceptive treatment. There is also a marked improvement in nose/lip angles.



Lip occlusion is difficult because of protruding upper incisors. Besides substandard aesthetics, this patient was also vulnerable to fractures during injury.



The slanting smile has been rectified. The benefits of early interceptive correction with Invisalign Teen is not restricted to dental alignment. It more importantly addresses facial growth harmony.



Midline has been beautifully amended along with facial symmetry correction.



The upper archform has been significantly improved, creating a smooth U-shaped parabolic curve.



Invisalign Teen created space for smooth transitions in switching from baby/deciduous teeth to permanent teeth.



The canting of the upper teeth has been balanced and are now aligned according to Golden Proportions.



Full Mouth Rehabilitation with Consultant Orthodontist, Dato' Dr. How Kim Chuan

The third case I will discuss is implants. I would like to address this example because the patient lacked confidence and was unquestionably embarrassed by her unsightly smile. Not only was her mouth infected by gum disease, some of her pearly whites were missing, while others were riddled with cavities. Likewise, she also suffered an austere underbite which impeded function. Strictly speaking, not only was facial aesthetics an apparent concern, her oral health was similarly in dire straits. In order to give her oral cavity a total make-over, we constructed a full mouth rehabilitation plan which included three procedures including gum disease treatment, implants and braces.

Before we were able to address aesthetic concerns, we first resolved her gum disease. Next, we restored some of the teeth's fillings. Dental units which couldn't be repaired were extracted. This was followed by implant placements within empty/extracted spaces and also short-term braces which corrected the underbite and malocclusion. Once all procedures culminated, we were able to fully restore not only her daily function, but oral and facial aesthetics too. In truth and because this patient was no longer embarrassed by her smile, she even took to the stage and became a singer! According to feedback, she was truly appreciative of what was achieved. She speaks very highly of the Imperial Dental Specialist Centre as we not only addressed her oral issues, but also changed her life for the better.

Pictures courtesy of Dato' Dr. How Kim Chuan.



Marked smile improvement due to whiter teeth, better facial shape and support and improved incisor display plus smile arc creation.



A whiter shade with gingival flange was incorporated to ensure good appearances during smiles. The teeth's malalignment was compensated with short orthodontic and prosthodontic integration.



Patient presented with Class 3 underbite, reversed curve of Spee and crowding. She was treated with extractions of hopeless teeth. Empty spaces were restored with multiple implants, followed by full mouth rehabilitation for optimal treatment outcomes.



Unilateral crossbite corrected.



Multiple rotten teeth extracted and replaced with implants. A symmetrical archform was created.



Lower crowding and lingually tilted archform was corrected.



Reversed curve of Spee is deemed unaesthetic. But, once the curve of Spee is addressed, the smile becomes beautiful.



Six implants were used to support full mouth rehabilitation and the orofacial structure.



Early Orthodontic Care with Consultant Dentist, Datin Dr. Alice Wong

There's no set age or no 'perfect' age for a child's first orthodontic visit. Some kids consult an orthodontist when they're six-years old, others go when they're ten or even when they're teens. In my opinion, children should be evaluated by the age of seven. At this age, issues like uneven bites and overcrowding will become apparent.

There are some factors which determine when your child is an ideal candidate for orthodontics. Kids may need braces for any number of reasons, including crooked, overlapping or even overcrowded teeth – we call this a 'bad bite'. However, circumstances that may require earlier intervention include:

- **Excessive overcrowding**
- **Open bites:** when the upper and lower front teeth fail to meet
- **Overbites:** When the upper teeth protrude past the lower teeth
- **Underbites:** When the lower teeth protrude past the upper teeth
- **Crossbites:** When the upper and lower teeth fail to line up

Sometimes tooth and jaw problems can be caused by losing baby teeth too soon, accidents, or habits like thumb sucking. Nonetheless, dental misalignments are commonly hereditary.

Phase I and phase II treatment

Phase I treatment (also known as early intervention treatment) starts before all permanent teeth have erupted (often when the child is six to ten years old). This treatment is usually recommended to make more space for the developing teeth, and to correct oral problems, such as overbites and cross bites. Phase I treatment often involves limited dental hardware, such as expanders and partial braces. Phase II treatment (also known as comprehensive treatment) begins when the child is older (age 11 to 13) and when all permanent teeth have grown in. This treatment usually involves full braces. Whether your child requires phase I or II treatment will depend on the state of their teeth, and if the orthodontist feels earlier intervention is required.

Why early examinations are beneficial

Having your children examined earlier (before age seven) has numerous benefits, including:

- Determinations of long-term treatment
- Identifications of early oral problems
- Teeth are more easily guided, reducing the length of orthodontic treatment

Braces are a beneficial procedure because it not only helps straighten teeth, but also enhance your child's self-confidence by improving smiles and function.

There's no set age or no 'perfect' age for a child's first orthodontic visit. Some kids consult an orthodontist when they're six-years old, others go when they're ten or even when they're teens.



Open bites due to thumb sucking.



Overbites.



Underbites.



Posterior crossbites.



Anterior crossbite.



Crowded.

Pictures courtesy of Datin Dr. How Kim Chuan.



Root Canal Treatment with Dr. David Tan

What are root canals?

Root canal treatment is a dental procedure that treats the tooth's inner layers. Our teeth consist of three layers which are enamel (outer layer), dentin (middle layer) and pulp (centre part of the tooth). The pulp which extends from the crown of the tooth to the tip of the roots contains blood vessels, nerves and connective tissue, and creates the surrounding hard tissues of the tooth during development.

Why root canal treatment?

Root canal treatment is indicated when the pulp becomes inflamed or infected due to deep decay, with or without pulp exposure. It's also recommended when the tooth becomes cracked or has suffered trauma. Root canal treatment has capacities of removing the inflamed/infected pulp, the affected layer of dentin and all microorganisms. If pulp inflammation or infection is left untreated, it can cause pain or lead to an abscess.

Signs for root canal treatment

Patients may require root canal treatment if they experience some of these symptoms:

- Pain that's spontaneous or prolonged
- Pain that intensifies during sleep
- Prolonged sensitivity to heat or cold
- Tenderness to the touch and during chewing
- Discoloured teeth
- Swelling and pus formation on the gums, near the affected tooth
- Swollen or tender lymph nodes

While symptoms most often lead to tenderness, sensitivity or pain, patients may sometimes not feel anything when the pulp tissues have turned necrotic or died.

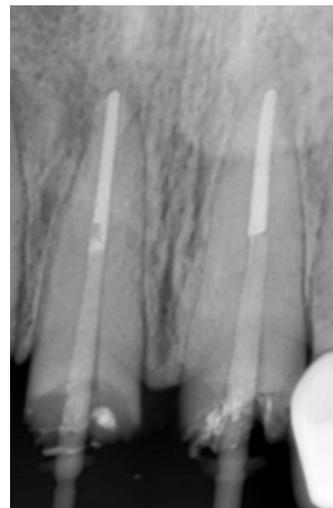
How treatments are performed

Once the tooth is diagnosed and root canal treatment is indicated via radiographs, local anaesthesia is injected to ensure comfortability. The tooth will then be isolated with a rubber protective sheet. A small opening is later made from the top of the tooth to the pulp. The inflamed or infected pulp and thin affected dentin layer inside the root canal is then mechanically removed, followed with an antimicrobial solution cleaning. The treatment can be performed in one or more visits depending on severity and difficulty. Once healing takes place, the root canal is filled and sealed. Later, a crown or other restorative prosthetic can be placed on the tooth to protect and restore it to full function. In some cases, where the remaining tooth structure is limited, a post (a pillar-like object) may be inserted into the canal to provide more core retention.



Example case: a patient came with broken front teeth due to a fall. Patient decided to save them after discussion.

Pictures courtesy of Dato' Dr. Hon Kim Chuan.



Root canal treatment has capacities of removing the inflamed/infected pulp, the affected layer of dentin and all microorganisms.

Root canal treatment was done followed with post insertion.



Posts were inserted into the canals.



Core is built up on each tooth to provide a base for the dental crowns.



Dental crowns were cemented.