

Reasons Adults Seek Orthodontic Treatment

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Post Surgical Follow Ups With Multiple Specialists

Desire for Improved Aesthetics: Many adults seek orthodontic treatment to enhance the appearance of their smile, addressing concerns such as crooked teeth, gaps, or overbites that may have persisted from childhood or developed due to various life factors.

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The initial post-surgical appointment, often considered the first step in a series of crucial follow-ups, marks a pivotal moment in the healing journey. Regular check-ups are important during orthodontic treatment **Youth orthodontic correction** tooth. This visit, typically scheduled within the first few days to a week after surgery, serves as a vital checkpoint for both the patient and their medical team. It's an encounter steeped with purpose: to evaluate how well the body is embracing the surgical intervention, to tackle any immediate concerns head-on, and to lay down a roadmap for what lies ahead in terms of recovery and subsequent visits with various specialists.

Assessing Healing: The first order of business during this critical appointment is assessing how the healing process is unfolding. The surgeon will meticulously examine the surgical site, looking for signs of proper healing such as reduced swelling, absence of infection, and appropriate wound closure. They'll also be keenly interested in how well you're managing pain and any other postoperative symptoms. This evaluation isn't just

about physical indicators; it's also about listening to your experience – how you feel day-to-day. Healing is not always linear, and understanding your subjective experience is as important as objective measures.

Addressing Immediate Concerns: Post-surgery can throw a myriad of questions and concerns into sharp relief-from worries about complications to practical issues like activity restrictions or dietary changes. This initial follow-up provides an essential platform for addressing these immediate concerns. Whether it's managing expectations regarding recovery time, discussing potential complications, or simply offering reassurance, this conversation helps alleviate anxiety and ensures that you're well-informed about what to expect next. It's where clarity meets comfort; where uncertainty starts to dissolve under the light of expert guidance.

Setting Expectations for Recovery: Understanding what lies ahead is a cornerstone of successful recovery post-surgery. During this appointment, your healthcare providers will begin outlining a detailed recovery plan tailored specifically to your surgery type and individual health profile. This includes discussions on physical therapy needs (if applicable), lifestyle adjustments necessary during recuperation, and key milestones to look out for as you progress through healing stages. Setting realistic expectations here fosters patience and commitment-two vital ingredients in overcoming the challenges that recovery can pose.

Future Visits & Specialists: Lastly, this initial post-surgical meeting serves as a launching pad for future appointments-both with your primary surgical team and potentially with other specialists involved in your care. Depending on the complexity of your surgery or underlying health conditions, engagement with physiotherapists, nutritionists, cardiologists (in case heart procedures were involved), or even mental health professionals might become part of your journey. Establishing clear communication channels among all parties involved ensures seamless coordination of

care-a critical aspect that enhances outcomes and supports holistic recovery.

In essence, the initial post-surgical appointment is far more than just a check-in; it's a comprehensive starting point designed to ensure that each step forward in recovery is informed, supported, and aligned with both immediate needs and long-term goals. It's where hope meets strategy-a foundational meeting that sets the stage for navigating the path back to full health with confidence and clarity.

The journey of orthodontic treatment, especially when intertwined with surgical interventions and the care of multiple specialists, is a complex yet rewarding tapestry aimed at achieving optimal dental health and aesthetics for patients, particularly children. Central to this intricate process is the indispensable role of the orthodontist in follow-up care. This pivotal position they hold not only ensures the success of initial treatments but also orchestrates a seamless continuation of care that involves collaboration with various specialists, all focused on the well-being of the child.

To begin with, one of the primary responsibilities of an orthodontist post-surgery is meticulous monitoring of dental alignment. After surgical procedures-whether they involve tooth extractions, jaw realignment, or other corrective measures-the delicate process of teeth settling into their new positions begins. The orthodontist's keen eye and expertise are crucial in observing how these changes unfold over time. Regular check-ups are scheduled to evaluate the progress; here, the orthodontist assesses whether teeth are aligning correctly and if any further adjustments are needed to guide them into their final positions. This vigilant oversight ensures that any deviations from the expected outcome can be promptly addressed, minimizing the risk of relapse or complications.

Beyond mere observation, an integral part of follow-up care involves adjusting appliances as necessary. In cases where braces or other orthodontic appliances were utilized prior to surgery-or alongside it-fine-tuning these devices becomes essential. The orthodontist might need to tighten wires, add elastics, or even modify appliances to accommodate changes in oral anatomy post-surgery. These adjustments aren't just technical tasks; they're about ensuring comfort and effectiveness throughout the ongoing treatment phase. Each tweak is calculated to facilitate optimal healing while steering towards a beautifully aligned smile without compromising oral health.

Moreover, coordinating with other specialists involved in a child's treatment plan exemplifies another cornerstone of an orthodontist's role in follow-up care. Dental surgeries often intersect with various fields-pediatric dentistry, oral surgery, periodontology, and even occasionally maxillofacial surgery-each contributing unique expertise to address different facets of a child's dental health journey. The orthodontist acts as a liaison among these specialists; they communicate effectively regarding treatment progress and necessary collaborations. This synergy ensures that all aspectsfrom surgical corrections to post-operative stabilization and finally achieving stable occlusion-are harmoniously aligned towards common therapeutic goals. It's a testament to teamwork where each specialist plays their part under the overarching guidance aimed at delivering comprehensive care tailored specifically for each child's needs.

In essence, an orthodontist's role in post-surgical follow-up care transcends technical precision; it embodies leadership in coordination, empathy in patient interaction, and dedication in ensuring long-term outcomes for children undergoing complex dental treatments involving multiple specialists. Their commitment ensures not just straight teeth but contributes significantly to enhancing overall quality of life through improved function and confidence derived from a beautiful smile crafted through careful planning and diligent monitoring across stages of treatment and beyond.

****Enhancing Oral Health**: Proper alignment of teeth** through orthodontic treatment can improve oral hygiene by making it easier to clean teeth effectively, thereby reducing the risk of cavities and gum disease that may have been challenging to manage in misaligned dentitions.

When we step into the realm of post-surgical care, particularly following oral surgery, the importance of a well-orchestrated collaboration among various specialists becomes profoundly evident. This intricate dance of healthcare professionals-with oral surgeons taking center stage-highlights a critical aspect of modern medical practice: the necessity of ongoing communication to ensure optimal patient outcomes. The journey from surgery to full recovery is rarely linear; it's a winding path that demands vigilance, adaptability, and most importantly, seamless coordination among all parties involved.

At the heart of this process lies the relationship between patients and their oral surgeons. These dental specialists are not just practitioners performing procedures; they are navigators guiding patients through a complex terrain of healing and potential future interventions. Post-surgery, the surgical site requires careful monitoring. It's here where the first threads of collaboration begin to weave-a dialogue that extends beyond the confines of a single appointment. Oral surgeons must engage with patients to assess healing progress, manage expectations, and identify any early signs of complications. This direct line of communication forms the backbone of informed care, ensuring patients feel supported and educated about their recovery journey.

However, the role doesn't end with just managing the immediate post-operative phase. The essence of effective post-surgical follow-up involves anticipating and planning for future needs. This is where collaboration with other specialists becomes invaluable. Depending on individual cases, these might include general surgeons, periodontists, orthodontists, or even maxillofacial radiologists. Each specialist brings a unique perspective and expertise that can significantly enhance patient care. For instance, if a patient requires additional procedures-perhaps due to unforeseen complications or planned enhancements-a clear channel for discussion between oral surgeons and these other experts ensures that everyone is on the same page regarding treatment goals and methodologies. Moreover, such multidisciplinary collaboration fosters a more holistic approach to patient care. It transcends mere technical execution; it embraces understanding each patient as an individual with unique health histories and responses to treatment. Regular meetings or consultations among specialists allow for comprehensive discussions about patient progress, challenges encountered during healing, and strategic planning for subsequent steps in their recovery-or even for potential future surgeries if necessary. This proactive stance minimizes risks associated with isolated decision-making and cultivates an environment where every aspect of a patient's health is considered in tandem with their surgical history.

The benefits extend beyond clinical outcomes; this collaborative model also significantly enhances patient satisfaction and trust in their healthcare team. Knowing that their caregivers are actively communicating with one another provides reassurance-patients feel seen not just as cases but as individuals whose well-being is collectively prioritized by a dedicated team committed to their health journey every step of the way.

In conclusion, ongoing communication among healthcare providers post-oral surgery isn't merely beneficial-it's essential for achieving successful surgical outcomes and fostering comprehensive patient care narratives woven through multiple specialties' insights and expertise. As we continue to advance in medical practice, embracing such collaborative approaches will undoubtedly lead us toward more effective management strategies for surgical sites, smoother healing processes, and ultimately happier recoveries for all those under our collective care umbrella.

****Addressing Chronic Dental** Issues**: Adults may seek orthodontics to resolve longstanding dental problems such as bite issues (overbites, underbites, crossbites) that can lead to jaw pain, headaches, and digestive difficulties if left untreated.

Engagement with Pediatric Dentists: A Cornerstone in Post-Surgical Recovery for Children

When a child undergoes surgery, whether it's for a congenital condition, an accident, or a necessary medical procedure, the journey to recovery is multifaceted. Among the various aspects of post-surgical care, one often underserved yet critically important component is the engagement with pediatric dentists. This specialized engagement plays a pivotal role not just in maintaining oral health but also in ensuring the overall wellbeing of the child during their recovery period. Let's delve into why pediatric dentists are indispensable in this context, focusing on preventive care and the prompt addressing of emerging dental issues.

First and foremost, pediatric dentists bring a unique expertise tailored specifically to children's dental needs. Their training equips them to understand the nuances of developing teeth and jaws, which are particularly sensitive post-surgery. The oral cavity is not isolated from the rest of the body; issues here can reflect systemic health or conversely, contribute to complications elsewhere. For instance, poor oral hygiene can lead to infections that might complicate recovery from surgery. A pediatric dentist's involvement ensures that these potential pitfalls are identified early and managed effectively.

Preventive care stands as a cornerstone of a pediatric dentist's role post-surgery. Regular check-ups allow for monitoring of healing tissues around extracted teeth or surgical sites, ensuring they're progressing without unexpected setbacks like infection or improper healing. Moreover, pediatric dentists educate both children and their guardians on tailored oral hygiene practices suited to their specific post-surgical needs. This education extends beyond brushing and flossing; it encompasses dietary advice that minimizes sugar intake and promotes healing while avoiding trauma to sensitive areas in the mouth. Such preventive measures significantly reduce the risk of complications that could delay recovery or necessitate additional surgeries.

Moreover, engaging with pediatric dentists fosters an environment where emerging dental issues can be addressed promptly. Children might not always articulate discomfort accurately, making regular dental visits crucial for detecting problems such as tooth decay or malocclusions that could arise due to altered chewing patterns after surgery. Early intervention by a pediatric dentist can prevent minor issues from escalating into more serious conditions requiring extensive treatment down the line-a significant consideration given children's developing dentition and facial structures.

The collaborative approach between surgeons and pediatric dentists exemplifies comprehensive patient care-an approach increasingly recognized as vital in pediatrics where growth and development intersect with treatment plans. By integrating dental expertise into post-surgical follow-ups, healthcare providers ensure that every aspect of a child's recovery is considered holistically rather than in isolation. This interconnectedness not only aids immediate recovery but also lays a foundation for lifelong oral health habits from an early age-a gift that keeps on giving long after the surgical wound has healed.

In conclusion, involving pediatric dentists in post-surgical follow-ups isn't merely about teeth; it's about nurturing overall health and wellbeing during vulnerable recovery periods in children's lives. Through preventive care and vigilant monitoring for new dental challenges, these specialists help ensure smoother recoveries, fewer complications, and contribute significantly to setting up children for healthy futures-one smile at a time.

****Correcting Speech** Impediments**: Misaligned teeth or jaw structures can contribute to speech difficulties; orthodontic treatment can correct these issues, improving articulation and overall communication skills.

Navigating Nutritional Guidance Post-Surgery: A Child's Path to Recovery

When a child embarks on the journey of recovery following surgery, it's not just the physical healing that demands attention; their nutritional needs become a cornerstone of their overall well-being and growth. The intricate dance between nourishment and recovery is especially significant during the post-surgical phase, where dietary choices can profoundly influence both immediate healing and long-term developmental outcomes. This essay explores the nuanced landscape of nutritional guidance post-surgery, emphasizing its role in supporting children through multiple specialist follow-ups-a critical component in ensuring a smooth and effective recuperation.

The Immediate Post-Surgical Needs

In the immediate aftermath of surgery, a child's body is in a state of heightened need for certain nutrients to repair tissues, manage inflammation, and bolster immune defenses. Proteins are vital for tissue repair and should be prioritized in the diet, ideally sourced from lean meats, dairy products, legumes, and nuts-all easily digestible options suitable for recovering young patients. Hydration remains paramount; encouraging fluids helps prevent dehydration while supporting kidney function during this stressful period.

However, it's crucial to tailor these recommendations to each child's unique situationconsidering factors like age, weight, the type of surgery undergone, and any pre-existing nutritional deficiencies or conditions like diabetes or allergies that might complicate dietary choices. Here's where collaboration with multiple specialists becomes indispensable. Surgeons provide insights into surgical specifics; dietitians tailor meal plans that address both immediate healing needs and growth requirements; pediatricians monitor overall health progress; and if needed, specialists like gastroenterologists or allergists ensure safe dietary practices considering any digestive sensitivities or food allergies.

Growth Considerations Amid Recovery

Children are in constant growth mode-a fact that cannot be overstated when planning post-surgical nutrition. Adequate calorie intake is essential to support this growth without compromising healing processes. Nutrient-dense foods become key players here: whole grains for sustained energy release; fruits and vegetables rich in vitamins A, C, and E for immune support and tissue repair; healthy fats from sources like avocados and fish (when appropriate), crucial for brain development and cell function.

Moreover, incorporating foods rich in zinc-such as oysters (if age-appropriate), beef, chicken, beans-and iron sources like fortified cereals or spinach supports red blood cell production vital during recovery phases. Addressing these foundational nutrients ensures children not only heal but thrive through their developmental stages post-treatment.

Navigating Special Considerations Through Follow-Ups

The road to recovery often requires multiple specialist consultations-not just for monitoring physical progress but also for adjusting nutritional strategies as needed. Regular follow-ups with dietitians ensure meal plans evolve alongside the child's changing appetite and nutrient requirements as they recover physically. Pediatricians assess overall health trajectory while keeping an eye out for any signs of compromised immunity or delayed growth due to inadequate nutrition during this critical time frame.

These collaborative efforts highlight how integral comprehensive care is to pediatric postsurgical nutrition guidance-recognizing each child's unique journey while ensuring they receive tailored advice that nurtures both their immediate healing needs and future developmental milestones. By weaving together insights from various medical professionals with compassionate nutritional guidance tailored specifically to each child's circumstances post-surgery, we lay down a solid foundation not only for recovery but also for a healthy start into their

****Preventive Measures Against Tooth Wear**: Properly aligned teeth are less** prone to excessive wear and tear; adults may pursue orthodontic treatment to prevent premature tooth degradation and associated

costs of restorative dentistry.

Post-surgery follow-ups, particularly in the context of orthodontic procedures, represent a crucial phase in ensuring that a child's dental and facial development progresses as smoothly and healthily as possible. This period is not merely about checking if the surgical intervention has achieved its immediate goals; it's about embracing a holistic approach to care that acknowledges the dynamic nature of growth and development during childhood and adolescence.

The journey after oral or craniofacial surgery doesn't end with the initial healing phase. It extends into a comprehensive monitoring process that involves regular assessments by a multidisciplinary team of specialists. This team often includes orthodontists, pediatric dentists, oral surgeons, and sometimes even pediatricians or genetic counselors, each bringing their expertise to ensure that every aspect of the child's development is considered and supported.

Regular follow-ups serve multiple vital purposes. Firstly, they allow for the timely detection of any complications or unforeseen growth patterns that may necessitate additional treatments. Since children are not static cases but rather living, growing individuals whose bodies are constantly changing, what might have been an ideal outcome at one point could evolve into something requiring adjustment as they continue to grow. Monitoring these changes enables practitioners to intervene promptly and effectively, steering the child back onto a path toward optimal outcomes without unnecessary delays or more invasive procedures down the line.

Moreover, these assessments provide an invaluable opportunity for parents and caregivers to ask questions, voice concerns, and gain insights into what to expect next. Understanding the potential need for additional treatments-be it further orthodontic work like braces or aligners, or even secondary surgeries-within the broader context of their child's growth can alleviate anxiety and empower them with knowledge. It fosters an active partnership between the medical team and the family, ensuring everyone is aligned on treatment goals and expectations.

The collaborative approach also highlights the importance of interdisciplinary communication among specialists. Each professional contributes unique observations based on their area of expertise, painting a fuller picture of the child's progress and potential challenges ahead. This synergy ensures comprehensive care that addresses not only immediate post-surgical needs but also anticipates future developmental milestones that could influence treatment plans.

In essence, post-surgical follow-ups with multiple specialists embody a proactive stance towards monitoring growth and development following orthodontic surgery in children. By embracing this ongoing dialogue between healthcare providers and families, we foster an environment where each child's unique journey is respected and nurtured. The goal remains clear: to support healthy growth while minimizing disruptions to their quality of life-ensuring every smile not only heals but flourishes over time.

****Facilitating Better Chewing** Efficiency**: Orthodontic treatment can improve bite function and alignment, allowing for more efficient chewing which is crucial for digestion and overall nutritional health in adulthood.

Undergoing oral surgery can be a significant event in a child's life, marking not just a physical journey but also an emotional one. For parents and caregivers, navigating the post-surgical follow-up visits with multiple specialists can feel daunting. It's crucial to recognize and address the psychosocial aspects of this experience to ensure that children not only recover physically but also maintain emotional well-being throughout their recovery process.

Firstly, it's important to understand that children perceive and react to medical procedures differently than adults. The unfamiliar environment of a hospital or clinic, coupled with the sensation of recovery and change in their mouth, can lead to anxiety or fear. This is where empathy plays a pivotal role. Healthcare providers should strive to create an atmosphere that is as comforting as possible. Simple yet effective strategies include using language that a child can easily understand, involving them in discussions about their treatment in age-appropriate ways, and ensuring they know what to expect during each visit. Familiarizing children with the sights and sounds of the clinic beforehand-perhaps through tours or videos-can significantly reduce anxiety levels.

Parental involvement is equally vital during this phase. Parents are often their child's primary source of comfort; therefore, keeping them informed and involved in the care plan fosters a sense of security for the child. Encouraging open communication where children feel safe expressing their fears or discomforts can help healthcare providers tailor their approach better. Parents should be empowered with knowledge about what signs to watch for post-surgery-both physically and emotionally-and whom to contact if concerns arise, easing some of the uncertainty surrounding follow-up visits.

The journey doesn't end with the initial surgery; it extends into ongoing support across multiple specialist visits-be it orthodontists, pediatric dentists, or oral surgeons themselves. Each specialist plays a part in ensuring holistic care, but coordinating these interactions smoothly is key. Establishing clear communication channels between specialists ensures consistent messages for the child and parents regarding recovery expectations, potential challenges, and positive reinforcement strategies. A unified approach helps maintain continuity of care which is crucial for children who might otherwise feel like they're navigating a maze of appointments without a guiding thread.

Moreover, incorporating psychological support into follow-up routines can be transformative. Techniques such as cognitive-behavioral strategies can equip children with coping mechanisms for managing pain or anxiety related to medical procedures. Mindfulness practices tailored for children-like breathing exercises or guided imagery-can provide tools for relaxation during stressful moments like visiting multiple specialists over time. These methods not only alleviate immediate distress but also foster resilience over time, helping children view medical visits less as sources of fear and more as manageable parts of their health journey.

In wrapping up this discussion on post-surgical follow-ups involving multiple specialists for children undergoing oral surgery, it's clear that addressing psychosocial considerations isn't just an add-on-it's essential for comprehensive care delivery. By prioritizing emotional support alongside physical healing, we pave the way for positive experiences that nurture trust in healthcare systems among young patients and their families alike. Building these supportive frameworks requires collaboration among healthcare professionals committed not only to treating conditions but also to uplifting spirits throughout every step of recovery-a commitment that resonates deeply within both hearts and minds alike as we guide our youngest patients toward healthier futures filled with smiles rather than fears.

About orthodontics

Orthodontics



Connecting the arch-wire on brackets with wire

Occupation		
Names	Orthodontist	
Occupation type	Specialty	
Activity sectors	Dentistry	
Description		
Education required	Dental degree, specialty training	
Fields of employment	Private practices, hospitals	

Orthodontics[^a][^b] is a dentistry specialty that addresses the diagnosis, prevention, management, and correction of mal-positioned teeth and jaws, as well as misaligned bite patterns.[²] It may also address the modification of facial growth, known as **dentofacial orthopedics**.

Abnormal alignment of the teeth and jaws is very common. The approximate worldwide prevalence of malocclusion was as high as 56%. [³] However, conclusive scientific evidence for the health benefits of orthodontic treatment is lacking, although patients with completed treatment have reported a higher quality of life than that of untreated patients undergoing orthodontic treatment. [⁴][⁵] The main reason for the prevalence of these malocclusions is diets with less fresh fruit and vegetables and overall softer foods in childhood, causing smaller jaws with less room for the teeth to erupt.[⁶] Treatment may require several months to a few

years and entails using dental braces and other appliances to gradually adjust tooth position and jaw alignment. In cases where the malocclusion is severe, jaw surgery may be incorporated into the treatment plan. Treatment usually begins before a person reaches adulthood, insofar as pre-adult bones may be adjusted more easily before adulthood.

History

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Though it was rare until the Industrial Revolution, [⁷] there is evidence of the issue of overcrowded, irregular, and protruding teeth afflicting individuals. Evidence from Greek and Etruscan materials suggests that attempts to treat this disorder date back to 1000 BC, showcasing primitive yet impressively well-crafted orthodontic appliances. In the 18th and 19th centuries, a range of devices for the "regulation" of teeth were described by various dentistry authors who occasionally put them into practice.[⁸] As a modern science, orthodontics dates back to the mid-1800s.[⁹] The field's influential contributors include Norman William Kingsley[⁹] (1829–1913) and Edward Angle[¹⁰] (1855–1930). Angle created the first basic system for classifying malocclusions, a system that remains in use today.[⁹]

Beginning in the mid-1800s, Norman Kingsley published *Oral Deformities*, which is now credited as one of the first works to begin systematically documenting orthodontics. Being a major presence in American dentistry during the latter half of the 19th century, not only was Kingsley one of the early users of extraoral force to correct protruding teeth, but he was also one of the pioneers for treating cleft palates and associated issues. During the era of orthodontics under Kingsley and his colleagues, the treatment was focused on straightening teeth and creating facial harmony. Ignoring occlusal relationships, it was typical to remove teeth for a variety of dental issues, such as malalignment or overcrowding. The concept of an intact dentition was not widely appreciated in those days, making bite correlations

seem irrelevant.[⁸]

In the late 1800s, the concept of occlusion was essential for creating reliable prosthetic replacement teeth. This idea was further refined and ultimately applied in various ways when dealing with healthy dental structures as well. As these concepts of prosthetic occlusion progressed, it became an invaluable tool for dentistry.[⁸]

It was in 1890 that the work and impact of Dr. Edwards H. Angle began to be felt, with his contribution to modern orthodontics particularly noteworthy. Initially focused on prosthodontics, he taught in Pennsylvania and Minnesota before directing his attention towards dental occlusion and the treatments needed to maintain it as a normal condition, thus becoming known as the "father of modern orthodontics".[⁸]

By the beginning of the 20th century, orthodontics had become more than just the straightening of crooked teeth. The concept of ideal occlusion, as postulated by Angle and incorporated into a classification system, enabled a shift towards treating malocclusion, which is any deviation from normal occlusion. ^[8] Having a full set of teeth on both arches was highly sought after in orthodontic treatment due to the need for exact relationships between them. Extraction as an orthodontic procedure was heavily opposed by Angle and those who followed him. As occlusion became the key priority, facial proportions and aesthetics were neglected. To achieve ideal occlusals without using external forces, Angle postulated that having perfect occlusion was the best way to gain optimum facial aesthetics.^{[8}]

With the passing of time, it became quite evident that even an exceptional occlusion was not suitable when considered from an aesthetic point of view. Not only were there issues related to aesthetics, but it usually proved impossible to keep a precise occlusal relationship achieved by forcing teeth together over extended durations with the use of robust elastics, something Angle and his

students had previously suggested. Charles Tweed [¹¹] in America and Raymond Begg[¹²] in Australia (who both studied under Angle) re-introduced dentistry extraction into orthodontics during the 1940s and 1950s so they could improve facial esthetics while also ensuring better stability concerning occlusal relationships.[¹³]

In the postwar period, cephalometric radiography [¹⁴] started to be used by orthodontists for measuring changes in tooth and jaw position caused by growth and treatment.[¹⁵] The x-rays showed that many Class II and III malocclusions were due to improper jaw relations as opposed to misaligned teeth. It became evident that orthodontic therapy could adjust mandibular development, leading to the formation of functional jaw orthopedics in Europe and extraoral force measures in the US. These days, both functional appliances and extraoral devices are applied around the globe with the aim of amending growth patterns and forms. Consequently, pursuing true, or at least improved, jaw relationships had become the main objective of treatment by the mid-20th century.[⁸]

At the beginning of the twentieth century, orthodontics was in need of an upgrade. The American Journal of Orthodontics was created for this purpose in 1915; before it, there were no scientific objectives to follow, nor any precise classification system and brackets that lacked features.[¹⁶]

Until the mid-1970s, braces were made by wrapping metal around each tooth. [⁹] With advancements in adhesives, it became possible to instead bond metal brackets to the teeth.[⁹]

In 1972, Lawrence F. Andrews gave an insightful definition of the ideal occlusion in permanent teeth. This has had meaningful effects on orthodontic treatments that are administered regularly, $[^{16}]$ and these are: 1. Correct interarchal relationships 2. Correct crown angulation (tip) 3. Correct crown inclination (torque) 4. No rotations 5. Tight contact points 6. Flat Curve of Spee (0.0–2.5 mm), $[^{17}]$ and based on these principles, he discovered a treatment system called the straight-wire appliance

system, or the pre-adjusted edgewise system. Introduced in 1976, Larry Andrews' pre-adjusted edgewise appliance, more commonly known as the straight wire appliance, has since revolutionized fixed orthodontic treatment. The advantage of the design lies in its bracket and archwire combination, which requires only minimal wire bending from the orthodontist or clinician. It's aptly named after this feature: the angle of the slot and thickness of the bracket base ultimately determine where each tooth is situated with little need for extra manipulation. [¹⁸][19][20]

Prior to the invention of a straight wire appliance, orthodontists were utilizing a non-programmed standard edgewise fixed appliance system, or Begg's pin and tube system. Both of these systems employed identical brackets for each tooth and necessitated the bending of an archwire in three planes for locating teeth in their desired positions, with these bends dictating ultimate placements.¹⁸]

Evolution of the current orthodontic appliances

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When it comes to orthodontic appliances, they are divided into two types: removable and fixed. Removable appliances can be taken on and off by the patient as required. On the other hand, fixed appliances cannot be taken off as they remain bonded to the teeth during treatment.

Fixed appliances

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Fixed orthodontic appliances are predominantly derived from the edgewise appliance approach, which typically begins with round wires before transitioning to rectangular archwires for improving tooth alignment. These rectangluar wires promote precision in the positioning of teeth following initial treatment. In contrast to the Begg appliance, which was based solely on round wires and auxiliary springs, the Tip-Edge system emerged in the early 21st century. This innovative technology allowed for the utilization of rectangular archwires to precisely control tooth movement during the finishing stages after initial treatment with round wires. Thus, almost all modern fixed appliances can be considered variations on this edgewise appliance system.

Early 20th-century orthodontist Edward Angle made a major contribution to the world of dentistry. He created four distinct appliance systems that have been used as the basis for many orthodontic treatments today, barring a few exceptions. They are E-arch, pin and tube, ribbon arch, and edgewise systems.

E-arch

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Edward H. Angle made a significant contribution to the dental field when he released the 7th edition of his book in 1907, which outlined his theories and detailed his technique. This approach was founded upon the iconic "E-Arch" or 'the-arch' shape as well as inter-maxillary elastics. [²¹] This device was different from any other appliance of its period as it featured a rigid framework to which teeth could be tied effectively in order to recreate an arch form that followed pre-defined dimensions. [²²] Molars were fitted with braces, and a powerful labial archwire was positioned around the arch. The wire ended in a thread, and to move it forward, an adjustable nut was used, which allowed for an increase in circumference. By ligation, each individual tooth was attached to this expansive archwire.[⁸]

Pin and tube appliance

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Due to its limited range of motion, Angle was unable to achieve precise tooth positioning with an E-arch. In order to bypass this issue, he started using bands on other teeth combined with a vertical tube for each individual tooth. These tubes held a soldered pin, which could be repositioned at each appointment in order to move them in place.^[8] Dubbed the "bone-growing appliance", this contraption was theorized to encourage healthier bone growth due to its potential for transferring force directly to the roots.^[23] However, implementing it proved troublesome in reality.

Ribbon arch

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Realizing that the pin and tube appliance was not easy to control, Angle developed a better option, the ribbon arch, which was much simpler to use. Most of its components were already prepared by the manufacturer, so it was significantly easier to manage than before. In order to attach the ribbon arch, the occlusal area of the bracket was opened. Brackets were only added to eight incisors and mandibular canines, as it would be impossible to insert the arch into both horizontal molar tubes and the vertical brackets of adjacent premolars. This lack of understanding posed a considerable challenge to dental professionals; they were unable to make corrections to an excessive Spee curve in bicuspid teeth.²⁴ Despite the complexity of the situation, it was necessary for practitioners to find a resolution. Unparalleled to its counterparts, what made the ribbon arch instantly popular was that its archwire had remarkable spring qualities and could be utilized to accurately align teeth that were misaligned. However, a major drawback of this device was its inability to effectively control root position since it did not have enough resilience to generate the torque movements required for setting roots in their new place.^{[8}]

Edgewise appliance

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In an effort to rectify the issues with the ribbon arch, Angle shifted the orientation of its slot from vertical, instead making it horizontal. In addition, he swapped out the wire and replaced it with a precious metal wire that was rotated by 90 degrees in relation—henceforth known as Edgewise.[25] Following extensive trials, it was concluded that dimensions of 22 × 28 mils were optimal for obtaining excellent control over crown and root positioning across all three planes of space.[26] After debuting in 1928, this appliance quickly became one of the mainstays for multibanded fixed therapy, although ribbon arches continued to be utilized for another decade or so beyond this point too.[8]

Labiolingual

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Prior to Angle, the idea of fitting attachments on individual teeth had not been thought of, and in his lifetime, his concern for precisely positioning each tooth was not highly appraised. In addition to using fingersprings for repositioning teeth with a range of removable devices, two main appliance systems were very popular in the early part of the 20th century. Labiolingual appliances use bands on the first molars joined with heavy lingual and labial archwires affixed with soldered fingersprings to shift single teeth.

Twin wire

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Utilizing bands around both incisors and molars, a twin-wire appliance was designed to provide alignment between these teeth. Constructed with two 10-mil steel archwires, its delicate features were safeguarded by lengthy tubes stretching from molars towards canines. Despite its efforts, it had limited capacity for movement without further modifications, rendering it obsolete in modern orthodontic practice.

Begg's Appliance

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Returning to Australia in the 1920s, the renowned orthodontist, Raymond Begg, applied his knowledge of ribbon arch appliances, which he had learned from the Angle School. On top of this, Begg recognized that extracting teeth was sometimes vital for successful outcomes and sought to modify the ribbon arch appliance to provide more control when dealing with root positioning. In the late 1930s, Begg developed his adaptation of the appliance, which took three forms. Firstly, a highstrength 16-mil round stainless steel wire replaced the original precious metal ribbon arch. Secondly, he kept the same ribbon arch bracket but inverted it so that it pointed toward the gums instead of away from them. Lastly, auxiliary springs were added to control root movement. This resulted in what would come to be known as the Begg Appliance. With this design, friction was decreased since contact between wire and bracket was minimal, and binding was minimized due to tipping and uprighting being used for anchorage control, which lessened contact angles between wires and corners of the bracket.

Tip-Edge System

[edit]

Begg's influence is still seen in modern appliances, such as Tip-Edge brackets. This type of bracket incorporates a rectangular slot cutaway on one side to allow for crown tipping with no incisal deflection of an archwire, allowing teeth to be tipped during space closure and then uprighted through auxiliary springs or even a rectangular wire for torque purposes in finishing. At the initial stages of treatment, small-diameter steel archwires should be used when working with Tip-Edge brackets.

Contemporary edgewise systems

[edit]

Throughout time, there has been a shift in which appliances are favored by dentists. In particular, during the 1960s, when it was introduced, the Begg appliance gained wide popularity due to its efficiency compared to edgewise appliances of that era; it could produce the same results with less investment on the dentist's part. Nevertheless, since then, there have been advances in technology and sophistication in edgewise appliances, which led to the opposite conclusion: nowadays, edgewise appliances are more efficient than the Begg appliance, thus explaining why it is commonly used.

Automatic rotational control

[edit]

At the beginning, Angle attached eyelets to the edges of archwires so that they could be held with ligatures and help manage rotations. Now, however, no extra ligature is needed due to either twin brackets or single brackets that have added wings touching underneath the wire (Lewis or Lang brackets). Both types of brackets simplify the process of obtaining moments that control movements along a particular plane of space.

Alteration in bracket slot dimensions

[edit]

In modern dentistry, two types of edgewise appliances exist: the 18– and 22–slot varieties. While these appliances are used differently, the introduction of a 20–slot device with more precise features has been considered but not pursued yet.²⁷]

Straight-wire bracket prescriptions

[edit]

Rather than rely on the same bracket for all teeth, L.F. Andrews found a way to make different brackets for each tooth in the 1980s, thanks to the increased convenience of bonding.^[28] This adjustment enabled him to avoid having multiple bends in archwires that would have been needed to make up for variations in tooth anatomy. Ultimately, this led to what was termed a "straight-wire appliance" system – an edgewise appliance that greatly enhanced its efficiency.^[29] The modern edgewise appliance has slightly different construction than the original one. Instead of relying on faciolingual bends to accommodate variations among teeth, each bracket has a correspondingly varying base thickness depending on the tooth it is intended for. However, due to individual differences between teeth, this does not completely eliminate the need for compensating bends.^[30] Accurately placing the roots of many teeth requires angling brackets in relation to the long axis of the tooth. Traditionally, this mesiodistal root positioning necessitated using second-order, or tip, bends along the archwire. However, angling the bracket or bracket slot eliminates this need for bends.

Given the discrepancies in inclination of facial surfaces across individual teeth, placing a twist, otherwise known as third-order or torque bends, into segments of each rectangular archwire was initially required with the edgewise appliance. These bends were necessary for all patients and wires, not just to avoid any unintentional movement of suitably placed teeth or when moving roots facially or lingually. Angulation of either brackets or slots can minimize the need for second-order or tip bends on archwires. Contemporary edgewise appliances come with brackets designed to adjust for any facial inclinations, thereby eliminating or reducing any third-order bends. These brackets already have angulation and torque values built in so that each rectangluar archwire can be contorted to form a custom fit without inadvertently shifting any correctly positioned teeth. Without bracket angulation and torque, second-order or tip bends would still be required on each patient's archwire.

Methods

[edit]



Upper and lower jaw functional expanders

A typical treatment for incorrectly positioned teeth (malocclusion) takes from one to two years, with braces being adjusted every four to 10 weeks by orthodontists, [³¹] while university-trained dental specialists are versed in the prevention, diagnosis, and treatment of dental and facial irregularities. Orthodontists offer a wide range of treatment options to straighten crooked teeth, fix irregular bites, and align the jaws correctly.[³²] There are many ways to adjust malocclusion. In growing patients, there are more options to treat skeletal discrepancies, either by promoting or restricting growth using functional appliances, orthodontic headgear,

or a reverse pull facemask. Most orthodontic work begins in the early permanent dentition stage before skeletal growth is completed. If skeletal growth has completed, jaw surgery is an option. Sometimes teeth are extracted to aid the orthodontic treatment (teeth are extracted in about half of all the cases, most commonly the premolars).[³³]

Orthodontic therapy may include the use of fixed or removable appliances. Most orthodontic therapy is delivered using appliances that are fixed in place, [³⁴] for example, braces that are adhesively bonded to the teeth. Fixed appliances may provide greater mechanical control of the teeth; optimal treatment outcomes are improved by using fixed appliances.

Fixed appliances may be used, for example, to rotate teeth if they do not fit the arch shape of the other teeth in the mouth, to adjust multiple teeth to different places, to change the tooth angle of teeth, or to change the position of a tooth's root. This treatment course is not preferred where a patient has poor oral hygiene, as decalcification, tooth decay, or other complications may result. If a patient is unmotivated (insofar as treatment takes several months and requires commitment to oral hygiene), or if malocclusions are mild.

The biology of tooth movement and how advances in gene therapy and molecular biology technology may shape the future of orthodontic treatment.[³⁵]

Braces

[edit]



Dental braces

Braces are usually placed on the front side of the teeth, but they may also be placed on the side facing the tongue (called lingual braces). Brackets made out of stainless steel or porcelain are bonded to the center of the teeth using an adhesive. Wires are placed in a slot in the brackets, which allows for controlled movement in all three dimensions.

Apart from wires, forces can be applied using elastic bands, [36] and springs may be used to push teeth apart or to close a gap. Several teeth may be tied together with ligatures, and different kinds of hooks can be placed to allow for connecting an elastic band.[37][36]

Clear aligners are an alternative to braces, but insufficient evidence exists to determine their effectiveness.[³⁸]

Treatment duration

[edit]

The time required for braces varies from person to person as it depends on the severity of the problem, the amount of room available, the distance the teeth must travel, the health of the teeth, gums, and supporting bone, and how closely the patient follows instructions. On average, however, once the braces are put on, they usually remain in place for one to three years. After braces are removed, most patients will need to wear a retainer all the time for the first six months, then only during sleep for many years.[³⁹]

Headgear

[edit]

Orthodontic headgear, sometimes referred to as an "extra-oral appliance", is a treatment approach that requires the patient to have a device strapped onto their head to help correct malocclusion—typically used when the teeth do not align properly. Headgear is most often used along with braces or other orthodontic appliances. While braces correct the position of teeth, orthodontic headgear—which, as the name suggests, is worn on or strapped onto the patient's head—is most often added to orthodontic treatment to help alter the alignment of the jaw, although there are some situations in which such an appliance can help move teeth, particularly molars.



Full orthodontic headgear with headcap, fitting straps, facebow, and elastics

Whatever the purpose, orthodontic headgear works by exerting tension on the braces via hooks, a facebow, coils, elastic bands, metal orthodontic bands, and other attachable appliances directly into the patient's mouth. It is most effective for children and teenagers because their jaws are still developing and can be easily manipulated. (If an adult is fitted with headgear, it is usually to help correct the position of teeth that have shifted after other teeth have been extracted.) Thus, headgear is typically used to treat a number of jaw alignment or bite problems, such as overbite and underbite.[40]

Palatal expansion

[edit]

Palatal expansion can be best achieved using a fixed tissue-borne appliance. Removable appliances can push teeth outward but are less effective at maxillary sutural expansion. The effects of a removable expander may look the same as they push teeth outward, but they should not be confused with actually expanding the palate. Proper palate expansion can create more space for teeth as well as improve both oral and nasal airflow.[⁴¹]

Jaw surgery

[edit]

Jaw surgery may be required to fix severe malocclusions. [42] The bone is broken during surgery and stabilized with titanium (or bioresorbable) plates and screws to allow for healing to take place.[43] After surgery, regular orthodontic treatment is used to move the teeth into their final position.[44]

During treatment

[edit]

To reduce pain during the orthodontic treatment, low-level laser therapy (LLLT), vibratory devices, chewing adjuncts, brainwave music, or cognitive behavioral therapy can be used. However, the supporting evidence is of low quality, and the results are inconclusive.[⁴⁵]

Post treatment

[edit]

After orthodontic treatment has been completed, there is a tendency for teeth to return, or relapse, back to their pre-treatment positions. Over 50% of patients have some reversion to pre-treatment positions within 10 years following treatment.[⁴⁶] To prevent relapse, the majority of patients will be offered a retainer once treatment has been completed and will benefit from wearing their retainers. Retainers can be either fixed or removable.

Removable retainers

[edit]

Removable retainers are made from clear plastic, and they are custom-fitted for the patient's mouth. It has a tight fit and holds all of the teeth in position. There are many types of brands for clear retainers, including Zendura Retainer, Essix Retainer, and Vivera Retainer.⁴⁷] A Hawley retainer is also a removable orthodontic appliance made from a combination of plastic and metal that is custom-molded to fit the patient's mouth. Removable retainers will be worn for different periods of time, depending on the patient's need to stabilize the dentition.⁴⁸]

Fixed retainers

[edit]

Fixed retainers are a simple wire fixed to the tongue-facing part of the incisors using dental adhesive and can be specifically useful to prevent rotation in incisors. Other types of fixed retainers can include labial or lingual braces, with brackets fixed to the teeth.[⁴⁸]

Palatal expander

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Palatal expander Orthodontic headgear

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Orthodontic headgear An X-ray taken for skull analysis

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Image not found or type unknown

An X-ray taken for skull analysis

Top (left) and bottom retainers

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Top (left) and bottom retainers

Clear aligners

[edit]

Clear aligners are another form of orthodontics commonly used today, involving removable plastic trays. There has been controversy about the effectiveness of aligners such as Invisalign or Byte; some consider them to be faster and more freeing than the alternatives.[⁴⁹]

Training

[edit]

There are several specialty areas in dentistry, but the specialty of orthodontics was the first to be recognized within dentistry.[⁵⁰] Specifically, the American Dental Association recognized orthodontics as a specialty in the 1950s.[⁵⁰] Each country has its own system for training and registering orthodontic specialists.

Australia

[edit]

In Australia, to obtain an accredited three-year full-time university degree in orthodontics, one will need to be a qualified dentist (complete an AHPRA-registered general dental degree) with a minimum of two years of clinical experience. There are several universities in Australia that offer orthodontic programs: the University of Adelaide, the University of Melbourne, the University of Sydney, the University of Queensland, the University of Western Australia, and the University of Otago.[⁵¹] Orthodontic courses are accredited by the Australian Dental Council and reviewed by the Australian Society of Orthodontists (ASO). Prospective applicants should obtain information from the relevant institution before applying for admission.[⁵²] After completing a degree in orthodontics, specialists are required to be registered with the Australian Health Practitioner Regulation Agency (AHPRA) in order to practice.[⁵³][⁵⁴]

Bangladesh

[edit]

Dhaka Dental College in Bangladesh is one of the many schools recognized by the Bangladesh Medical and Dental Council (BM&DC) that offer post-graduation orthodontic courses.⁵⁵][⁵⁶] Before applying to any post-graduation training courses, an applicant must have completed the Bachelor of Dental Surgery (BDS) examination from any dental college.[⁵⁵] After application, the applicant must take an admissions test held by the specific college.[⁵⁵] If successful, selected candidates undergo training for six months.[⁵⁷]

Canada

[edit]

In Canada, obtaining a dental degree, such as a Doctor of Dental Surgery (DDS) or Doctor of Medical Dentistry (DMD), would be required before being accepted by a school for orthodontic training.[⁵⁸] Currently, there are 10 schools in the country offering the orthodontic specialty.[⁵⁸] Candidates should contact the individual school directly to obtain the most recent pre-requisites before entry.[⁵⁸] The Canadian Dental Association expects orthodontists to complete at least two years of post-doctoral, specialty training in orthodontics in an accredited program after graduating from their dental degree.

United States

[edit]

Similar to Canada, there are several colleges and universities in the United States that offer orthodontic programs. Every school has a different enrollment process, but every applicant is required to have graduated with a DDS or DMD from an accredited dental school.[⁵⁹][⁶⁰] Entrance into an accredited orthodontics program is extremely competitive and begins by passing a national or state licensing exam.[⁶¹]

The program generally lasts for two to three years, and by the final year, graduates are required to complete the written American Board of Orthodontics (ABO) exam. $[^{61}]$ This exam is also broken down into two components: a written exam and a clinical exam. $[^{61}]$ The written exam is a comprehensive exam that tests for the applicant's knowledge of basic sciences and clinical concepts. $[^{61}]$ The clinical exam, however, consists of a Board Case Oral Examination (BCOE), a Case Report Examination (CRE), and a Case Report Oral Examination (CROE). $[^{61}]$ Once certified, certification must then be renewed every ten years. $[^{61}]$ Orthodontic programs can award a Master of Science degree, a Doctor of Science degree, or a Doctor of Philosophy degree, depending on the school and individual research requirements. $[^{62}]$

United Kingdom

[edit]

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Throughout the United Kingdom, there are several Orthodontic Specialty Training Registrar posts available.^[63] The program is full-time for three years, and upon completion, trainees graduate with a degree at the Masters or Doctorate level.^[63] Training may take place within hospital departments that are linked to recognized dental schools.^[63] Obtaining a Certificate of Completion of Specialty Training (CCST) allows an orthodontic specialist to be registered under the General Dental Council (GDC).^[63] An orthodontic specialist can provide care within a primary care setting, but to work at a hospital as an orthodontic consultant, higher-level training is further required as a post-CCST trainee.^[63] To work within a university setting as an academic consultant, completing research toward obtaining a Ph.D. is also required.^[63]

See also

[edit]

- Orthodontic technology
- Orthodontic indices
- List of orthodontic functional appliances
- Molar distalization
- Mouth breathing
- Obligate nasal breathing

Notes

[edit]

- 1. Also referred to as orthodontia
- "Orthodontics" comes from the Greek orthos ('correct, straight') and -odont-('tooth').[¹]

References

[edit]

- 1. **^** "Definition of orthodontics | Dictionary.com". www.dictionary.com. Retrieved 2019-08-28.
- "What is orthodontics?// Useful Resources: FAQ and Downloadable eBooks". Orthodontics Australia. Retrieved 2020-08-13.
- A Lombardo G, Vena F, Negri P, Pagano S, Barilotti C, Paglia L, Colombo S, Orso M, Cianetti S (June 2020). "Worldwide prevalence of malocclusion in the different stages of dentition: A systematic review and meta-analysis". Eur J Paediatr Dent. 21 (2): 115–22. doi:10.23804/ejpd.2020.21.02.05. PMID 32567942.
- 4. A Whitcomb I (2020-07-20). "Evidence and Orthodontics: Does Your Child Really Need Braces?". Undark Magazine. Retrieved 2020-07-27.
- Controversial report finds no proof that dental braces work". British Dental Journal. 226 (2): 91. 2019-01-01. doi:10.1038/sj.bdj.2019.65. ISSN 1476-5373. S2CID 59222957.
- Von Cramon-Taubadel N (December 2011). "Global human mandibular variation reflects differences in agricultural and hunter-gatherer subsistence strategies". Proceedings of the National Academy of Sciences of the United States of America. **108** (49): 19546–19551. Bibcode:2011PNAS..10819546V. doi: 10.1073/pnas.1113050108. PMC 3241821. PMID 22106280.
- Nose, Jerome C.; Roblee, Richard D. (June 2009). "Origins of dental crowding and malocclusions: an anthropological perspective". Compendium of Continuing Education in Dentistry (Jamesburg, N.J.: 1995). 30 (5): 292–300. ISSN 1548-8578. PMID 19514263.
- A *b c d e f g h i j k* Proffit WR, Fields Jr HW, Larson BE, Sarver DM (2019). Contemporary orthodontics (Sixth ed.). Philadelphia, PA. ISBN 978-0-323-54387-3. OCLC 1089435881.cite book: CS1 maint: location missing publisher (link)
- 9. ^ *a b c d e* "A Brief History of Orthodontic Braces ArchWired". www.archwired.com. 17 July 2019.[[]self-published source[]]

- Peck S (November 2009). "A biographical portrait of Edward Hartley Angle, the first specialist in orthodontics, part 1". The Angle Orthodontist. **79** (6): 1021–1027. doi:10.2319/021009-93.1. PMID 19852589.
- 11. **^** "The Application of the Principles of the Edge- wise Arch in the Treatment of Malocclusions: II.*". meridian.allenpress.com. Retrieved 2023-02-07.
- 12.
 "British Orthodontic Society > Museum and Archive > Collection > Fixed Appliances > Begg". www.bos.org.uk. Retrieved 2023-02-07.
- A Safirstein D (August 2015). "P. Raymond Begg". American Journal of Orthodontics and Dentofacial Orthopedics. 148 (2): 206. doi:10.1016/j.ajodo.2015.06.005. PMID 26232825.
- A Higley LB (August 1940). "Lateral head roentgenograms and their relation to the orthodontic problem". American Journal of Orthodontics and Oral Surgery. 26 (8): 768–778. doi:10.1016/S0096-6347(40)90331-3. ISSN 0096-6347.
- 15. **^** Themes UF (2015-01-12). "14: Cephalometric radiography". Pocket Dentistry. Retrieved 2023-02-07.
- A *a b* Andrews LF (December 2015). "The 6-elements orthodontic philosophy: Treatment goals, classification, and rules for treating". American Journal of Orthodontics and Dentofacial Orthopedics. *148* (6): 883–887. doi: 10.1016/j.ajodo.2015.09.011. PMID 26672688.
- Andrews LF (September 1972). "The six keys to normal occlusion". American Journal of Orthodontics. 62 (3): 296–309. doi:10.1016/s0002-9416(72)90268-0. PMID 4505873. S2CID 8039883.
- 18. ^ *a b* Themes UF (2015-01-01). "31 The straight wire appliance". Pocket Dentistry. Retrieved 2023-02-07.
- Andrews LF (July 1979). "The straight-wire appliance". British Journal of Orthodontics. 6 (3): 125–143. doi:10.1179/bjo.6.3.125. PMID 297458. S2CID 33259729.
- Phulari B (2013), "Andrews' Straight Wire Appliance", History of Orthodontics, Jaypee Brothers Medical Publishers (P) Ltd., p. 98, doi:10.5005/jp/books/12065_11, ISBN 9789350904718, retrieved 2023-02-07
- Angle EH. Treatment of malocclusion of the teeth. 7th éd. Philadelphia:
 S.S.White Dental Mfg Cy, 1907
- Philippe J (March 2008). "How, why, and when was the edgewise appliance born?". Journal of Dentofacial Anomalies and Orthodontics. **11** (1): 68–74. doi: 10.1051/odfen/20084210113. ISSN 2110-5715.
- 23. ^ Angle EH (1912). "Evolution of orthodontia. Recent developments". Dental Cosmos. **54**: 853–867.

- 24. A Brodie AG (1931). "A discussion on the Newest Angle Mechanism". The Angle Orthodontist. 1: 32–38.
- 25. Angle EH (1928). "The latest and best in Orthodontic Mechanism". Dental Cosmos. **70**: 1143–1156.
- A Brodie AG (1956). "Orthodontic Concepts Prior to the Death of Edward Angle". The Angle Orthodontist. 26: 144–155.
- 27. A Matasa CG, Graber TM (April 2000). "Angle, the innovator, mechanical genius, and clinician". American Journal of Orthodontics and Dentofacial Orthopedics. 117 (4): 444–452. doi:10.1016/S0889-5406(00)70164-8. PMID 10756270.
- Andrews LF. Straight Wire: The Concept and Appliance. San Diego: LA Wells; 1989.
- 29. Andrews LF (1989). Straight wire: the concept and appliance. Lisa Schirmer. San Diego, CA. ISBN 978-0-9616256-0-3. OCLC 22808470.cite book: CS1 maint: location missing publisher (link)
- November 1976). "Five year clinical evaluation of the Andrews straight-wire appliance". Journal of Clinical Orthodontics. 10 (11): 836–50. PMID 1069735.
- A Fleming PS, Fedorowicz Z, Johal A, El-Angbawi A, Pandis N, et al. (The Cochrane Collaboration) (June 2015). "Surgical adjunctive procedures for accelerating orthodontic treatment". The Cochrane Database of Systematic Reviews. 2015 (6). John Wiley & Sons, Ltd.: CD010572. doi:10.1002/14651858.cd010572. PMC 6464946. PMID 26123284.
- 32. ^ "What is an Orthodontist?". Orthodontics Australia. 5 December 2019.
- A Dardengo C, Fernandes LQ, Capelli Júnior J (February 2016). "Frequency of orthodontic extraction". Dental Press Journal of Orthodontics. 21 (1): 54–59. doi:10.1590/2177-6709.21.1.054-059.oar. PMC 4816586. PMID 27007762.
- 34. **^** "Child Dental Health Survey 2013, England, Wales and Northern Ireland". digital.nhs.uk. Retrieved 2018-03-08.
- Atsawasuwan P, Shirazi S (2019-04-10). "Advances in Orthodontic Tooth Movement: Gene Therapy and Molecular Biology Aspect". In Aslan BI, Uzuner FD (eds.). Current Approaches in Orthodontics. IntechOpen. doi: 10.5772/intechopen.80287. ISBN 978-1-78985-181-6. Retrieved 2021-05-16.
- 36. ^ **a b** "Elastics For Braces: Rubber Bands in Orthodontics". Orthodontics Australia. 2019-12-15. Retrieved 2020-12-13.
- 37. ^ Mitchell L (2013). An Introduction to Orthodontics. Oxford Medical Publications. pp. 220–233.

- N Rossini G, Parrini S, Castroflorio T, Deregibus A, Debernardi CL (September 2015). "Efficacy of clear aligners in controlling orthodontic tooth movement: a systematic review". The Angle Orthodontist. 85 (5): 881–889. doi: 10.2319/061614-436.1. PMC 8610387. PMID 25412265. S2CID 10787375. "The quality level of the studies was not sufficient to draw any evidence-based conclusions."
- 39. ^ "Dental Braces and Retainers".
- Millett DT, Cunningham SJ, O'Brien KD, Benson PE, de Oliveira CM (February 2018). "Orthodontic treatment for deep bite and retroclined upper front teeth in children". The Cochrane Database of Systematic Reviews. 2 (2): CD005972. doi:10.1002/14651858.CD005972.pub4. PMC 6491166. PMID 29390172.
- 41. ^ "Palate Expander". Cleveland Clinic. Retrieved October 29, 2024.
- 42. **^** "Jaw Surgery". Modern Orthodontic Clinic in Sammamish & Bellevue. Retrieved 2024-10-03.
- 43. Agnihotry A, Fedorowicz Z, Nasser M, Gill KS, et al. (The Cochrane Collaboration) (October 2017). Zbigniew F (ed.). "Resorbable versus titanium plates for orthognathic surgery". The Cochrane Database of Systematic Reviews. 10 (10). John Wiley & Sons, Ltd: CD006204. doi:10.1002/14651858.cd006204. PMC 6485457. PMID 28977689.
- 44. **^** "British Orthodontic Society > Public & Patients > Your Jaw Surgery". www.bos.org.uk. Retrieved 2019-08-28.
- 45. A Fleming PS, Strydom H, Katsaros C, MacDonald L, Curatolo M, Fudalej P, Pandis N, et al. (Cochrane Oral Health Group) (December 2016). "Nonpharmacological interventions for alleviating pain during orthodontic treatment". The Cochrane Database of Systematic Reviews. **2016** (12): CD010263. doi:10.1002/14651858.CD010263.pub2. PMC 6463902. PMID 28009052.
- Yu Y, Sun J, Lai W, Wu T, Koshy S, Shi Z (September 2013). "Interventions for managing relapse of the lower front teeth after orthodontic treatment". The Cochrane Database of Systematic Reviews. 2014 (9): CD008734. doi:10.1002/14651858.CD008734.pub2. PMC 10793711. PMID 24014170.
- 47. ^ "Clear Retainers | Maintain Your Hard to Get Smile with Clear Retainers". Retrieved 2020-01-13.
- A a b Martin C, Littlewood SJ, Millett DT, Doubleday B, Bearn D, Worthington HV, Limones A (May 2023). "Retention procedures for stabilising tooth position after treatment with orthodontic braces". The Cochrane Database of Systematic Reviews. 2023 (5): CD002283. doi:10.1002/14651858.CD002283.pub5. PMC 10202160. PMID 37219527.

- A Putrino A, Barbato E, Galluccio G (March 2021). "Clear Aligners: Between Evolution and Efficiency-A Scoping Review". International Journal of Environmental Research and Public Health. 18 (6): 2870. doi: 10.3390/ijerph18062870. PMC 7998651. PMID 33799682.
- 50. ^ *a b* Christensen GJ (March 2002). "Orthodontics and the general practitioner". Journal of the American Dental Association. **133** (3): 369–371. doi:10.14219/jada.archive.2002.0178. PMID 11934193.
- 51. ^ "How to become an orthodontist". Orthodontics Australia. 26 September 2017.
- 52. **^** "Studying orthodontics". Australian Society of Orthodontists. 26 September 2017.
- 53. **^** "Specialties and Specialty Fields". Australian Health Practitioners Regulation Agency.
- 54. ^ "Medical Specialties and Specialty Fields". Medical Board of Australia.
- 55. ^ **a b c** "Dhaka Dental College". Dhaka Dental College. Archived from the original on October 28, 2017. Retrieved October 28, 2017.
- 56. ^ "List of recognized medical and dental colleges". Bangladesh Medical & Dental Council (BM&DC). Retrieved October 28, 2017.
- 57. ^ "Orthodontic Facts Canadian Association of Orthodontists". Canadian Association of Orthodontists. Retrieved 26 October 2017.
- 58. ^ *a b c* "FAQ: I Want To Be An Orthodontist Canadian Association of Orthodontists". Canadian Association of Orthodontists. Retrieved 26 October 2017.
- 59. **^** "RCDC Eligibility". The Royal College of Dentists of Canada. Archived from the original on 29 October 2019. Retrieved 26 October 2017.
- 60. **^** "Accredited Orthodontic Programs AAO Members". www.aaoinfo.org.
- 61. ^ **a b c d e f** "About Board Certification". American Board of Orthodontists. Archived from the original on 16 February 2019. Retrieved 26 October 2017.
- 62. ^ "Accredited Orthodontic Programs | AAO Members". American Association of Orthodontists. Retrieved 26 October 2017.
- 63. ^ **a b c d e f** "Orthodontic Specialty Training in the UK" (PDF). British Orthodontic Society. Retrieved 28 October 2017.

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Orthodontics

- Bolton analysis
- Cephalometric analysis
- Cephalometry
- Dentition analysis
- Failure of eruption of teeth
- **Diagnosis** Little's Irregularity Index
 - Malocclusion
 - Scissor bite
 - Standard anatomical position
 - Tooth ankylosis
 - Tongue thrust

- \circ Overbite
- Overjet
- Open bite
- Crossbite
- Dental crowding
- Dental spacing
- Bimaxillary Protrusion

Conditions

- Prognathism
- Retrognathism
- Maxillary hypoplasia
- Condylar hyperplasia
- Overeruption
- Mouth breathing
- Temperomandibular dysfunction

- ACCO appliance
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- Fiberotomy
- Interproximal reduction
- Procedures
 - Intrusion (orthodontics) Molar distalization

 - SARPE
 - \circ Serial extraction
 - Beta-titanium
 - Nickel titanium
 - Stainless steel

Materials

- TiMoliumElgiloy
- Ceramic
- Composite
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- Edward Angle
- Spencer Atkinson
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- Jean Delaire
- Terry Dischinger
- William B. Downs
- John Nutting Farrar
- Rolf Frankel
- Sheldon Friel
- Thomas M. Graber
- Charles A. Hawley
- \circ Reed Holdaway
- John Hooper (Orthodontist)
- Joseph Jarabak
- Harold Kesling
- Albert Ketcham
- Juri Kurol

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- Benno Lischer
 - James A. McNamara
 - Birte Melsen
 - Robert Movers

Organizations	 American Association of Orthodontists
	 American Board of Orthodontics
	 British Orthodontic Society
	 Canadian Association of Orthodontists
	 Indian Orthodontic Society
	 Italian Academy of Orthodontic Technology
	\circ Society for Orthodontic Dental Technology (Germany)
	 American Journal of Orthodontics and Dentofacial
Journals	Orthopedics
	 The Angle Orthodontist
	 Journal of Orthodontics
Institution	 Angle School of Orthodontia
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Dentistry

Specialties	 Endodontics
	 Oral and maxillofacial pathology
	 Oral and maxillofacial radiology
	 Oral and maxillofacial surgery
	 Orthodontics and dentofacial orthopedics
	 Pediatric dentistry
	 Periodontics
	 Prosthodontics
	 Dental public health
	 Cosmetic dentistry
	 Dental implantology
	 Geriatric dentistry
	 Restorative dentistry
	 Forensic odontology
	 Dental traumatology
	 Holistic dentistry
Dental surgery	 Dental extraction
	 Tooth filling
	 Root canal therapy
	 Root end surgery
	 Scaling and root planing
	 Teeth cleaning
	 Dental bonding
	 Tooth polishing
	 Tooth bleaching
	 Socket preservation
	 Dental implant

	 American Association of Orthodontists
	 British Dental Association
	 British Dental Health Foundation
	 British Orthodontic Society
Organisations	 Canadian Association of Orthodontists
	 Dental Technologists Association
	 General Dental Council
	 Indian Dental Association
	 National Health Service
	∘ Canada
	 Philippines
By country	∘ Israel
	 United Kingdom
	 United States
	\circ Index of oral health and dental articles
	\circ Outline of dentistry and oral health
	○ Dental fear
	 Dental instruments
See also	 Dental material
3ee a130	 History of dental treatments
	 Ancient Rome
	 Infant oral mutilation
	 Mouth assessment
	 Oral hygiene
• V	
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Cleft lip and cleft palate

	 Advance practice nursing
	 Audiology
	 Dentistry
	• Dietetics
	• Genetics
	 Oral and maxillofacial surgery
	 Orthodontics
	 Orthodontic technology
Related	 Otolaryngology
specialities	• Pediatrics
	 Pediatric dentistry
	• Physician
	 Plastic surgery
	 Psychiatry
	 Psychology
	 Respiratory therapy
	 Social work
	 Speech and language therapy
	 Hearing loss with craniofacial syndromes
Related	 Pierre Robin syndrome
syndromes	 Popliteal pterygium syndrome
	 Van der Woude syndrome

- Cleft Lip and Palate Association
- Craniofacial Society of Great Britain and Ireland
- Interplast
- North Thames Regional Cleft Lip and Palate Service
- National and international

organisations

- Operation Smile
- Overseas Plastic Surgery Appeal
- Shriners Hospitals for Children
- Smile Train
- Transforming Faces Worldwide
- Smile Angel Foundation (China)
 - Germany
 - United States

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∘ Israel

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- Tooth decay
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- How Orthodontics Connects With Periodontal Health
- Psychological Benefits of Aligned Teeth in Adulthood
- Coordinating Orthodontic Work With Restorative Dentistry
- The Role of Oral Surgery in Complex Alignment Cases
- Teamwork for Managing Tongue Thrust and Speech Issues

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Orthodontic treatment can help improve your child's smile

Orthodontic treatment for children

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