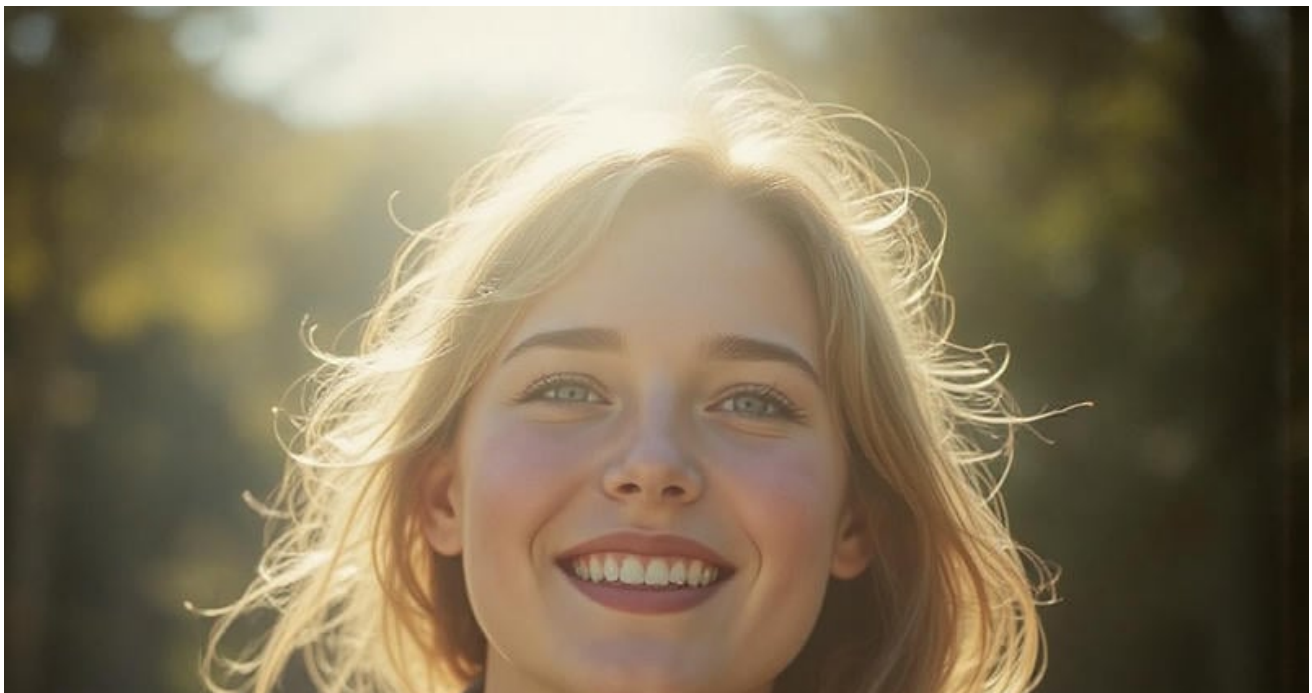
orthodontic treatment

- **Understanding Common Fee Structures in Orthodontics**
  Understanding Common Fee Structures in Orthodontics Insurance Coverage That Reduces Out of Pocket Costs Exploring Payment Plans and Financing Arrangements Differences Between Flexible Spending and Health Savings Factors Influencing Variations in Treatment Pricing Asking the Right Questions During Cost Consultations Allocation of Funds for Long Term Orthodontic Care Prioritizing Necessary Treatments Within a Budget Navigating Claims and Reimbursements Step by Step How Location Affects Orthodontic Expenses Educating Patients on Financial Planning for Treatment Strategies to Keep Future Costs Predictable
- **Role of Licensing and Certification in Orthodontics**
  Role of Licensing and Certification in Orthodontics Safeguards That Protect Patient Wellbeing Responsibilities of Healthcare Providers in Treatment Importance of Proper Clinical Supervision Informed Consent and Patient Decision Making Identifying Red Flags in Unsupervised Orthodontic Options Maintaining Ethical Standards in Modern Practices The Impact of Research on Evidence Based Treatments Open Communication as a Pillar of Ethical Care Regulations Governing Teledentistry Platforms Balancing Innovation With Patient Protection How Professional Guidelines Shape Clinical Judgments
- **About Us**



Here's a draft essay on maintaining ethical standards in modern orthodontic practices:

Maintaining Ethical Standards in Modern Practices

In the rapidly evolving world of pediatric orthodontics, ethical considerations are more critical than ever. As healthcare professionals, orthodontists have a profound responsibility to prioritize the well-being of young patients while navigating complex medical and technological landscapes.

The foundation of ethical practice begins with informed consent and transparent communication. When treating children, this means engaging not just with the patient, but also with parents and guardians. Every treatment recommendation must be clearly explained, potential risks discussed openly, and alternative options presented without bias.

Orthodontic check-ups help track the progress of tooth movement **Dental braces for children** physician.

Modern technological advances like digital imaging and 3D modeling have transformed orthodontic care, offering unprecedented precision. However, these tools also introduce ethical challenges. Practitioners must ensure that cutting-edge techniques serve the patient's genuine medical needs, not merely represent the most expensive or trendy intervention.

Patient privacy remains paramount. With increasing digital record-keeping, safeguarding personal health information becomes a critical ethical obligation. Orthodontists must implement robust data protection protocols and maintain strict confidentiality standards.

Cost considerations cannot compromise treatment quality. Ethical practitioners balance economic realities with comprehensive care, ensuring that financial constraints do not prevent children from receiving necessary treatments.

Continuous professional development is another crucial ethical commitment. Staying updated with latest research, techniques, and professional guidelines demonstrates a dedication to providing the highest standard of care.

Ultimately, maintaining ethical standards is about treating each child as a unique individual deserving respect, compassion, and the best possible medical intervention. It's a holistic approach that extends far beyond technical skill, embodying the true spirit of healthcare.

Informed Consent and Communication Strategies: Navigating Pediatric Care with Compassion and Clarity

In the complex landscape of modern medical practice, obtaining informed consent and effectively communicating treatment options with children and their parents represents a delicate and critical ethical responsibility. Healthcare professionals must balance medical expertise with genuine empathy, creating an environment of trust and understanding.

The cornerstone of ethical pediatric care lies in transparent, age-appropriate communication. For younger children, this means using simple language, visual aids, and gentle explanations that demystify medical procedures. Older children and adolescents require more nuanced approaches that respect their growing autonomy while acknowledging parental decision-making rights.

Parents play a pivotal role in this process. Clinicians must provide comprehensive information about potential treatments, risks, benefits, and alternative options. This involves active listening, addressing concerns, and creating space for questions. The goal is not just to obtain a signature on a consent form, but to genuinely involve families in medical decision-making.

Developmental considerations are crucial. A one-size-fits-all approach fails to recognize the unique psychological and emotional needs of different age groups. A conversation with a 6-year-old will look dramatically different from one with a 14-year-old, requiring practitioners to adapt their communication style accordingly.

Strategies like using child-friendly terminology, employing visual demonstrations, and allowing both parents and children to express their feelings can transform what might be a intimidating medical interaction into a collaborative, less stressful experience.

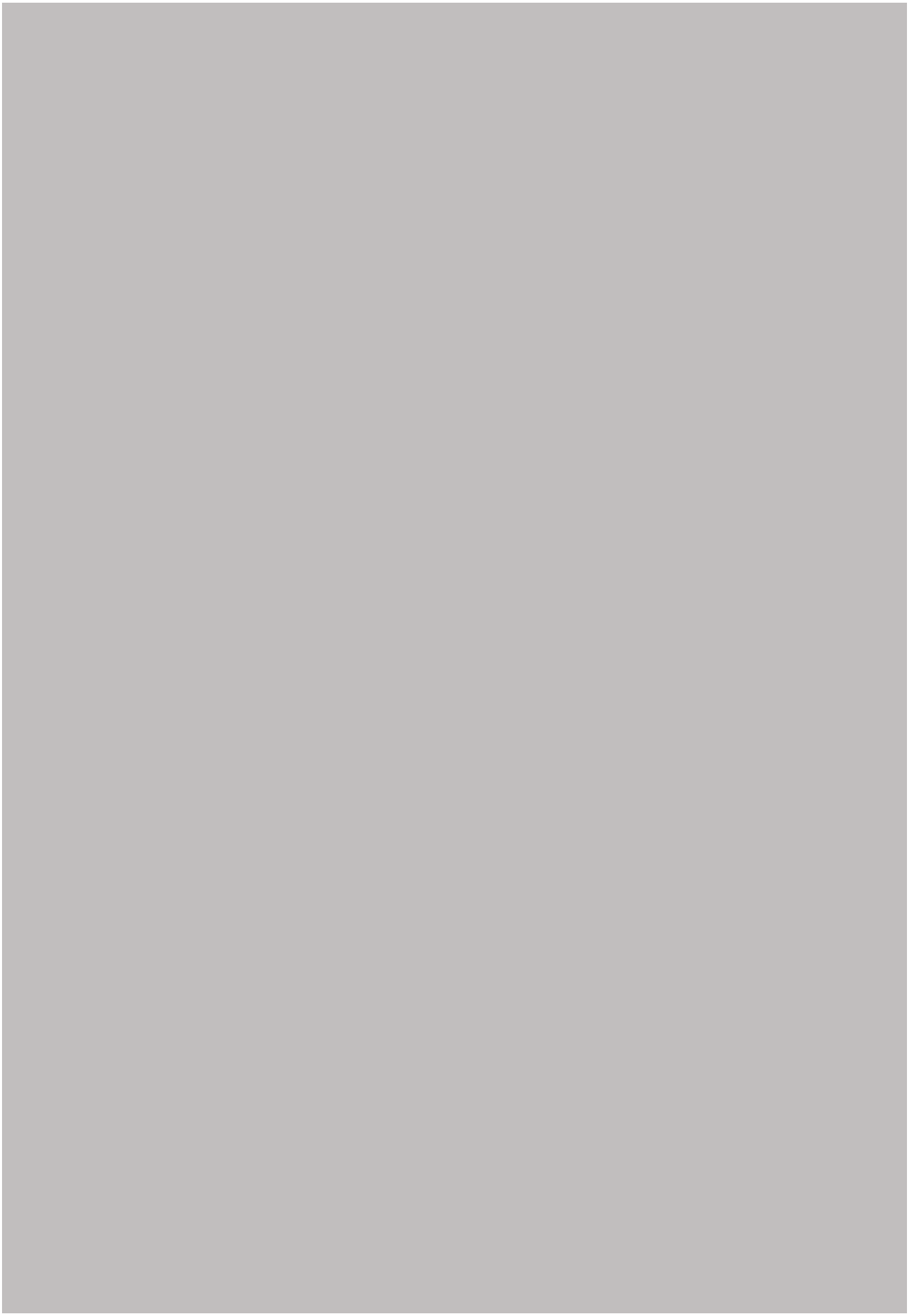
Ethical communication also means respecting cultural diversity, recognizing that families bring different perspectives, beliefs, and communication styles to medical encounters. Sensitivity to these nuances can significantly improve understanding and trust.

Ultimately, informed consent is more than a legal requirement-it's a profound expression of respect for patient autonomy and family dynamics. By approaching these conversations with empathy, clarity, and genuine care, healthcare professionals can create meaningful partnerships that support healing and well-being.

More about us:

Social Media:

Facebook About Us:



Insurance Coverage and Impact on Orthodontic Expenses

Balancing Clinical Recommendations with Patient and Family Preferences While Prioritizing the Child's Best Interests

In the complex world of pediatric healthcare, medical professionals face a delicate and challenging task of navigating ethical considerations that involve multiple stakeholders. The core of this challenge lies in finding a harmonious approach that respects clinical expertise, family dynamics, and the child's fundamental well-being.

Healthcare providers must recognize that every child is unique, with individual medical needs, personal circumstances, and family contexts. While medical recommendations are grounded in scientific evidence and professional expertise, they cannot be implemented as rigid, one-size-fits-all solutions. Instead, they require a nuanced, compassionate approach that actively involves the patient's family and considers their perspectives.

The principle of patient autonomy is crucial, even when dealing with pediatric patients. Although children may not have full decision-making capacity, their voices and preferences should be heard and respected to the extent possible. This means creating an environment of open communication where families feel empowered to ask questions, express concerns, and participate meaningfully in treatment decisions.

At the same time, medical professionals have an ethical obligation to advocate for the child's best interests. This might sometimes mean respectfully challenging family preferences that could potentially compromise the child's health or long-term well-being. The key is to approach such situations with empathy, clear communication, and a genuine commitment to collaborative decision-making.

Effective communication becomes the bridge between clinical recommendations and family preferences. By providing comprehensive, understandable information, explaining potential risks and benefits, and listening actively to family concerns, healthcare providers can build trust and mutual understanding.

Ultimately, the goal is to create a patient-centered approach that balances medical expertise with family perspectives, always keeping the child's holistic well-being at the forefront. This requires emotional intelligence, cultural sensitivity, and a genuine commitment to collaborative care.

By embracing these principles, healthcare professionals can navigate the complex ethical landscape of pediatric care with compassion, respect, and a profound dedication to serving their youngest patients.

Payment Plan Options for Pediatric Orthodontic Care

Maintaining Ethical Standards in Modern Practices: Addressing Potential Conflicts of Interest

In the ever-evolving landscape of orthodontic care, practitioners face increasing challenges in maintaining transparent and ethical financial discussions with patients. The delicate balance between professional recommendations and financial considerations requires careful navigation and unwavering commitment to patient welfare.

Conflicts of interest can subtly emerge in treatment planning, potentially compromising the integrity of patient care. Orthodontists must be acutely aware of how personal or financial motivations might inadvertently influence treatment recommendations. This means being brutally honest about treatment options, their associated costs, and alternative approaches that might better serve the patient's clinical and financial needs.

Transparency becomes the cornerstone of ethical practice. Patients deserve a clear breakdown of proposed treatments, associated costs, and potential alternative options. This approach goes beyond mere financial disclosure - it's about building trust and empowering patients to make informed decisions about their oral health.

Modern practices are increasingly adopting comprehensive consent processes that explicitly address potential financial conflicts. This might include detailed treatment plans with multiple options, clear cost breakdowns, and open discussions about insurance coverage and payment strategies. The goal is to remove any perception of hidden agendas or manipulative financial practices.

Professional organizations and regulatory bodies have increasingly emphasized the importance of ethical financial discussions. Continuing education programs now regularly include modules on maintaining professional integrity and managing potential conflicts of interest.

Ultimately, the most successful orthodontic practices are those that prioritize patient trust over short-term financial gains. By maintaining transparent, patient-centered approaches to treatment planning and financial discussions, practitioners can ensure they're providing the highest standard of ethical care.

The challenge is ongoing, requiring constant self-reflection and a commitment to putting patient needs first. It's not just about avoiding conflicts of interest, but actively creating an environment of trust, transparency, and genuine patient care.

Factors Influencing Orthodontic Treatment Costs

Maintaining Patient Privacy and Confidentiality Throughout the Treatment Process

In today's healthcare landscape, protecting patient privacy isn't just a legal requirement-it's a fundamental ethical obligation that lies at the heart of quality medical care. Healthcare professionals are entrusted with some of the most sensitive and personal information imaginable, and the responsibility to safeguard this information is paramount.

Patient confidentiality goes far beyond simply keeping medical records locked away. It's about creating an environment of trust where individuals feel safe sharing their most intimate health concerns without fear of judgment or unauthorized disclosure. From the moment a patient walks into a medical facility to the completion of their treatment, every interaction must be approached with the utmost respect for their personal information.

Modern technology has both complicated and enhanced our ability to protect patient privacy. Electronic health records offer incredible advantages in terms of accessibility and comprehensive care, but they also present new challenges for maintaining confidentiality. Healthcare providers must invest in robust cybersecurity measures, implement strict access controls, and train staff thoroughly on privacy protocols.

The consequences of breaching patient confidentiality can be devastating. Beyond potential legal ramifications, such breaches can destroy the trust between healthcare providers and patients, potentially discouraging individuals from seeking necessary medical care. A patient's right to privacy is as critical as their right to quality treatment.

Practical strategies for maintaining confidentiality include using secure communication channels, ensuring private consultation spaces, carefully managing digital records, and implementing strict staff training programs. Healthcare professionals must be vigilant, treating each patient's information as a sacred trust.

Ultimately, maintaining patient privacy is about recognizing the fundamental human dignity of every individual who seeks medical care. It's a commitment that requires constant attention, technological sophistication, and genuine compassion.

Comparing Different Orthodontic Practices and Their Pricing Strategies

Developing Age-Appropriate Communication Techniques in Orthodontic Care

In the evolving landscape of modern orthodontic practice, the ability to effectively communicate with young patients has become more critical than ever. Gone are the days of a one-size-fits-all approach to patient interaction. Today's orthodontic professionals recognize that engaging young patients requires a nuanced, empathetic, and developmentally sensitive communication strategy.

For children and teenagers, an orthodontic journey can be intimidating and emotionally challenging. The physical changes, potential discomfort, and social anxieties associated with braces or other orthodontic treatments can create significant psychological barriers. This is where age-appropriate communication becomes a powerful tool for building trust, reducing anxiety, and empowering patients to take an active role in their treatment.

With younger children, communication should be playful and visual. Using simple language, colorful illustrations, and interactive demonstrations can help demystify the orthodontic process. Explaining procedures like they're an exciting adventure rather than a medical intervention can transform fear into curiosity and engagement.

Teenagers require a more sophisticated approach. They value authenticity and want to be treated as young adults. Communication should focus on building their confidence, explaining the long-term benefits of treatment, and addressing their social concerns. Involving them in

decision-making processes and providing clear, honest information helps them feel respected and in control of their healthcare journey.

Technology can be an excellent ally in this communication strategy. Interactive apps, virtual consultations, and digital treatment tracking can make the orthodontic experience more engaging and transparent. These tools not only provide information but also give young patients a sense of ownership over their treatment.

Moreover, practitioners must develop active listening skills. Understanding a patient's unique concerns, fears, and expectations allows for more personalized and compassionate care. This approach goes beyond medical treatment, addressing the emotional and psychological aspects of orthodontic care.

Training orthodontic staff in these communication techniques is equally important. Every team member should be equipped to interact with young patients in a supportive, age-appropriate manner.

By prioritizing thoughtful, empathetic communication, orthodontic practices can transform what might be a stressful experience into a positive, empowering journey of personal growth and self-improvement.

Additional Fees and Potential Hidden Expenses in Orthodontic Treatment

Implementing Comprehensive Screening Processes in Pediatric Orthodontic Care

In the ever-evolving landscape of pediatric orthodontics, maintaining the highest ethical standards requires a proactive and thoughtful approach to patient care. Comprehensive screening processes have emerged as a critical component in identifying and mitigating potential risks and complications that may arise during treatment.

The importance of thorough screening cannot be overstated. Young patients are particularly vulnerable, and their unique physiological and psychological needs demand a nuanced, holistic assessment. This goes far beyond simple dental examinations. A comprehensive screening process involves multiple layers of evaluation, including medical history, developmental assessments, family background, and potential genetic predispositions.

Modern orthodontic practices are increasingly adopting integrated screening protocols that combine clinical observations with advanced diagnostic tools. Digital imaging, genetic risk assessments, and comprehensive health evaluations provide practitioners with a more complete picture of a patient's potential challenges. These technologies allow for early detection of potential complications, enabling preemptive interventions and personalized treatment plans.

Moreover, ethical screening isn't just about medical risks. It encompasses psychological assessments, understanding the patient's emotional readiness for treatment, and ensuring that interventions are truly in the child's best interest. This holistic approach respects the patient's autonomy and promotes a collaborative treatment environment.

Family involvement is another crucial aspect of comprehensive screening. Open communication with parents and guardians helps create a supportive ecosystem that prioritizes the child's overall well-being. By transparently discussing potential risks, expected outcomes, and treatment alternatives, orthodontic professionals build trust and demonstrate their commitment to ethical practice.

Continuous professional development and staying updated with the latest research and screening methodologies are essential. As our understanding of pediatric orthodontics grows, so too must our screening processes evolve to provide the most responsible and compassionate care possible.

In conclusion, implementing comprehensive screening processes is not just a technical requirement but a moral imperative. It represents our collective commitment to protecting and nurturing the most vulnerable patients while maintaining the highest standards of professional ethics.

Continuous Professional Development and Staying Updated with Ethical Guidelines in Pediatric Orthodontics

In the ever-evolving world of pediatric orthodontics, maintaining the highest ethical standards is not just a professional obligation but a fundamental commitment to patient care and trust. As healthcare professionals, orthodontists working with children must continuously adapt, learn, and grow to provide the most effective and compassionate treatment possible.

Professional development goes far beyond simply completing mandatory continuing education credits. It's about cultivating a genuine passion for learning and understanding the complex needs of young patients. The field of orthodontics is constantly changing, with new technologies, treatment methodologies, and research emerging regularly. Staying current means actively engaging with professional journals, attending conferences, participating in workshops, and maintaining open dialogues with peers.

Ethical guidelines are the cornerstone of responsible pediatric orthodontic practice. These guidelines aren't just a set of rules, but a comprehensive framework that ensures patient safety, informed consent, and holistic care. Practitioners must be particularly sensitive when working with children, who are vulnerable and rely entirely on the expertise and integrity of their healthcare providers.

Modern technology has transformed how orthodontists approach continuing education. Online webinars, virtual conferences, and digital learning platforms make it easier than ever to stay informed about the latest research, techniques, and ethical considerations. Professional organizations like the American Association of Orthodontists provide invaluable resources for practitioners committed to excellence.

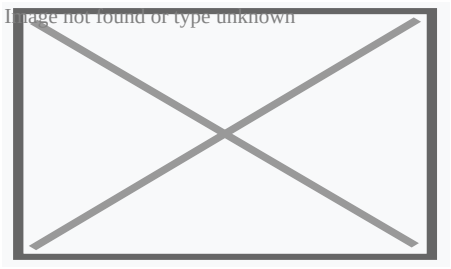
Moreover, ethical practice involves more than clinical skills. It encompasses communication, cultural sensitivity, and a deep understanding of each patient's unique psychological and physiological needs. Orthodontists must continuously develop their interpersonal skills, learning to communicate effectively with both children and their parents.

Ultimately, continuous professional development is about maintaining a growth mindset. It's recognizing that there's always more to learn, more ways to improve, and more opportunities to provide exceptional care. By staying curious, open-minded, and committed to ethical practice, pediatric orthodontists can ensure they're offering the best possible treatment for their young patients.

The journey of professional development is ongoing, challenging, and incredibly rewarding. It's a testament to the dedication and compassion that defines the most exceptional healthcare professionals in pediatric orthodontics.

About crossbite

Crossbite



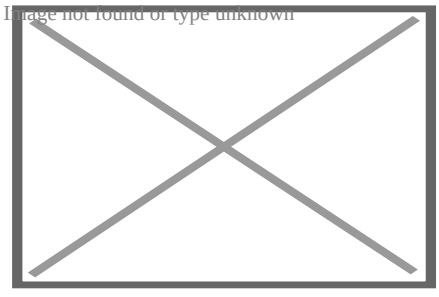
Unilateral posterior crossbite

Specialty Orthodontics

In dentistry, **crossbite** is a form of malocclusion where a tooth (or teeth) has a more buccal or lingual position (that is, the tooth is either closer to the cheek or to the tongue) than its corresponding antagonist tooth in the upper or lower dental arch. In other words, crossbite is a lateral misalignment of the dental arches.[1][2]

Anterior crossbite

[edit]



Class 1 with anterior crossbite

An anterior crossbite can be referred as negative overjet, and is typical of class III skeletal relations (prognathism).

Primary/mixed dentitions

[edit]

An anterior crossbite in a child with baby teeth or mixed dentition may happen due to either dental misalignment or skeletal misalignment. Dental causes may be due to displacement of one or two teeth, where skeletal causes involve either mandibular hyperplasia, maxillary hypoplasia or combination of both.

Dental crossbite

[edit]

An anterior crossbite due to dental component involves displacement of either maxillary central or lateral incisors lingual to their original erupting positions. This may happen due to delayed eruption of the primary teeth leading to permanent teeth moving lingual to their primary predecessors. This will lead to anterior crossbite where upon biting, upper teeth are behind the lower front teeth and may involve few or all frontal incisors. In this type of crossbite, the maxillary and mandibular proportions are normal to each other and to the cranial base. Another reason that may lead to a dental crossbite is crowding in the maxillary arch. Permanent teeth will tend to erupt lingual to the primary teeth in presence of crowding. Side-effects caused by dental crossbite can be increased recession on the buccal of lower incisors and higher chance of inflammation in the same area. Another term for an anterior crossbite due to dental interferences is *Pseudo Class III Crossbite or Malocclusion*.

Single tooth crossbite

[edit]

Single tooth crossbites can occur due to uneruption of a primary teeth in a timely manner which causes permanent tooth to erupt in a different eruption pattern which is lingual to the primary tooth.[3] Single tooth crossbites are often fixed by using a finger-spring based appliances.[4][5] This type of spring can be attached to a removable appliance which is used by patient every day to correct the tooth position.

Skeletal crossbite

[edit]

An anterior crossbite due to skeletal reasons will involve a deficient maxilla and a more hyperplastic or overgrown mandible. People with this type of crossbite will have dental compensation which involves proclined maxillary incisors and retroclined mandibular incisors. A proper diagnosis can be made by having a person bite into their centric relation will show mandibular incisors ahead of the maxillary incisors, which will show the skeletal discrepancy between the two jaws.[6]

Posterior crossbite

[edit]

Bjork defined posterior crossbite as a malocclusion where the buccal cusps of canine, premolar and molar of upper teeth occlude lingually to the buccal cusps of canine, premolar and molar of lower teeth.[7] Posterior crossbite is often correlated to a narrow maxilla and upper dental arch. A posterior crossbite can be unilateral, bilateral, single-tooth or entire segment crossbite. Posterior crossbite has been reported to occur between 7–23% of the population.[8][9] The most common type of posterior crossbite to occur is the unilateral crossbite which occurs in 80% to 97% of the posterior crossbite cases.[10][3] Posterior crossbites also occur most commonly in primary and mixed dentition. This type of crossbite usually presents with a *functional shift of the mandible towards the side of the crossbite*. Posterior crossbite can occur due to either skeletal, dental or functional abnormalities. One of the common reasons for development of posterior crossbite is the size difference between maxilla and mandible, where maxilla is smaller than mandible.[11] Posterior crossbite can result due to

- Upper Airway Obstruction where people with "adenoid faces" who have trouble breathing through their nose. They have an open bite malocclusion and present with development of posterior crossbite.[12]
- Prolong digit or suckling habits which can lead to constriction of maxilla posteriorly[13]
- Prolong pacifier use (beyond age 4)[13]

Connections with TMD

[edit]

Unilateral posterior crossbite

[edit]

Unilateral crossbite involves one side of the arch. The most common cause of unilateral crossbite is a narrow maxillary dental arch. This can happen due to habits such as digit sucking, prolonged use of pacifier or upper airway obstruction. Due to the discrepancy between the maxillary and mandibular arch, neuromuscular guidance of the mandible causes mandible to shift towards the side of the crossbite.[14] This is also known as Functional mandibular shift. This shift can become structural if left untreated for a long time during growth, leading to skeletal asymmetries. Unilateral crossbites can present with following features in a child

- Lower midline deviation[15] to the crossbite side
- Class 2 Subdivision relationships
- Temporomandibular disorders [16]

Treatment

[edit]

A child with posterior crossbite should be treated immediately if the child shifts their mandible on closing, which is often seen in a unilateral crossbite as mentioned above. The best age to treat a child with crossbite is in their mixed dentition when their palatal sutures have not fused to each other. Palatal expansion allows more space in an arch to relieve crowding and correct posterior crossbite. The correction can include any type of palatal expanders that will expand the palate which resolves the narrow constriction of the maxilla.[9] There are several therapies that can be used to correct a posterior crossbite: braces, 'Z' spring or cantilever spring, quad helix, removable plates, clear aligner therapy, or a Delaire mask. The correct therapy should be decided by the orthodontist depending on the type and severity of the crossbite.

One of the keys in diagnosing the anterior crossbite due to skeletal vs dental causes is diagnosing a CR-CO shift in a patient. An adolescent presenting with anterior crossbite may be positioning their mandible forward into centric occlusion (CO) due to the dental interferences. Thus finding their occlusion in centric relation (CR) is key in diagnosis. For anterior crossbite, if their CO matches their CR then the patient truly has a skeletal component to their crossbite. If the CR shows a less severe class 3 malocclusion or teeth not in anterior crossbite, this may mean that their anterior crossbite results due to dental interferences.[17]

Goal to treat unilateral crossbites should definitely include removal of occlusal interferences and elimination of the functional shift. Treating posterior crossbites early

may help prevent the occurrence of Temporomandibular joint pathology.[18]

Unilateral crossbites can also be diagnosed and treated properly by using a Deprogramming splint. This splint has flat occlusal surface which causes the muscles to deprogram themselves and establish new sensory engrams. When the splint is removed, a proper centric relation bite can be diagnosed from the bite.[19]

Self-correction

[edit]

Literature states that very few crossbites tend to self-correct which often justify the treatment approach of correcting these bites as early as possible.[9] Only 0–9% of crossbites self-correct. Lindner et al. reported that 50% of crossbites were corrected in 76 four-year-old children.[20]

See also

[edit]

- List of palatal expanders
- Palatal expansion
- Malocclusion

References

[edit]

1. **^** *"Elsevier: Proffit: Contemporary Orthodontics · Welcome". www.contemporaryorthodontics.com. Retrieved 2016-12-11.*
2. **^** *Borzabadi-Farahani A, Borzabadi-Farahani A, Eslamipour F (October 2009). "Malocclusion and occlusal traits in an urban Iranian population. An epidemiological study of 11- to 14-year-old children". European Journal of Orthodontics.* ***31*** *(5): 477–84. doi:10.1093/ejo/cjp031. PMID 19477970.*
3. ^ ***a b*** *Kutin, George; Hawes, Roland R. (1969-11-01). "Posterior cross-bites in the deciduous and mixed dentitions". American Journal of Orthodontics.* ***56*** *(5): 491–504. doi:10.1016/0002-9416(69)90210-3. PMID 5261162.*
4. **^** *Zietsman, S. T.; Visagé, W.; Coetzee, W. J. (2000-11-01). "Palatal finger springs in removable orthodontic appliances--an in vitro study". South African Dental Journal.* ***55*** *(11): 621–627. ISSN 1029-4864. PMID 12608226.*
5. **^** *Ulusoy, Ayca Tuba; Bodrumlu, Ebru Hazar (2013-01-01). "Management of anterior dental crossbite with removable appliances". Contemporary Clinical Dentistry.* ***4*** *(2): 223–226. doi:10.4103/0976-237X.114855. ISSN 0976-237X. PMC 3757887. PMID 24015014.*

6. **^** *Al-Hummayani, Fadia M. (2017-03-05). "Pseudo Class III malocclusion". Saudi Medical Journal. **37** (4): 450–456. doi:10.15537/smj.2016.4.13685. ISSN 0379-5284. PMC 4852025. PMID 27052290.*
7. **^** *Bjoerk, A.; Krebs, A.; Solow, B. (1964-02-01). "A Method for Epidemiological Registration of Malocculusion". Acta Odontologica Scandinavica. **22**: 27–41. doi:10.3109/00016356408993963. ISSN 0001-6357. PMID 14158468.*
8. **^** *Moyers, Robert E. (1988-01-01). Handbook of orthodontics. Year Book Medical Publishers. ISBN 9780815160038.*
9. ^ ***a b c*** *Thilander, Birgit; Lennartsson, Bertil (2002-09-01). "A study of children with unilateral posterior crossbite, treated and untreated, in the deciduous dentition--occlusal and skeletal characteristics of significance in predicting the long-term outcome". Journal of Orofacial Orthopedics. **63** (5): 371–383. doi:10.1007/s00056-002-0210-6. ISSN 1434-5293. PMID 12297966. S2CID 21857769.*
10. **^** *Thilander, Birgit; Wahlund, Sonja; Lennartsson, Bertil (1984-01-01). "The effect of early interceptive treatment in children with posterior cross-bite". The European Journal of Orthodontics. **6** (1): 25–34. doi:10.1093/ejo/6.1.25. ISSN 0141-5387. PMID 6583062.*
11. **^** *Allen, David; Rebellato, Joe; Sheats, Rose; Ceron, Ana M. (2003-10-01). "Skeletal and dental contributions to posterior crossbites". The Angle Orthodontist. **73** (5): 515–524. ISSN 0003-3219. PMID 14580018.*
12. **^** *Bresolin, D.; Shapiro, P. A.; Shapiro, G. G.; Chapko, M. K.; Dassel, S. (1983-04-01). "Mouth breathing in allergic children: its relationship to dentofacial development". American Journal of Orthodontics. **83** (4): 334–340. doi:10.1016/0002-9416(83)90229-4. ISSN 0002-9416. PMID 6573147.*
13. ^ ***a b*** *Ogaard, B.; Larsson, E.; Lindsten, R. (1994-08-01). "The effect of sucking habits, cohort, sex, intercanine arch widths, and breast or bottle feeding on posterior crossbite in Norwegian and Swedish 3-year-old children". American Journal of Orthodontics and Dentofacial Orthopedics. **106** (2): 161–166. doi:10.1016/S0889-5406(94)70034-6. ISSN 0889-5406. PMID 8059752.*
14. **^** *Piancino, Maria Grazia; Kyrkanides, Stephanos (2016-04-18). Understanding Masticatory Function in Unilateral Crossbites. John Wiley & Sons. ISBN 9781118971871.*
15. **^** *Brin, Ilana; Ben-Bassat, Yocheved; Blustein, Yoel; Ehrlich, Jacob; Hochman, Nira; Marmary, Yitzhak; Yaffe, Avinoam (1996-02-01). "Skeletal and functional effects of treatment for unilateral posterior crossbite". American Journal of Orthodontics and Dentofacial Orthopedics. **109** (2): 173–179. doi:10.1016/S0889-5406(96)70178-6. PMID 8638566.*
16. **^** *Pullinger, A. G.; Seligman, D. A.; Gornbein, J. A. (1993-06-01). "A multiple logistic regression analysis of the risk and relative odds of temporomandibular disorders as a function of common occlusal features". Journal of Dental Research. **72** (6): 968–979. doi:10.1177/00220345930720061301. ISSN 0022-0345. PMID 8496480. S2CID 25351006.*

17. **^** *COSTEA, CARMEN MARIA; BADEA, MÎNDRA EUGENIA; VASILACHE, SORIN; MESAROÃ…Å¾, MICHAELA (2016-01-01). "Effects of CO-CR discrepancy in daily orthodontic treatment planning". Clujul Medical.* ***89*** *(2): 279–286. doi:10.15386/cjmed-538. ISSN 1222-2119. PMC 4849388. PMID 27152081.*
18. **^** *Kennedy, David B.; Osepchook, Matthew (2005-09-01). "Unilateral posterior crossbite with mandibular shift: a review". Journal (Canadian Dental Association).* ***71*** *(8): 569–573. ISSN 1488-2159. PMID 16202196.*
19. **^** *Nielsen, H. J.; Bakke, M.; Blixencrone-Møller, T. (1991-12-01). "[Functional and orthodontic treatment of a patient with an open bite craniomandibular disorder]". Tandlaegebladet.* ***95*** *(18): 877–881. ISSN 0039-9353. PMID 1817382.*
20. **^** *Lindner, A. (1989-10-01). "Longitudinal study on the effect of early interceptive treatment in 4-year-old children with unilateral cross-bite". Scandinavian Journal of Dental Research.* ***97*** *(5): 432–438. doi:10.1111/j.1600-0722.1989.tb01457.x. ISSN 0029-845X. PMID 2617141.*

External links

[edit]

Classification	○ **ICD-10**: K07.2 D ○ **ICD-9-CM**: 524.27

○ v
○ t
○ e

Orthodontics

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

Conditions

- Overbite
- Overjet
- Open bite
- Crossbite
- Dental crowding
- Dental spacing
- Bimaxillary Protrusion
- Prognathism
- Retrognathism
- Maxillary hypoplasia
- Condylar hyperplasia
- Overeruption
- Mouth breathing
- Temperomandibular dysfunction

Appliances

- ACCO appliance
- Archwire
- Activator appliance
- Braces
- Damon system
- Elastics
- Frankel appliance
- Invisalign
- Lingual arch
- Lip bumper
- Herbst Appliance
- List of orthodontic functional appliances
- List of palatal expanders
- Lingual braces
- Headgear
- Orthodontic technology
- Orthodontic spacer
- Palatal lift prosthesis
- Palatal expander
- Quad helix
- Retainer
- SureSmile
- Self-ligating braces
- Splint activator
- Twin Block Appliance

Procedures	○ Anchorage (orthodontics) ○ Cantilever mechanics ○ Fiberotomy ○ Interproximal reduction ○ Intrusion (orthodontics) ○ Molar distalization ○ SARPE ○ Serial extraction
Materials	○ Beta-titanium ○ Nickel titanium ○ Stainless steel ○ TiMolium ○ Elgiloy ○ Ceramic ○ Composite ○ Dental elastics

Notable contributors	○ Edward Angle ○ Spencer Atkinson ○ Clifford Ballard ○ Raymond Begg ○ Hans Peter Bimler ○ Samir Bishara ○ Arne Björk ○ Charles B. Bolton ○ Holly Broadbent Sr. ○ Allan G. Brodie ○ Charles J. Burstone ○ Peter Buschang ○ Calvin Case ○ Harold Chapman (Orthodontist) ○ David Di Biase ○ Jean Delaire ○ Terry Dischinger ○ William B. Downs ○ John Nutting Farrar ○ Rolf Frankel ○ Sheldon Friel ○ Thomas M. Graber ○ Charles A. Hawley ○ Reed Holdaway ○ John Hooper (Orthodontist) ○ Joseph Jarabak ○ Harold Kesling ○ Albert Ketcham ○ Juri Kurol ○ Craven Kurz ○ Benno Lischer ○ James A. McNamara ○ Birte Melsen ○ Robert Moyers ○ Hayes Nance ○ Ravindra Nanda ○ George Northcroft ○ Dean Harold Noyes ○ Frederick Bogue Noyes ○ Albin Oppenheim ○ Herbert A. Pullen ○ Earl W. Renfroe ○ Robert M. Ricketts ○ Alfred Paul Rogers ○ Ronald Roth ○ Everett Shapiro ○ L. F. Andrews

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

○ v
○ t
○ e

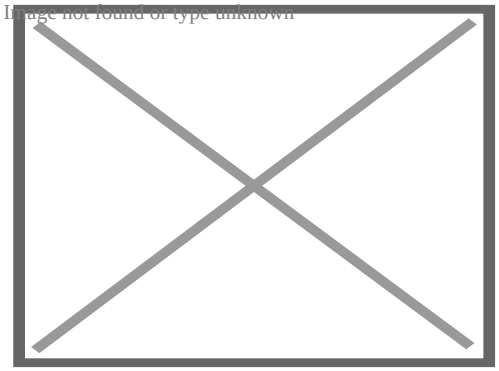
Dental disease involving the jaw

General	○ Jaw abnormality ○ malocclusion ○ Orthodontics
Size	○ Gnathitis ○ Micrognathism ○ Maxillary hypoplasia
Maxilla and Mandible	○ Cherubism ○ Congenital epulis ○ Torus mandibularis ○ Torus palatinus
Other	○ Jaw and base of cranium ○ Prognathism ○ Retrognathism ○ Dental arch ○ Crossbite ○ Overbite ○ Temporomandibular joint disorder

Authority control databases: National Image not found or type unknown **Edit this at Wikidata**

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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

[edit]

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 high-strength 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]

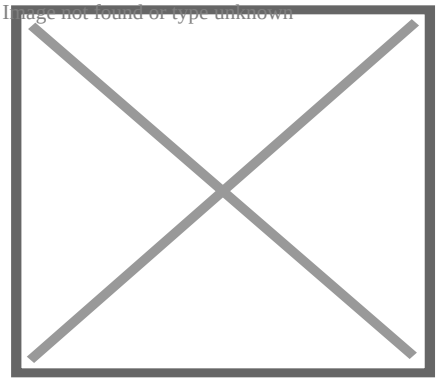
Rather than rely on the same bracket for all teeth, L.F. Andrews found a way to make different brackets for each tooth in the 1980s, thanks to the increased convenience of bonding.[28] This adjustment enabled him to avoid having multiple bends in archwires that would have been needed to make up for variations 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]

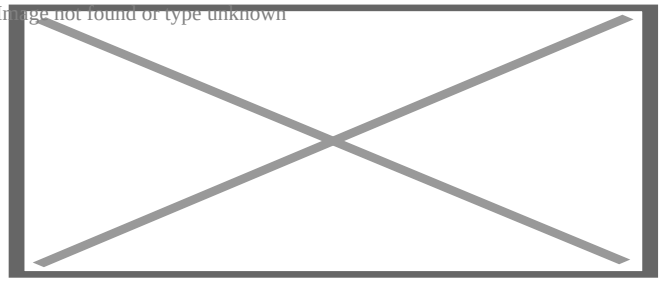
Orthodontic therapy may include the use of fixed or removable appliances. Most orthodontic therapy is delivered using appliances that are fixed in place,[34] for example, braces that are adhesively bonded to the teeth. Fixed appliances may provide greater mechanical control of the teeth; optimal treatment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

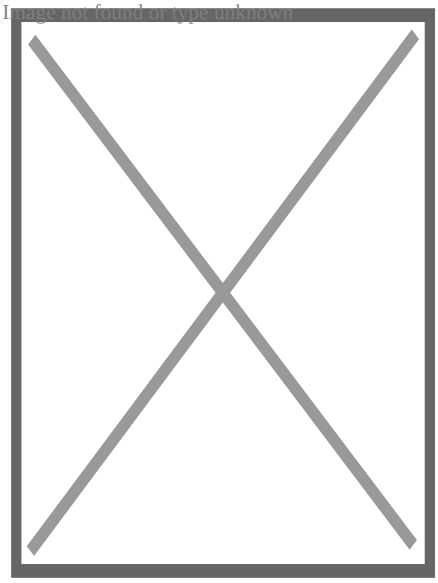
The time required for braces varies from person to person as it depends on the severity of the problem, the amount of room available, the distance the teeth must travel, the health of the teeth, gums, and supporting bone, and how closely the patient follows instructions. On average, however, once the 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.

Image not found or type unknown



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

- Image not found or type unknown

Palatal expander

Orthodontic headgear

- Image not found or type unknown

Orthodontic headgear
An X-ray taken for skull analysis

- Image not found or type unknown

An X-ray taken for skull analysis
Top (left) and bottom retainers

- Image not found or type unknown

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]

This section **relies largely or entirely on a single source**. Relevant discussion may be found on the talk page. Please help improve this article by introducing citations to additional sources.
Find sources: "Orthodontics" – news · newspapers · books · scholar · JSTOR *(May 2023)*

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*
2. **^** "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.*
2. **^** *"What is orthodontics?// Useful Resources: FAQ and Downloadable eBooks". Orthodontics Australia. Retrieved 2020-08-13.*
3. **^** *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. **^** *Whitcomb I (2020-07-20). "Evidence and Orthodontics: Does Your Child Really Need Braces?". Undark Magazine. Retrieved 2020-07-27.*
5. **^** *"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.*
6. **^** *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.*
7. **^** *Rose, 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.*
8. ^ ***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*]
10. **^** *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.*
13. **^** *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.*
14. **^** *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.*
16. ^ ***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.*

17. **^** *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.*
19. **^** *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.*
20. **^** *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*
21. **^** Angle EH. Treatment of malocclusion of the teeth. 7th éd. Philadelphia: S.S.White Dental Mfg Cy, 1907
22. **^** *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. **^** *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.*
26. **^** *Brodie AG (1956). "Orthodontic Concepts Prior to the Death of Edward Angle". The Angle Orthodontist.* ***26****: 144–155.*
27. **^** *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.*
28. **^** 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)
30. **^** *Roth RH (November 1976). "Five year clinical evaluation of the Andrews straight-wire appliance". Journal of Clinical Orthodontics.* ***10*** *(11): 836–50. PMID 1069735.*
31. **^** *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.*
33. **^** *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.*
35. **^** *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.*
38. **^** *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".*
40. **^** *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. **^** *Fleming PS, Strydom H, Katsaros C, MacDonald L, Curatolo M, Fudalej P, Pandis N, et al. (Cochrane Oral Health Group) (December 2016). "Non-pharmacological 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.*
46. **^** *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.*

48. ^ ***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.*
49. ^ *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.*

Image not found or type unknown

Look up ***orthodontics*** in Wiktionary, the free dictionary.

Image not found or type unknown

Wikimedia Commons has media related to ***Orthodontics***.

- v
- t
- e

Orthodontics

Diagnosis	○ Bolton analysis ○ Cephalometric analysis ○ Cephalometry ○ Dentition analysis ○ Failure of eruption of teeth ○ Little's Irregularity Index ○ Malocclusion ○ Scissor bite ○ Standard anatomical position ○ Tooth ankylosis ○ Tongue thrust
Conditions	○ Overbite ○ Overjet ○ Open bite ○ Crossbite ○ Dental crowding ○ Dental spacing ○ Bimaxillary Protrusion ○ Prognathism ○ Retrognathism ○ Maxillary hypoplasia ○ Condylar hyperplasia ○ Overeruption ○ Mouth breathing ○ Temperomandibular dysfunction

Appliances	○ ACCO appliance ○ Archwire ○ Activator appliance ○ Braces ○ Damon system ○ Elastics ○ Frankel appliance ○ Invisalign ○ Lingual arch ○ Lip bumper ○ Herbst Appliance ○ List of orthodontic functional appliances ○ List of palatal expanders ○ Lingual braces ○ Headgear ○ Orthodontic technology ○ Orthodontic spacer ○ Palatal lift prosthesis ○ Palatal expander ○ Quad helix ○ Retainer ○ SureSmile ○ Self-ligating braces ○ Splint activator ○ Twin Block Appliance
Procedures	○ Anchorage (orthodontics) ○ Cantilever mechanics ○ Fiberotomy ○ Interproximal reduction ○ Intrusion (orthodontics) ○ Molar distalization ○ SARPE ○ Serial extraction
Materials	○ Beta-titanium ○ Nickel titanium ○ Stainless steel ○ TiMolium ○ Elgiloy ○ Ceramic ○ Composite ○ Dental elastics

Notable contributors	○ Edward Angle ○ Spencer Atkinson ○ Clifford Ballard ○ Raymond Begg ○ Hans Peter Bimler ○ Samir Bishara ○ Arne Björk ○ Charles B. Bolton ○ Holly Broadbent Sr. ○ Allan G. Brodie ○ Charles J. Burstone ○ Peter Buschang ○ Calvin Case ○ Harold Chapman (Orthodontist) ○ David Di Biase ○ Jean Delaire ○ Terry Dischinger ○ William B. Downs ○ John Nutting Farrar ○ Rolf Frankel ○ Sheldon Friel ○ Thomas M. Graber ○ Charles A. Hawley ○ Reed Holdaway ○ John Hooper (Orthodontist) ○ Joseph Jarabak ○ Harold Kesling ○ Albert Ketcham ○ Juri Kurol ○ Craven Kurz ○ Benno Lischer ○ James A. McNamara ○ Birte Melsen ○ Robert Moyers ○ Hayes Nance ○ Ravindra Nanda ○ George Northcroft ○ Dean Harold Noyes ○ Frederick Bogue Noyes ○ Albin Oppenheim ○ Herbert A. Pullen ○ Earl W. Renfroe ○ Robert M. Ricketts ○ Alfred Paul Rogers ○ Ronald Roth ○ Everett Shapiro ○ L. F. Andrews

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

○ v
○ t
○ e

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

Organisations

- American Association of Orthodontists
- British Dental Association
- British Dental Health Foundation
- British Orthodontic Society
- Canadian Association of Orthodontists
- Dental Technologists Association
- General Dental Council
- Indian Dental Association
- National Health Service

By country

- Canada
- Philippines
- Israel
- United Kingdom
- United States

See also

- Index of oral health and dental articles
- Outline of dentistry and oral health
- Dental fear
- Dental instruments
- Dental material
- History of dental treatments
  - Ancient Rome
- Infant oral mutilation
- Mouth assessment
- Oral hygiene

- v
- t
- e

Cleft lip and cleft palate

Related specialities	○ Advance practice nursing ○ Audiology ○ Dentistry ○ Dietetics ○ Genetics ○ Oral and maxillofacial surgery ○ Orthodontics ○ Orthodontic technology ○ Otolaryngology ○ Pediatrics ○ Pediatric dentistry ○ Physician ○ Plastic surgery ○ Psychiatry ○ Psychology ○ Respiratory therapy ○ Social work ○ Speech and language therapy
Related syndromes	○ Hearing loss with craniofacial syndromes ○ Pierre Robin syndrome ○ Popliteal pterygium syndrome ○ Van der Woude syndrome
National and international organisations	○ Cleft Lip and Palate Association ○ Craniofacial Society of Great Britain and Ireland ○ Interplast ○ North Thames Regional Cleft Lip and Palate Service ○ Operation Smile ○ Overseas Plastic Surgery Appeal ○ Shriners Hospitals for Children ○ Smile Train ○ Transforming Faces Worldwide ○ Smile Angel Foundation (China)
Authority control databases: National Image not found or type unknown **Edit this at Wikidata**	○ Germany ○ United States ○ Czech Republic ○ Israel

Portal:

- Image not found or type unknown Medicine

Check our other pages :

- **Maintaining Ethical Standards in Modern Practices**
- **Exploring Payment Plans and Financing Arrangements**
- **Educating Patients on Financial Planning for Treatment**

IQDENT - Ortodontska Klinika

Phone : +385953817015

City : Zagreb

State : Hrvatska

Zip : 10000

Address : IQDENT - Ortodontska Klinika

Company Website : **https://iqdent.hr/**

USEFUL LINKS

Orthodontic treatment can help improve your child's smile

Orthodontic treatment for children

Sitemap

Privacy Policy

About Us

Follow us