



- **Reasons Adults Seek Orthodontic Treatment**

Reasons Adults Seek Orthodontic Treatment Overcoming Hesitations About Braces Later in Life Clear Aligners for Subtle Tooth Movement Comparing Ceramic Brackets With Other Invisible Options Balancing Cosmetic Goals and Functional Needs Social Changes That Encourage Adult Orthodontics Handling Orthodontic Care Alongside Busy Schedules Managing Discomfort and Adjusting to Lifestyle Shifts Case Studies Highlighting Adult Smile Transformations Psychological Benefits of Aligned Teeth in Adulthood Minimizing Visibility of Orthodontic Appliances Key Questions Adults Often Ask About Treatment

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Social Changes That Encourage Adult Orthodontics

****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.

****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.

The journey of orthodontic treatment from a predominantly pediatric domain to a widely accepted practice among adults reflects a profound shift in societal perceptions, underscoring a broader acceptance of personal aesthetics and dental health as vital components of overall well-being. This transformation did not occur overnight; rather, it's the result of several converging social changes that have reshaped how we view orthodontics, making it a viable and desirable option for adults much like it has been for children for decades.

Firstly, the rise of social media has played an instrumental role in this paradigm shift. Platforms like Instagram, Facebook, and TikTok have become arenas where individuals share their personal transformations, including orthodontic journeys. Celebrities and

influencers openly discussing their experiences with braces or clear aligners have normalized these treatments in the public eye. This visibility breaks down stereotypes that orthodontics is solely for teenagers, showcasing it as a tool for self-improvement accessible at any age. The curated images and stories circulating online highlight not just the aesthetic outcomes but also the boost in confidence that accompanies a straighter smile, resonating deeply with audiences across demographically diverse spectrums.

Secondly, there's been an increasing focus on adult health and wellness, extending beyond physical fitness to encompass mental health and personal appearance. A child's bite can be improved with timely orthodontic intervention **Early orthodontic intervention** health. Societal messages are increasingly emphasizing that taking care of one's teeth and smile is not merely about aesthetics but is integral to overall health. Adults are recognizing that issues like malocclusion (misaligned teeth) or jaw discrepancies can lead to more than just cosmetic concerns; they can impact oral health, chewing efficiency, and even self-esteem. This holistic view encourages adults to seek orthodontic interventions as part of their healthcare routine, mirroring the preventative and therapeutic approaches taken since childhood.

Moreover, advancements in orthodontic technology have made treatments more discreet, comfortable, and efficient than ever before. Clear aligners like Invisalign have revolutionized the field by offering nearly invisible options for straightening teeth without the bulky metal brackets associated with traditional braces. This innovation caters specifically to adult sensibilities—professionalism, convenience, and discretion—making orthodontic treatment less daunting and more appealing for those concerned about image or lifestyle constraints during treatment.

Additionally, workplace culture shifts play a significant role too. As workplaces evolve towards valuing individuality and personal expression more than uniform conformity,

the pressure to conform to traditional beauty standards has lessened slightly. Adults feel empowered to pursue treatments like orthodontics without fearing professional repercussions or judgment from peers or superiors who now recognize these choices as personal decisions reflecting individual growth and care for one's well-being.

Lastly, economic factors cannot be overlooked; many adults today enjoy greater financial stability compared to previous generations at similar life stages. The investment in orthodontic treatment is viewed within this context—not just as an elective procedure but as an investment in quality of life that yields tangible benefits both personally and professionally through enhanced confidence and first impressions.

In essence, society's evolving perception around adult orthodontics encapsulates broader shifts toward valuing individual expression alongside health consciousness—a celebration of adulthood where enhancing one's smile is embraced as part of ongoing personal development rather than something reserved for youthful years alone. This trend reflects a world moving towards inclusivity in beauty standards while recognizing dental health as a cornerstone of wellness at every stage of life.

In recent years, the landscape of orthodontic treatment has undergone a remarkable transformation, particularly with the advent of discreet and efficient options that have redefined the accessibility and appeal of orthodontics for adults. This evolution is deeply intertwined with broader social changes that encourage individuals to prioritize their oral health and aesthetic desires without the stigma previously associated with traditional metal braces. The rise of clear aligners and invisible braces stands as a testament to how technological advancements are reshaping personal choices in healthcare, making orthodontic treatments more appealing, especially for adults who might have hesitated in their youth due to aesthetic concerns.

The introduction of clear aligners, notably brands like Invisalign, marked a pivotal shift in how orthodontic care is perceived. These invisible trays, custom-made from advanced plastic materials, fit snugly over the teeth, gradually shifting them into desired positions without the metallic glow and bulky wires that characterized traditional braces. For adults, this means undergoing orthodontic treatment without the worry of unsightly appliances impacting professional or social interactions. It's an embodiment of how technology can cater to contemporary sensibilities—a blend of effectiveness with discretion that resonates deeply in an age where personal image and immediacy are paramount.

Moreover, these advancements reflect broader social changes emphasizing individuality and self-expression. Adults today are more likely than ever to seek treatments that align with their lifestyle and personal aesthetics. The modern workplace often values authenticity and personal style; thus, opting for clear aligners can be seen as a continuation of one's commitment to maintaining a polished appearance even during treatment. This shift also ties into a growing awareness about oral health's impact on overall well-being, encouraging adults to take proactive steps towards better dental hygiene without compromising their confidence or professional image.

Another significant factor driving this trend is the role of social media in shaping perceptions around beauty standards and personal grooming. Platforms overflow with images showcasing smiles—perfectly aligned teeth becoming a symbol of success and attractiveness. This cultural emphasis on smile aesthetics has made treatments like clear aligners not just a medical necessity but a desirable lifestyle choice for many adults seeking to enhance their appearance subtly yet effectively.

Furthermore, advancements in orthodontic technology extend beyond just aesthetics; they also focus on efficiency and comfort. Modern materials and techniques have reduced treatment times while enhancing patient comfort—a critical consideration for professionals balancing busy schedules with treatment commitments. This efficiency

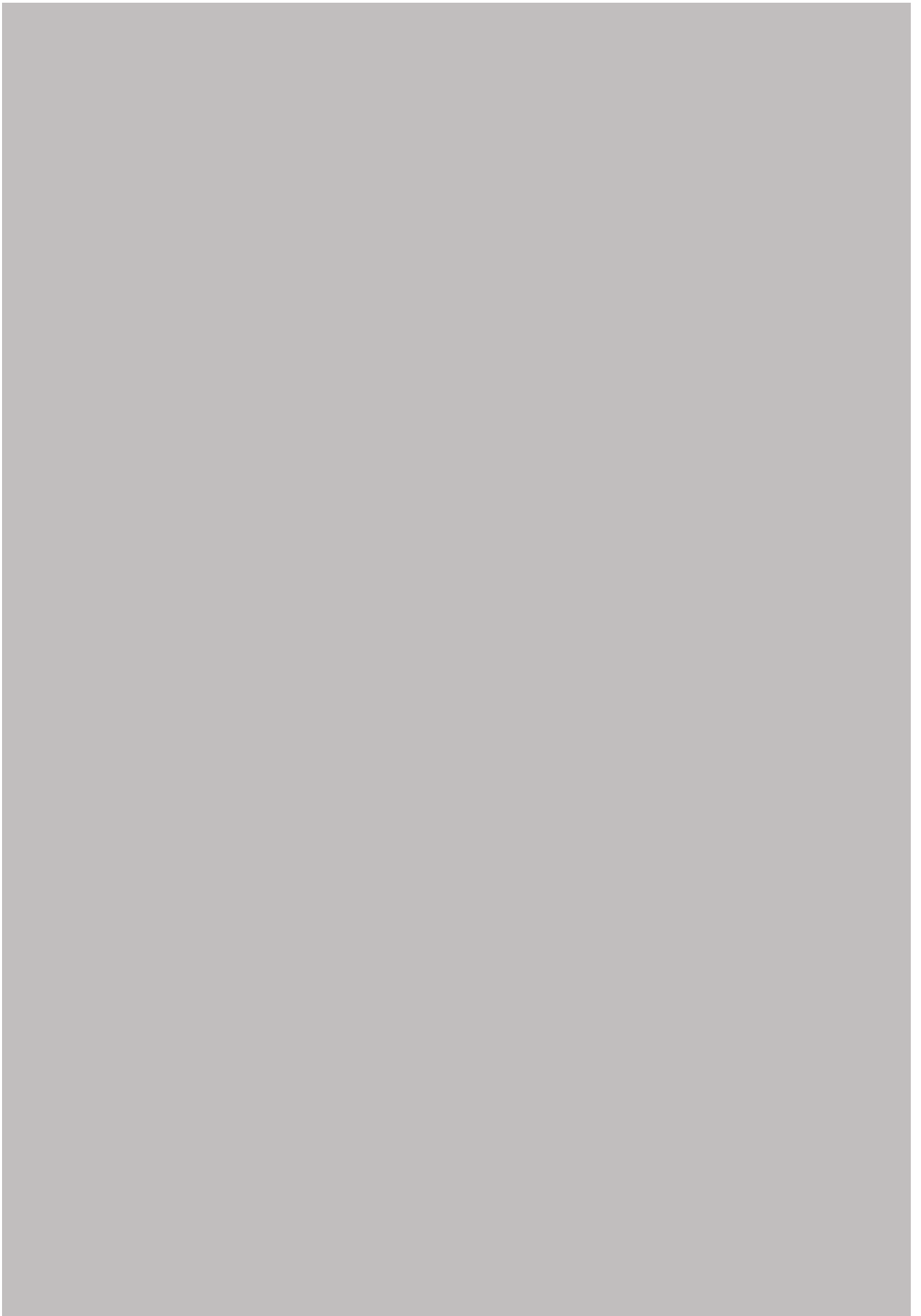
ensures that adult patients can achieve their orthodontic goals with minimal disruption to their daily lives, further embedding orthodontics into the fabric of modern adult healthcare routines.

In essence, the journey toward straighter teeth is no longer confined by childhood constraints or societal stigma; it's evolving into a seamless integration of technology, convenience, and personal preference tailored specifically for adult lifestyles. As we continue witnessing innovations in orthodontic technology—like smart brackets that monitor progress or customizable treatment plans—the appeal of discreet yet effective solutions will only grow stronger. The narrative around orthodontics is transforming: it's no longer about hiding imperfections but embracing transformative care that respects individuality while enhancing quality of life—a perfect reflection of our changing social values where personal health meets contemporary lifestyle demands head-on.

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****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.

In recent years, there's been a remarkable shift in how society views oral health, particularly as it relates to the embracing of orthodontic treatments among adults. This evolution reflects a broader understanding that the journey towards a healthy smile doesn't end with childhood; rather, it's a lifelong commitment. The emphasis on "Lifelong Oral Health" is not merely a buzzword but a pivotal paradigm shift that mirrors the proactive strategies seen in pediatric dentistry and orthodontics, encouraging adults to consider their dental health with the same diligence and enthusiasm as they do other aspects of their well-being.

The transformation in societal attitudes towards adult orthodontics is driven by several social changes, each playing a part in this significant cultural shift. Firstly, there's the increasing awareness of how our appearance impacts self-esteem and confidence. As society places more value on personal image and youthful aesthetics, adults are seeking ways to enhance their smiles at any age. The visibility of celebrities and public figures embracing orthodontic treatments without hesitation has normalized the idea that it's never too late to correct dental imperfections, whether for functional reasons or purely aesthetic ones.

Moreover, advancements in dental technology have made orthodontic treatments more comfortable, efficient, and discreet than ever before. Clear aligners like Invisalign have revolutionized the field, offering adults an almost invisible way to straighten teeth without the metal braces often associated with younger patients. This technological leap has significantly reduced barriers to entry for adults considering orthodontic care, making it less intimidating and more achievable within busy lifestyles.

Another pivotal factor is the growing recognition of oral health's link to overall health. Research continually unveils new connections between oral conditions and systemic diseases such as heart disease, diabetes, and even certain types of cancer. This

knowledge underscores the importance of maintaining good oral hygiene and addressing issues like misaligned teeth or bite problems that can contribute to oral health complications over time. As adults increasingly understand these links, they're motivated to invest in lifelong oral health practices that include timely orthodontic interventions when necessary.

Furthermore, social media plays a surprising yet influential role in this trend. Platforms overflow with stories of successful adult orthodontic journeys—before-and-after transformations shared openly invite admiration and inspire others to pursue similar paths. These narratives foster community support and normalize discussions around personal dental care choices beyond traditional age norms.

Lastly, economic factors cannot be overlooked; many insurance plans now offer better coverage for orthodontic treatments for adults compared to earlier decades, making these services more financially accessible than ever before. Combined with flexible payment options provided by many dental practices, cost is less of an obstacle for pursuing improved oral health through orthodontics in adulthood.

In sum, we're witnessing an exciting change where maintaining lifelong oral health is becoming synonymous with taking charge of one's overall wellness—a mindset deeply rooted in preventive care principles akin to those championed by pediatric dentistry and orthodontics since their inception. As societal norms continue evolving towards greater acceptance and encouragement of adult orthodontics, we can expect this trend to flourish further, empowering individuals across all ages to embrace their best smiles confidently throughout every stage of life.

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

In the bustling tapestry of modern life, where social media reigns as a powerful influencer and the workplace is increasingly a stage for personal branding, the demand for an aesthetically pleasing smile has surged among adults, catalyzing a notable trend towards

seeking orthodontic treatment. This shift is deeply rooted in contemporary societal pressures that intertwine professional expectations, social media perceptions, and evolving beauty standards, painting a complex picture of how our smiles are perceived and valued today.

To understand this phenomenon fully, one must gaze into the lens of social media, an omnipresent force shaping our daily interactions and self-perception. Platforms like Instagram and Facebook have turned smiles into currency in the realm of digital interaction. A radiant, straight smile often equates to youthfulness, happiness, and confidence—qualities highly sought after in both personal and professional spheres. The curated feeds we scroll through daily showcase an idealized version of life where every moment is captured in perfect light and every smile is flawless. This constant exposure fosters an environment where individuals feel compelled to align their appearance with these idyllic standards to avoid feeling left out or less desirable.

Parallely, the modern workplace has evolved into an arena where first impressions are not just about what you wear but how you present yourself entirely. In many industries, particularly those focused on customer interaction or image-driven fields like entertainment and marketing, a polished appearance can be pivotal to professional success. An imperfect smile—one marred by crooked teeth or gaps—can inadvertently detract from the professional image one aims to project. Consequently, adults find themselves navigating a subtle yet pressing need to enhance their smiles through orthodontic treatments like Invisalign or braces, mirroring practices traditionally aimed at children's dental development but now embraced by adults seeking to refine their looks for career advancement or personal fulfillment.

This trend isn't merely about vanity; it's intertwined with deeper psychological needs for acceptance and self-assurance in an increasingly scrutinizing society. Social validation through likes and comments acts as a modern-day peer approval system. When your

smile garners positive attention online—a dozen hearts on a post showing off your pearly whites—it reinforces the idea that this aesthetic improvement is worthwhile and desirable. The pressure to conform to these beauty ideals extends beyond mere aesthetics; it's about fitting into societal norms that laud physical perfection as synonymous with success and happiness.

Moreover, advancements in orthodontic technology have made treatments more discreet and convenient than ever before—clear aligners that fit almost invisibly over teeth mean that achieving straighter teeth no longer necessitates the metallic braces of yesteryears. This technological evolution has lowered barriers for adults who might have once hesitated due to concerns over visibility or discomfort during treatment. The ease of access coupled with societal pressures creates a potent combination driving more adults toward orthodontic solutions than ever before.

As we navigate this landscape shaped by social change and digital influence, it becomes clear that our smiles are no longer just personal expressions but also social currencies in both virtual spaces and real-world interactions. The quest for orthodontic perfection reflects broader societal shifts: valuing appearance as part of success narratives propagated by social media echo chambers and workplaces emphasizing visual impact alongside verbal communication skills. Thus emerges a narrative where adult orthodontics isn't merely about fixing dental issues; it's woven into the fabric

****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.

The landscape of orthodontic care has undergone a remarkable transformation in recent years, particularly when it comes to making treatments more accessible and affordable for adults. This shift mirrors the structured, supportive programs that have long been the cornerstone of children's orthodontic treatments, yet it represents a significant social change that reflects broader trends in healthcare accessibility and consumer finance. Let's unpack how advancements in insurance coverage, financing options, and the emergence of direct-to-consumer orthodontic services are reshaping this field.

Firstly, insurance coverage for adult orthodontic treatments has historically lagged behind that for children. Traditionally, many insurance policies viewed orthodontics as cosmetic rather than essential, limiting coverage primarily to minors whose teeth alignment issues could impact speech and feeding development. However, a growing body of evidence underscores the importance of oral health across all age groups, leading to gradual changes in insurance policies. Nowadays, an increasing number of adult dental plans include provisions for orthodontic care or at least offer partial coverage for certain procedures deemed medically necessary. This shift acknowledges that straighter teeth aren't just about aesthetics; they can significantly contribute to better oral health by reducing risks associated with misaligned teeth like gum disease and tooth decay.

Parallel to this evolution in insurance coverage is the revolutionary impact of financing options tailored specifically for adult orthodontics. Gone are the days when financing meant complex loans with steep interest rates or unreasonable pay-per-visit models that could stretch treatment over decades. Today's market offers specialized payment plans designed with affordability in mind—monthly installments that align with consumers' budgets, sometimes even incorporating interest-free periods or promotional offers that significantly lower upfront costs. These options make it easier for adults to commit to treatment without feeling financially overwhelmed—a crucial factor given the often longer duration of adult orthodontic therapies compared to those undertaken during adolescence.

Moreover, the advent of direct-to-consumer (DTC) orthodontic services represents a seismic shift akin to how online pharmacies transformed access to medications. Companies like SmileDirectClub and Candid have disrupted traditional models by providing clear aligners directly to consumers without requiring an initial consultation with a dentist or orthodontist. While this model has its critics concerning oversight and potential complications, it undeniably broadens access by removing geographical barriers and reducing wait times typically associated with traditional practices. For many adults juggling careers and family commitments, this convenience cannot be overstated—it

democratizes access much like structured programs do for children who might otherwise miss out due to logistical challenges or financial constraints within their communities.

Drawing parallels between these advancements and children's structured programs reveals a larger narrative: society's evolving understanding of orthodontics as an integral part of overall health care rather than merely aesthetic enhancement. Just as childhood programs provide regular check-ups and early interventions supported by educational resources for parents, today's adult-centric initiatives emphasize informed decision-making through accessible information about treatment options and outcomes. This includes leveraging technology—from teleorthodontics consultations to detailed online resources—that empowers adults to take charge of their dental health just as parents navigate pediatric care systems today.

In conclusion, the strides made toward improved accessibility and affordability in adult orthodontics reflect profound social changes driven by shifts in healthcare policy, financial innovation, and technological advancement. As these developments continue unfolding alongside structured support systems seen in children's treatments—albeit adapted for adult needs—the future

****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.

The journey toward a brighter smile isn't solely about aesthetic improvements; it's deeply entwined with psychological benefits that resonate profoundly, especially in adulthood. Over the past few decades, research has increasingly illuminated how orthodontic treatments can significantly bolster self-esteem and contribute positively to mental health among adults, akin to the well-documented confidence boost seen in children who undergo early orthodontic interventions. This shift in understanding reflects broader social changes that are encouraging more adults to seek orthodontic care, reshaping perceptions of what it means to invest in one's oral health and personal well-being.

Orthodontic treatment for adults is no longer viewed merely as a corrective measure for misaligned teeth but as a pathway to improved psychological wellness. The psychological benefits recognized in recent studies underscore this transformative impact. Adults undergoing orthodontic treatment often report heightened self-esteem, which can ripple out into various aspects of their lives, from personal relationships to professional interactions. This newfound confidence is not just about feeling better about one's smile; it's about embracing a holistic sense of self-worth that encourages individuals to engage more fully with the world around them.

The social landscape has played a crucial role in this shift towards embracing adult orthodontics. With the rise of social media and an increasingly image-conscious society, there's been a notable cultural shift where visibility and appearance are given more weight than ever before. However, this doesn't merely pressure individuals into conformity; rather, it opens up conversations around self-improvement and personal investment in health that extend beyond mere aesthetics. The normalization of seeing adults wearing braces or clear aligners publicly has demystified the process and made it more relatable and acceptable across diverse age groups.

Moreover, workplaces are evolving, placing greater emphasis on individual well-being alongside professional competence. As organizations recognize the link between mental health and productivity, supportive environments are being cultivated where seeking orthodontic care is seen not as a luxury but as an investment in overall employee wellness—a step towards fostering a healthier workforce mentally and emotionally equipped to tackle challenges effectively.

Furthermore, advancements in orthodontic technology have made treatment options less invasive and more discreet than ever before—clear aligners like Invisalign have revolutionized how treatments are perceived and pursued by adults concerned about maintaining their professional appearance during treatment. These innovations cater

specifically to the needs of busy adults, allowing them to pursue dental perfection without significant interruptions or disruptions to their daily routines or professional commitments.

In essence, the recognition of psychological benefits from orthodontic treatments marks a pivotal social change—one that validates personal choices aimed at enhancing both physical appearance and mental health as integral components of adult development and well-being. It reflects a broader societal move towards valuing holistic health approaches where investing in oneself through procedures like orthodontics is celebrated as an act of self-care rather than vanity alone. As we continue navigating these changing tides, it becomes increasingly clear: embracing orthodontic care isn't just about achieving a perfect smile; it's about embarking on a journey toward enhanced confidence and improved quality of life at any age.

****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.

In recent years, a fascinating cultural shift has taken root, transforming how society perceives personal enhancement, particularly in the realm of orthodontics for adults. This evolution doesn't merely reflect a trend; it speaks to deeper changes in our collective values, aspirations, and understanding of self-improvement. Gone are the days when braces were predominantly associated with teenagers navigating the awkward terrain of adolescence. Today, adult orthodontics is increasingly viewed not just as a corrective measure but as an integral component of personal development—a modern-day milestone akin to those childhood vaccinations and growth spurts that once defined youthful progress.

This shift can be attributed to several converging cultural trends. Firstly, there's an undeniable emphasis on self-care and personal branding in our social media-driven world.

Platforms like Instagram and LinkedIn have turned personal appearances into digital curations, where every smile shared or professional profile picture posted becomes part of one's public persona. In this context, orthodontic care isn't just about dental health; it's about projecting confidence and achieving a look that aligns with one's self-image and professional aspirations. Adults are increasingly seeing orthodontics as a tool for enhancing their personal brand—something that can subtly yet significantly impact career opportunities and social interactions.

Secondly, there's a growing recognition of the holistic nature of well-being. The wellness movement has broadened its scope beyond mere physical health to encompass mental and aesthetic well-being too. People are realizing that oral health is intrinsically linked to overall health and self-esteem. Straightening teeth isn't just about fixing a dental issue; it's part of cultivating a complete sense of well-being—a fuller smile can lead to greater confidence, which ripples into other areas of life from relationships to professional engagements.

Moreover, advancements in orthodontic technology have made the process more discreet, convenient, and appealing to adults who might have previously felt orthodontics was only for young people or couldn't fit into their lifestyle. Clear aligners like Invisalign offer nearly invisible solutions that don't disrupt work or social lives—they're aligned with the fast-paced demands of contemporary adulthood where maintaining a seamless transition between personal and professional spheres is crucial.

Lastly, societal attitudes towards aging have evolved significantly. There's now an embracement of aging gracefully while still striving for enhancement at any age. This mindset supports the idea that pursuing orthodontic care—or any form of enhancement—is not solely about returning to youth but about embracing ongoing self-improvement throughout life's stages. It reflects a culture that values continuous growth and adaptation rather than static perfection tied to age brackets.

In essence, the rise in adult orthodontics signifies something profound: an acceptance that personal enhancement is a lifelong journey intertwined with broader societal shifts toward valuing individual expression, holistic well-being, convenience, and continuous self-improvement regardless of age. As we witness this trend continue to flourish, it invites us to reconsider what it means to grow older—to see it not as a decline but as another chapter ripe with opportunities for refinement and enhancement in every facet of life.

The transformation in societal perceptions surrounding orthodontic treatments, particularly through the lens of celebrity endorsements and evolving media representation, marks a significant shift in how adulthood and personal beauty are perceived. This social change is particularly fascinating as it mirrors earlier narratives centered around children's orthodontics but extends them into the adult realm, fundamentally altering the landscape of dental aesthetics and self-image.

For decades, orthodontics was predominantly associated with childhood—a rite of passage often celebrated within families and communities as kids donned their braces, eagerly anticipating the arrival of their "cool" smiles post-treatment. The stories shared among peers about straightening teeth weren't just about dental health; they were steeped in hopes for improved confidence and social acceptance. Parents proudly displayed before-and-after photos of their children's transformations at family gatherings, reinforcing the idea that orthodontic treatment was not merely beneficial but almost a milestone on the path to growing up.

However, the narrative has evolved dramatically with celebrities stepping into the spotlight to openly embrace adult orthodontic treatments. When high-profile figures—think actors, musicians, and influencers—publicly share their journeys with Invisalign or traditional braces, they do more than just promote a product; they normalize an experience that was once thought to be exclusively juvenile. This visibility sends a powerful message: that seeking straighter teeth is not a childish desire but a mature

decision toward self-care and personal enhancement at any age.

This shift is pivotal for several reasons. Firstly, it dismantles ageist stereotypes that have long suggested certain life improvements are only for youth. By showcasing themselves undergoing orthodontic treatments, celebrities reinforce that personal growth and aesthetic choices are continuous processes throughout life. This normalization encourages adults who might have delayed treatment due to societal pressures or feelings of self-consciousness to reconsider their options without shame or hesitation.

Moreover, media representation plays a crucial role in this cultural shift. Traditional media outlets increasingly feature stories highlighting successful outcomes in adult orthodontics, offering relatable content that resonates with a broad audience. Social media platforms amplify these messages further, creating vibrant communities where individuals share their experiences—before and after—thus fostering support networks that validate personal decisions regarding oral health and appearance.

This evolution also speaks to broader changes in societal attitudes towards beauty standards and individual expression. The acceptance of diverse body images and authentic self-presentation has expanded significantly over recent years, influencing how people view cosmetic procedures across various domains, including orthodontics. Adult orthodontics is now seen through a lens of empowerment rather than mere correction—a choice reflective of one's commitment to personal well-being and happiness.

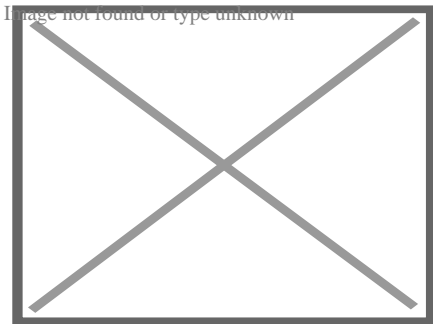
In essence, the influence of celebrity endorsements combined with strategic media representation has significantly contributed to normalizing adult orthodontic treatments within society's fabric. It signifies not just an alteration in how we perceive dental aesthetics but reflects deeper shifts in our collective understanding of adulthood itself: an ongoing journey marked by growth, self-improvement—and yes, even taking steps toward

straighter teeth at any age.

As we continue to witness this trend unfold, it's clear that we're moving towards a future where seeking orthodontic care is embraced universally as part of comprehensive healthcare—regardless of age—and where every step toward personal enhancement is met with encouragement rather than judgment. This cultural evolution carries profound implications for promoting inclusivity and self-acceptance across all

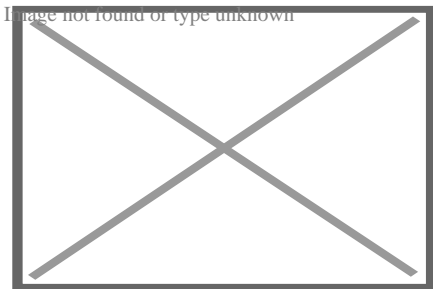
About thumb sucking

For other uses, see Thumbsucker (disambiguation).



Infants may use pacifiers or their thumb or fingers to soothe themselves

Newborn baby thumb sucking



A bonnet macaque thumb sucking

Thumb sucking is a behavior found in humans, chimpanzees, captive ring-tailed lemurs,^[1] and other primates.^[2] It usually involves placing the thumb into the mouth and rhythmically repeating sucking contact for a prolonged duration. It can also be accomplished with any organ within reach (such as other fingers and toes) and is

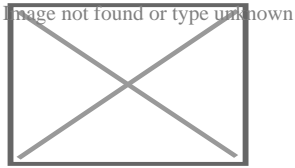
considered to be soothing and therapeutic for the person. As a child develops the habit, it will usually develop a "favourite" finger to suck on.

At birth, a baby will reflexively suck any object placed in its mouth; this is the sucking reflex responsible for breastfeeding. From the first time they engage in nutritive feeding, infants learn that the habit can not only provide valuable nourishment, but also a great deal of pleasure, comfort, and warmth. Whether from a mother, bottle, or pacifier, this behavior, over time, begins to become associated with a very strong, self-soothing, and pleasurable oral sensation. As the child grows older, and is eventually weaned off the nutritional sucking, they can either develop alternative means for receiving those same feelings of physical and emotional fulfillment, or they can continue experiencing those pleasantly soothing experiences by beginning to suck their thumbs or fingers.^[3] This reflex disappears at about 4 months of age; thumb sucking is not purely an instinctive behavior and therefore can last much longer.^[4] Moreover, ultrasound scans have revealed that thumb sucking can start before birth, as early as 15 weeks from conception; whether this behavior is voluntary or due to random movements of the fetus in the womb is not conclusively known.

Thumb sucking generally stops by the age of 4 years. Some older children will retain the habit, which can cause severe dental problems.^[5] While most dentists would recommend breaking the habit as early as possible, it has been shown that as long as the habit is broken before the onset of permanent teeth, at around 5 years old, the damage is reversible.^[6] Thumb sucking is sometimes retained into adulthood and may be due to simply habit continuation. Using anatomical and neurophysiological data a study has found that sucking the thumb is said to stimulate receptors within the brain which cause the release of mental and physical tension.^[7]

Dental problems and prevention

[edit]



Alveolar prognathism, caused by thumb sucking and tongue thrusting in a 7-year-old girl.

Percentage of children who suck their thumbs (data from two researchers)

Age	Kantorowicz ^[4]	Brückl ^[8]
0-1	92%	
1-2	93%	66%
2-3	87%	—
3-4	86%	
4-5	85%	25%
5-6	76%	
Over 6	—	9%

Most children stop sucking on thumbs, pacifiers or other objects on their own between 2 and 4 years of age. No harm is done to their teeth or jaws until permanent teeth start to erupt. The only time it might cause concern is if it goes on beyond 6 to 8 years of age. At this time, it may affect the shape of the oral cavity or dentition.^[9] During thumbsucking the tongue sits in a lowered position and so no longer balances the forces from the buccal group of musculature. This results in narrowing of the upper arch and a posterior crossbite. Thumbsucking can also cause the maxillary central incisors to tip labially and the mandibular incisors to tip lingually, resulting in an increased overjet and anterior open bite malocclusion, as the thumb rests on them during the course of sucking. In addition to proclination of the maxillary incisors, mandibular incisors retrusion will also happen. Transverse maxillary deficiency gives rise to posterior crossbite, ultimately leading to a Class II

malocclusion.[¹⁰]

Children may experience difficulty in swallowing and speech patterns due to the adverse changes. Aside from the damaging physical aspects of thumb sucking, there are also additional risks, which unfortunately, are present at all ages. These include increased risk of infection from communicable diseases, due to the simple fact that non-sterile thumbs are covered with infectious agents, as well as many social implications. Some children experience social difficulties, as often children are taunted by their peers for engaging in what they can consider to be an “immature” habit. This taunting often results the child being rejected by the group or being subjected to ridicule by their peers, which can cause understandable psychological stress.[¹¹]

Methods to stop sucking habits are divided into 2 categories: Preventive Therapy and Appliance Therapy.[¹⁰]

Examples to prevent their children from sucking their thumbs include the use of bitterants or piquant substances on their child's hands—although this is not a procedure encouraged by the American Dental Association[⁹] or the Association of Pediatric Dentists. Some suggest that positive reinforcements or calendar rewards be given to encourage the child to stop sucking their thumb.

The American Dental Association recommends:

- Praise children for not sucking, instead of scolding them when they do.
- If a child is sucking their thumb when feeling insecure or needing comfort, focus instead on correcting the cause of the anxiety and provide comfort to your child.
- If a child is sucking on their thumb because of boredom, try getting the child's attention with a fun activity.
- Involve older children in the selection of a means to cease thumb sucking.
- The pediatric dentist can offer encouragement to the child and explain what could happen to the child's teeth if he/she does not stop sucking.

- Only if these tips are ineffective, remind the child of the habit by bandaging the thumb or putting a sock/glove on the hand at night.
- Other orthodontics^[12] for appliances are available.

The British Orthodontic Society recommends the same advice as ADA.^[13]

A Cochrane review was conducted to review the effectiveness of a variety of clinical interventions for stopping thumb-sucking. The study showed that orthodontic appliances and psychological interventions (positive and negative reinforcement) were successful at preventing thumb sucking in both the short and long term, compared to no treatment.^[14] Psychological interventions such as habit reversal training and decoupling have also proven useful in body focused repetitive behaviors.^[15]

Clinical studies have shown that appliances such as TGuards can be 90% effective in breaking the thumb or finger sucking habit. Rather than use bitterants or piquants, which are not endorsed by the ADA due to their causing of discomfort or pain, TGuards break the habit simply by removing the suction responsible for generating the feelings of comfort and nurture.^[16] Other appliances are available, such as fabric thumb guards, each having their own benefits and features depending on the child's age, willpower and motivation. Fixed intraoral appliances have been known to create problems during eating as children when removing their appliances may have a risk of breaking them. Children with mental illness may have reduced compliance.^[10]

Some studies mention the use of extra-oral habit reminder appliance to treat thumb sucking. An alarm is triggered when the child tries to suck the thumb to stop the child from this habit.^{[10][17]} However, more studies are required to prove the effectiveness of external devices on thumb sucking.

Children's books

[edit]

- In Heinrich Hoffmann's *Struwwelpeter*, the "thumb-sucker" Konrad is punished by having both of his thumbs cut off.

- There are several children's books on the market with the intention to help the child break the habit of thumb sucking. Most of them provide a story the child can relate to and some coping strategies.^[18] Experts recommend to use only books in which the topic of thumb sucking is shown in a positive and respectful way.^[19]

See also

[edit]

- Stereotypic movement disorder
- Prognathism

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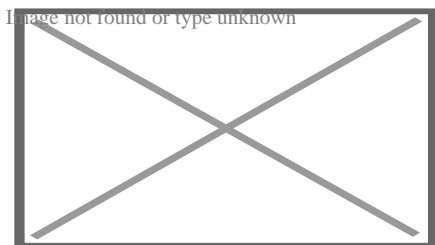
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About health professional

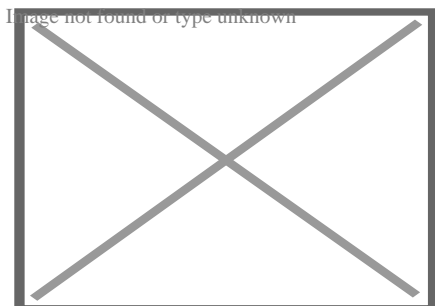
A **health professional**, **healthcare professional**, or **healthcare worker** (sometimes abbreviated **HCW**)^[1] is a provider of health care treatment and advice based on formal training and experience. The field includes those who work as a nurse, physician (such as family physician, internist, obstetrician, psychiatrist, radiologist, surgeon etc.), physician assistant, registered dietitian, veterinarian, veterinary technician, optometrist, pharmacist, pharmacy technician, medical assistant, physical therapist, occupational therapist, dentist, midwife, psychologist, audiologist, or healthcare scientist, or who perform services in allied health professions. Experts in public health and community health are also health professionals.

Fields

[edit]



NY College of Health Professions massage therapy class

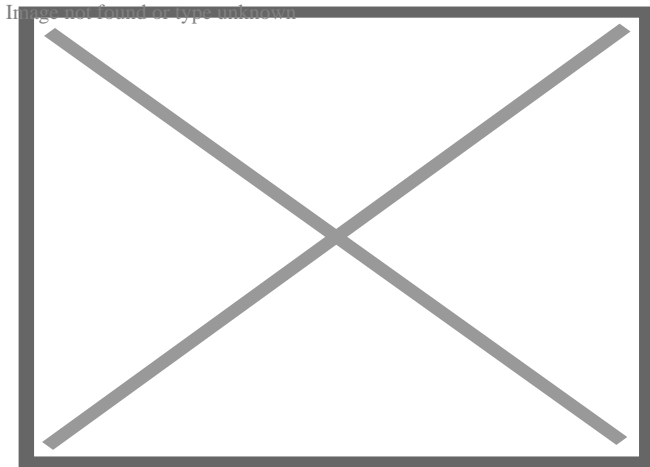


US Navy doctors deliver a healthy baby

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**Health practitioners
and professionals**

- Athletic trainer
- Audiologist
- Chiropractor
- Clinical coder
- Clinical nurse specialist
- Clinical officer
- Community health worker
- Dentist
- Dietitian and nutritionist
- Emergency medical technician
- Feldsher
- Health administrator
- Medical assistant
- Medical laboratory scientist
- Medical transcriptionist
- Nurse anesthetist
- Nurse practitioner
- Nurse midwife
- Nurse
- Occupational Therapist
- Optometrist
- Paramedic
- Pharmacist
- Pharmaconomist
- Pharmacy technician
- Phlebotomist
- Physician
- Physician assistant
- Podiatrist
- Psychologist
- Psychotherapist
- Physical therapist
- Radiographer



70% of global health and social care workers are women, 30% of leaders in the global health sector are women

The healthcare workforce comprises a wide variety of professions and occupations who provide some type of healthcare service, including such direct care practitioners as physicians, nurse practitioners, physician assistants, nurses, respiratory therapists, dentists, pharmacists, speech-language pathologist, physical therapists, occupational therapists, physical and behavior therapists, as well as allied health professionals such as phlebotomists, medical laboratory scientists, dieticians, and social workers. They often work in hospitals, healthcare centers and other service delivery points, but also in academic training, research, and administration. Some provide care and treatment services for patients in private homes. Many countries have a large number of community health workers who work outside formal healthcare institutions. Managers of healthcare services, health information technicians, and other assistive personnel and support workers are also considered a vital part of health care teams.^[2]

Healthcare practitioners are commonly grouped into health professions. Within each field of expertise, practitioners are often classified according to skill level and skill specialization. "Health professionals" are highly skilled workers, in professions that usually require extensive knowledge including university-level study leading to the

award of a first degree or higher qualification.^[3] This category includes physicians, physician assistants, registered nurses, veterinarians, veterinary technicians, veterinary assistants, dentists, midwives, radiographers, pharmacists, physiotherapists, optometrists, operating department practitioners and others. Allied health professionals, also referred to as "health associate professionals" in the International Standard Classification of Occupations, support implementation of health care, treatment and referral plans usually established by medical, nursing, respiratory care, and other health professionals, and usually require formal qualifications to practice their profession. In addition, unlicensed assistive personnel assist with providing health care services as permitted.^[citation needed]

Another way to categorize healthcare practitioners is according to the sub-field in which they practice, such as mental health care, pregnancy and childbirth care, surgical care, rehabilitation care, or public health.^[citation needed]

Mental health

[edit]

Main article: Mental health professional

A mental health professional is a health worker who offers services to improve the mental health of individuals or treat mental illness. These include psychiatrists, psychiatry physician assistants, clinical, counseling, and school psychologists, occupational therapists, clinical social workers, psychiatric-mental health nurse practitioners, marriage and family therapists, mental health counselors, as well as other health professionals and allied health professions. These health care providers often deal with the same illnesses, disorders, conditions, and issues; however, their scope of practice often differs. The most significant difference across categories of mental health practitioners is education and training.^[4] There are many damaging effects to the health care workers. Many have had diverse negative psychological symptoms ranging from emotional trauma to very severe anxiety. Health care workers have not been treated right and because of that their mental, physical, and

emotional health has been affected by it. The SAGE author's said that there were 94% of nurses that had experienced at least one PTSD after the traumatic experience. Others have experienced nightmares, flashbacks, and short and long term emotional reactions.^[5] The abuse is causing detrimental effects on these health care workers. Violence is causing health care workers to have a negative attitude toward work tasks and patients, and because of that they are "feeling pressured to accept the order, dispense a product, or administer a medication".^[6] Sometimes it can range from verbal to sexual to physical harassment, whether the abuser is a patient, patient's families, physician, supervisors, or nurses.^[citation needed]

Obstetrics

[edit]

Main articles: Obstetrics, Midwifery, and Birth attendant

A maternal and newborn health practitioner is a health care expert who deals with the care of women and their children before, during and after pregnancy and childbirth. Such health practitioners include obstetricians, physician assistants, midwives, obstetrical nurses and many others. One of the main differences between these professions is in the training and authority to provide surgical services and other life-saving interventions.^[7] In some developing countries, traditional birth attendants, or traditional midwives, are the primary source of pregnancy and childbirth care for many women and families, although they are not certified or licensed. According to research, rates for unhappiness among obstetrician-gynecologists (Ob-Gyns) range somewhere between 40 and 75 percent.^[8]

Geriatrics

[edit]

Main articles: Geriatrics and Geriatric care management

A geriatric care practitioner plans and coordinates the care of the elderly and/or disabled to promote their health, improve their quality of life, and maintain their independence for as long as possible.^[9] They include geriatricians, occupational therapists, physician assistants, adult-gerontology nurse practitioners, clinical nurse specialists, geriatric clinical pharmacists, geriatric nurses, geriatric care managers, geriatric aides, nursing aides, caregivers and others who focus on the health and psychological care needs of older adults.^[citation needed]

Surgery

[edit]

A surgical practitioner is a healthcare professional and expert who specializes in the planning and delivery of a patient's perioperative care, including during the anaesthetic, surgical and recovery stages. They may include general and specialist surgeons, physician assistants, assistant surgeons, surgical assistants, veterinary surgeons, veterinary technicians, anesthesiologists, anesthesiologist assistants, nurse anesthetists, surgical nurses, clinical officers, operating department practitioners, anaesthetic technicians, perioperative nurses, surgical technologists, and others.^[citation needed]

Rehabilitation

[edit]

A rehabilitation care practitioner is a health worker who provides care and treatment which aims to enhance and restore functional ability and quality of life to those with physical impairments or disabilities. These include physiatrists, physician assistants, rehabilitation nurses, clinical nurse specialists, nurse practitioners, physiotherapists, chiropractors, orthotists, prosthetists, occupational therapists, recreational therapists, audiologists, speech and language pathologists, respiratory therapists, rehabilitation counsellors, physical rehabilitation therapists, athletic

trainers, physiotherapy technicians, orthotic technicians, prosthetic technicians, personal care assistants, and others.^[10]

Optometry

[edit]

Main article: Optometry

Optometry is a field traditionally associated with the correction of refractive errors using glasses or contact lenses, and treating eye diseases. Optometrists also provide general eye care, including screening exams for glaucoma and diabetic retinopathy and management of routine or eye conditions. Optometrists may also undergo further training in order to specialize in various fields, including glaucoma, medical retina, low vision, or paediatrics. In some countries, such as the United Kingdom, United States, and Canada, Optometrists may also undergo further training in order to be able to perform some surgical procedures.

Diagnostics

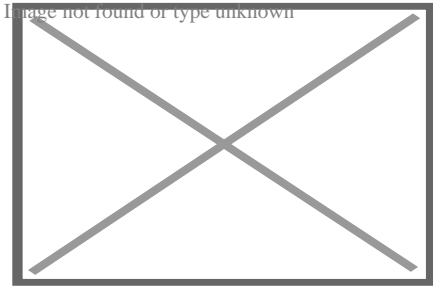
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Main article: Medical diagnosis

Medical diagnosis providers are health workers responsible for the process of determining which disease or condition explains a person's symptoms and signs. It is most often referred to as diagnosis with the medical context being implicit. This usually involves a team of healthcare providers in various diagnostic units. These include radiographers, radiologists, Sonographers, medical laboratory scientists, pathologists, and related professionals.^[*citation needed*]

Dentistry

[edit]



Dental assistant on the right supporting a dental operator on the left, during a procedure.

Main article: Dentistry

A dental care practitioner is a health worker and expert who provides care and treatment to promote and restore oral health. These include dentists and dental surgeons, dental assistants, dental auxiliaries, dental hygienists, dental nurses, dental technicians, dental therapists or oral health therapists, and related professionals.

Podiatry

[edit]

Care and treatment for the foot, ankle, and lower leg may be delivered by podiatrists, chiropodists, pedorthists, foot health practitioners, podiatric medical assistants, podiatric nurse and others.

Public health

[edit]

A public health practitioner focuses on improving health among individuals, families and communities through the prevention and treatment of diseases and injuries, surveillance of cases, and promotion of healthy behaviors. This category includes community and preventive medicine specialists, physician assistants, public health nurses, pharmacist, clinical nurse specialists, dietitians, environmental health officers (public health inspectors), paramedics, epidemiologists, public health dentists, and

others.^[*citation needed*]

Alternative medicine

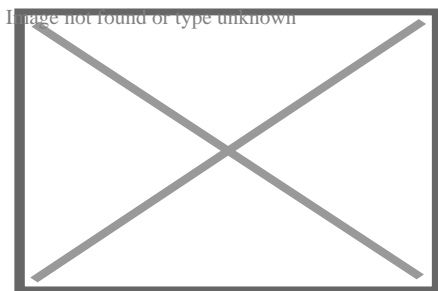
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In many societies, practitioners of alternative medicine have contact with a significant number of people, either as integrated within or remaining outside the formal health care system. These include practitioners in acupuncture, Ayurveda, herbalism, homeopathy, naturopathy, Reiki, Shamballa Reiki energy healing Archived 2021-01-25 at the Wayback Machine, Siddha medicine, traditional Chinese medicine, traditional Korean medicine, Unani, and Yoga. In some countries such as Canada, chiropractors and osteopaths (not to be confused with doctors of osteopathic medicine in the United States) are considered alternative medicine practitioners.

Occupational hazards

[edit]

See also: Occupational hazards in dentistry and Nursing § Occupational hazards



A healthcare professional wears an air sampling device to investigate exposure to airborne influenza

A video describing the Occupational Health and Safety Network, a tool for monitoring occupational hazards to health care workers

The healthcare workforce faces unique health and safety challenges and is recognized by the National Institute for Occupational Safety and Health (NIOSH) as a priority industry sector in the National Occupational Research Agenda (NORA) to identify and provide intervention strategies regarding occupational health and safety issues.^[11]

Biological hazards

[edit]

Exposure to respiratory infectious diseases like tuberculosis (caused by *Mycobacterium tuberculosis*) and influenza can be reduced with the use of respirators; this exposure is a significant occupational hazard for health care professionals.^[12] Healthcare workers are also at risk for diseases that are contracted through extended contact with a patient, including scabies.^[13] Health professionals are also at risk for contracting blood-borne diseases like hepatitis B, hepatitis C, and HIV/AIDS through needlestick injuries or contact with bodily fluids.^[14]^[15] This risk can be mitigated with vaccination when there is a vaccine available, like with hepatitis B.^[15] In epidemic situations, such as the 2014–2016 West African Ebola virus epidemic or the 2003 SARS outbreak, healthcare workers are at even greater risk, and were disproportionately affected in both the Ebola and SARS outbreaks.^[16]

In general, appropriate personal protective equipment (PPE) is the first-line mode of protection for healthcare workers from infectious diseases. For it to be effective against highly contagious diseases, personal protective equipment must be watertight and prevent the skin and mucous membranes from contacting infectious material. Different levels of personal protective equipment created to unique standards are used in situations where the risk of infection is different. Practices such as triple gloving and multiple respirators do not provide a higher level of protection and present a burden to the worker, who is additionally at increased risk of exposure when removing the PPE. Compliance with appropriate personal

protective equipment rules may be difficult in certain situations, such as tropical environments or low-resource settings. A 2020 Cochrane systematic review found low-quality evidence that using more breathable fabric in PPE, double gloving, and active training reduce the risk of contamination but that more randomized controlled trials are needed for how best to train healthcare workers in proper PPE use.^[16]

Tuberculosis screening, testing, and education

[edit]

Based on recommendations from The United States Center for Disease Control and Prevention (CDC) for TB screening and testing the following best practices should be followed when hiring and employing Health Care Personnel.^[17]

When hiring Health Care Personnel, the applicant should complete the following:^[18] a TB risk assessment,^[19] a TB symptom evaluation for at least those listed on the Signs & Symptoms page,^[20] a TB test in accordance with the guidelines for Testing for TB Infection,^[21] and additional evaluation for TB disease as needed (e.g. chest x-ray for HCP with a positive TB test)^[18] The CDC recommends either a blood test, also known as an interferon-gamma release assay (IGRA), or a skin test, also known as a Mantoux tuberculin skin test (TST).^[21] A TB blood test for baseline testing does not require two-step testing. If the skin test method is used to test HCP upon hire, then two-step testing should be used. A one-step test is not recommended.^[18]

The CDC has outlined further specifics on recommended testing for several scenarios.^[22] In summary:

1. Previous documented positive skin test (TST) then a further TST is not recommended
2. Previous documented negative TST within 12 months before employment OR at least two documented negative TSTs ever then a single TST is recommended

3. All other scenarios, with the exception of programs using blood tests, the recommended testing is a two-step TST

According to these recommended testing guidelines any two negative TST results within 12 months of each other constitute a two-step TST.

For annual screening, testing, and education, the only recurring requirement for all HCP is to receive TB education annually.^[18] While the CDC offers education materials, there is not a well defined requirement as to what constitutes a satisfactory annual education. Annual TB testing is no longer recommended unless there is a known exposure or ongoing transmission at a healthcare facility. Should an HCP be considered at increased occupational risk for TB annual screening may be considered. For HCP with a documented history of a positive TB test result do not need to be re-tested but should instead complete a TB symptom evaluation. It is assumed that any HCP who has undergone a chest x-ray test has had a previous positive test result. When considering mental health you may see your doctor to be evaluated at your digression. It is recommended to see someone at least once a year in order to make sure that there has not been any sudden changes.^[23]

Psychosocial hazards

[edit]

Occupational stress and occupational burnout are highly prevalent among health professionals.^[24] Some studies suggest that workplace stress is pervasive in the health care industry because of inadequate staffing levels, long work hours, exposure to infectious diseases and hazardous substances leading to illness or death, and in some countries threat of malpractice litigation. Other stressors include the emotional labor of caring for ill people and high patient loads. The consequences of this stress can include substance abuse, suicide, major depressive disorder, and anxiety, all of which occur at higher rates in health professionals than the general working population. Elevated levels of stress are also linked to high rates of burnout,

absenteeism and diagnostic errors, and reduced rates of patient satisfaction.^[25] In Canada, a national report (*Canada's Health Care Providers*) also indicated higher rates of absenteeism due to illness or disability among health care workers compared to the rest of the working population, although those working in health care reported similar levels of good health and fewer reports of being injured at work.^[26]

There is some evidence that cognitive-behavioral therapy, relaxation training and therapy (including meditation and massage), and modifying schedules can reduce stress and burnout among multiple sectors of health care providers. Research is ongoing in this area, especially with regards to physicians, whose occupational stress and burnout is less researched compared to other health professions.^[27]

Healthcare workers are at higher risk of on-the-job injury due to violence. Drunk, confused, and hostile patients and visitors are a continual threat to providers attempting to treat patients. Frequently, assault and violence in a healthcare setting goes unreported and is wrongly assumed to be part of the job.^[28] Violent incidents typically occur during one-on-one care; being alone with patients increases healthcare workers' risk of assault.^[29] In the United States, healthcare workers experience 2/3 of nonfatal workplace violence incidents.^[28] Psychiatric units represent the highest proportion of violent incidents, at 40%; they are followed by geriatric units (20%) and the emergency department (10%). Workplace violence can also cause psychological trauma.^[29]

Health care professionals are also likely to experience sleep deprivation due to their jobs. Many health care professionals are on a shift work schedule, and therefore experience misalignment of their work schedule and their circadian rhythm. In 2007, 32% of healthcare workers were found to get fewer than 6 hours of sleep a night. Sleep deprivation also predisposes healthcare professionals to make mistakes that may potentially endanger a patient.^[30]

COVID pandemic

[edit]

Especially in times like the present (2020), the hazards of health professional stem into the mental health. Research from the last few months highlights that COVID-19 has contributed greatly to the degradation of mental health in healthcare providers. This includes, but is not limited to, anxiety, depression/burnout, and insomnia. ^[citation needed]

A study done by Di Mattei et al. (2020) revealed that 12.63% of COVID nurses and 16.28% of other COVID healthcare workers reported extremely severe anxiety symptoms at the peak of the pandemic.^[31] In addition, another study was conducted on 1,448 full time employees in Japan. The participants were surveyed at baseline in March 2020 and then again in May 2020. The result of the study showed that psychological distress and anxiety had increased more among healthcare workers during the COVID-19 outbreak.^[32]

Similarly, studies have also shown that following the pandemic, at least one in five healthcare professionals report symptoms of anxiety.^[33] Specifically, the aspect of "anxiety was assessed in 12 studies, with a pooled prevalence of 23.2%" following COVID.^[33] When considering all 1,448 participants that percentage makes up about 335 people.

Abuse by patients

[edit]

- The patients are selecting victims who are more vulnerable. For example, Cho said that these would be the nurses that are lacking experience or trying to get used to their new roles at work.^[34]
- Others authors that agree with this are Vento, Cainelli, & Vallone and they said that, the reason patients have caused danger to health care workers is because of insufficient communication between them, long waiting lines, and

overcrowding in waiting areas.^[35] When patients are intrusive and/or violent toward the faculty, this makes the staff question what they should do about taking care of a patient.

- There have been many incidents from patients that have really caused some health care workers to be traumatized and have so much self doubt. Goldblatt and other authors said that there was a lady who was giving birth, her husband said, "Who is in charge around here"? "Who are these sluts you employ here".^[5] This was very avoidable to have been said to the people who are taking care of your wife and child.

Physical and chemical hazards

[edit]

Slips, trips, and falls are the second-most common cause of worker's compensation claims in the US and cause 21% of work absences due to injury. These injuries most commonly result in strains and sprains; women, those older than 45, and those who have been working less than a year in a healthcare setting are at the highest risk.^[36]

An epidemiological study published in 2018 examined the hearing status of noise-exposed health care and social assistance (HSA) workers sector to estimate and compare the prevalence of hearing loss by subsector within the sector. Most of the HSA subsector prevalence estimates ranged from 14% to 18%, but the Medical and Diagnostic Laboratories subsector had 31% prevalence and the Offices of All Other Miscellaneous Health Practitioners had a 24% prevalence. The Child Day Care Services subsector also had a 52% higher risk than the reference industry.^[37]

Exposure to hazardous drugs, including those for chemotherapy, is another potential occupational risk. These drugs can cause cancer and other health conditions.^[38]

Gender factors

[edit]

Female health care workers may face specific types of workplace-related health conditions and stress. According to the World Health Organization, women predominate in the formal health workforce in many countries and are prone to musculoskeletal injury (caused by physically demanding job tasks such as lifting and moving patients) and burnout. Female health workers are exposed to hazardous drugs and chemicals in the workplace which may cause adverse reproductive outcomes such as spontaneous abortion and congenital malformations. In some contexts, female health workers are also subject to gender-based violence from coworkers and patients.^[39]^[40]

Workforce shortages

[edit]

See also: Health workforce, Doctor shortage, and Nursing shortage

Many jurisdictions report shortfalls in the number of trained health human resources to meet population health needs and/or service delivery targets, especially in medically underserved areas. For example, in the United States, the 2010 federal budget invested \$330 million to increase the number of physicians, physician assistants, nurse practitioners, nurses, and dentists practicing in areas of the country experiencing shortages of trained health professionals. The Budget expands loan repayment programs for physicians, nurses, and dentists who agree to practice in medically underserved areas. This funding will enhance the capacity of nursing schools to increase the number of nurses. It will also allow states to increase access to oral health care through dental workforce development grants. The Budget's new resources will sustain the expansion of the health care workforce funded in the Recovery Act.^[41] There were 15.7 million health care professionals in the US as of 2011.^[36]

In Canada, the 2011 federal budget announced a Canada Student Loan forgiveness program to encourage and support new family physicians, physician assistants, nurse practitioners and nurses to practice in underserved rural or remote communities of the country, including communities that provide health services to First Nations and Inuit populations.^[42]

In Uganda, the Ministry of Health reports that as many as 50% of staffing positions for health workers in rural and underserved areas remain vacant. As of early 2011, the Ministry was conducting research and costing analyses to determine the most appropriate attraction and retention packages for medical officers, nursing officers, pharmacists, and laboratory technicians in the country's rural areas.^[43]

At the international level, the World Health Organization estimates a shortage of almost 4.3 million doctors, midwives, nurses, and support workers worldwide to meet target coverage levels of essential primary health care interventions.^[44] The shortage is reported most severe in 57 of the poorest countries, especially in sub-Saharan Africa.

Nurses are the most common type of medical field worker to face shortages around the world. There are numerous reasons that the nursing shortage occurs globally. Some include: inadequate pay, a large percentage of working nurses are over the age of 45 and are nearing retirement age, burnout, and lack of recognition.^[45]

Incentive programs have been put in place to aid in the deficit of pharmacists and pharmacy students. The reason for the shortage of pharmacy students is unknown but one can infer that it is due to the level of difficulty in the program.^[46]

Results of nursing staff shortages can cause unsafe staffing levels that lead to poor patient care. Five or more incidents that occur per day in a hospital setting as a result of nurses who do not receive adequate rest or meal breaks is a common issue.^[47]

Regulation and registration

[edit]

Main article: Health professional requisites

Practicing without a license that is valid and current is typically illegal. In most jurisdictions, the provision of health care services is regulated by the government. Individuals found to be providing medical, nursing or other professional services without the appropriate certification or license may face sanctions and criminal charges leading to a prison term. The number of professions subject to regulation, requisites for individuals to receive professional licensure, and nature of sanctions that can be imposed for failure to comply vary across jurisdictions.

In the United States, under Michigan state laws, an individual is guilty of a felony if identified as practicing in the health profession without a valid personal license or registration. Health professionals can also be imprisoned if found guilty of practicing beyond the limits allowed by their licenses and registration. The state laws define the scope of practice for medicine, nursing, and a number of allied health professions.^[48]^[*unreliable source?*] In Florida, practicing medicine without the appropriate license is a crime classified as a third degree felony,^[49] which may give imprisonment up to five years. Practicing a health care profession without a license which results in serious bodily injury classifies as a second degree felony,^[49] providing up to 15 years' imprisonment.

In the United Kingdom, healthcare professionals are regulated by the state; the UK Health and Care Professions Council (HCPC) protects the 'title' of each profession it regulates. For example, it is illegal for someone to call himself an Occupational Therapist or Radiographer if they are not on the register held by the HCPC.

See also

[edit]

- List of healthcare occupations
- Community health center
- Chronic care management

- Electronic superbill
- Geriatric care management
- Health human resources
- Uniform Emergency Volunteer Health Practitioners Act

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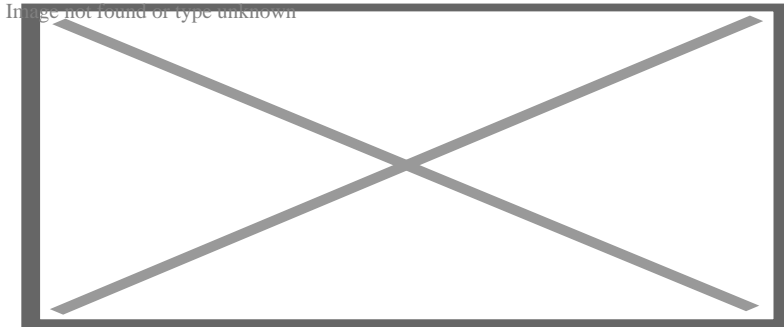
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About dental braces

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Dental braces

Dental braces (also known as **orthodontic braces**, or simply **braces**) are devices used in orthodontics that align and straighten teeth and help position them with regard to a person's bite, while also aiming to improve dental health. They are often used to correct underbites, as well as malocclusions, overbites, open bites, gaps, deep bites, cross bites, crooked teeth, and various other flaws of the teeth and jaw. Braces can be either cosmetic or structural. Dental braces are often used in conjunction with other orthodontic appliances to help widen the palate or jaws and to otherwise assist in shaping the teeth and jaws.

Process

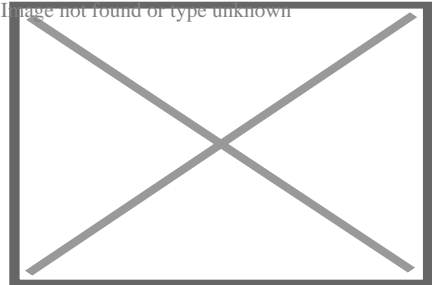
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The application of braces moves the teeth as a result of force and pressure on the teeth. Traditionally, four basic elements are used: brackets, bonding material, arch wire, and ligature elastic (also called an "O-ring"). The teeth move when the arch wire puts pressure on the brackets and teeth. Sometimes springs or rubber bands are used to put more force in a specific direction.^[1]

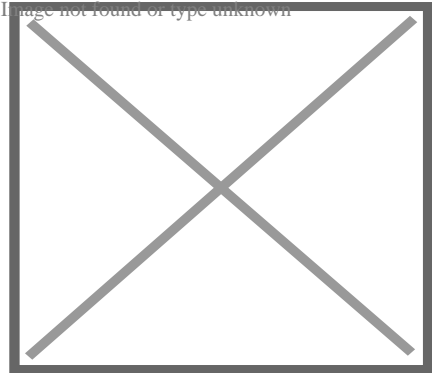
Braces apply constant pressure which, over time, moves teeth into the desired positions. The process loosens the tooth after which new bone grows to support the tooth in its new position. This is called bone remodelling. Bone remodelling is a biomechanical process responsible for making bones stronger in response to sustained load-bearing activity and weaker in the absence of carrying a load. Bones are made of cells called osteoclasts and osteoblasts. Two different kinds of bone resorption are possible: direct resorption, which starts from the lining cells of the alveolar bone, and indirect or retrograde resorption, which occurs when the periodontal ligament has been subjected to an excessive amount and duration of compressive stress.^[2] Another important factor associated with tooth movement is bone deposition. Bone deposition occurs in the distracted periodontal ligament. Without bone deposition, the tooth will loosen, and voids will occur distal to the direction of tooth movement.^[3]

Types

[edit]



"Clear" braces

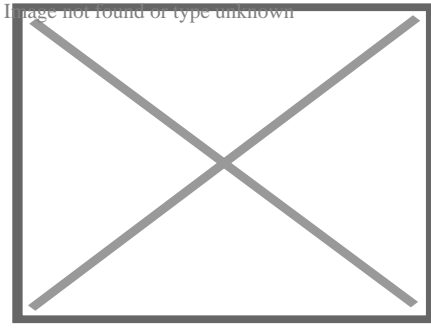


Upper and Lower Jaw Functional Expanders

- **Traditional metal wired braces** (also known as "train track braces") are stainless-steel and are sometimes used in combination with titanium. Traditional metal braces are the most common type of braces.^[4] These braces have a metal bracket with elastic ties (also known as rubber bands) holding the wire onto the metal brackets. The second-most common type of braces is self-ligating braces, which have a built-in system to secure the archwire to the brackets and do not require elastic ties. Instead, the wire goes through the bracket. Often with this type of braces, treatment time is reduced, there is less pain on the teeth, and fewer adjustments are required than with traditional braces.
- **Gold-plated stainless steel** braces are often employed for patients allergic to nickel (a basic and important component of stainless steel), but may also be chosen for aesthetic reasons.
- **Lingual braces** are a cosmetic alternative in which custom-made braces are bonded to the back of the teeth making them externally invisible.
- **Titanium braces** resemble stainless-steel braces but are lighter and just as strong. People with allergies to nickel in steel often choose titanium braces, but they are more expensive than stainless steel braces.
- **Customized orthodontic treatment systems** combine high technology including 3-D imaging, treatment planning software and a robot to custom bend the wire. Customized systems such as this offer faster treatment times and more efficient results.^[5]
- **Progressive, clear removable aligners** may be used to gradually move teeth into their final positions. Aligners are generally not used for complex orthodontic cases, such as when extractions, jaw surgery, or palate expansion are necessary.^[medical citation needed]^[6]

Fitting procedure

[edit]



A patient's teeth are prepared for the application of braces.

Orthodontic services may be provided by any licensed dentist trained in orthodontics. In North America, most orthodontic treatment is done by orthodontists, who are dentists in the diagnosis and treatment of *malocclusions*—malalignments of the teeth, jaws, or both. A dentist must complete 2–3 years of additional post-doctoral training to earn a specialty certificate in orthodontics. There are many general practitioners who also provide orthodontic services.

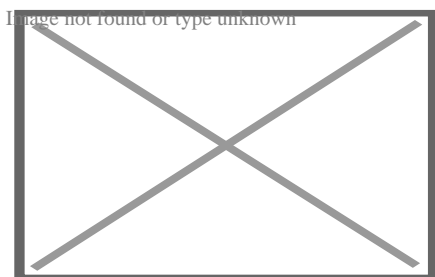
The first step is to determine whether braces are suitable for the patient. The doctor consults with the patient and inspects the teeth visually. If braces are appropriate, a records appointment is set up where X-rays, moulds, and impressions are made. These records are analyzed to determine the problems and the proper course of action. The use of digital models is rapidly increasing in the orthodontic industry. Digital treatment starts with the creation of a three-dimensional digital model of the patient's arches. This model is produced by laser-scanning plaster models created using dental impressions. Computer-automated treatment simulation has the ability to automatically separate the gums and teeth from one another and can handle malocclusions well; this software enables clinicians to ensure, in a virtual setting, that the selected treatment will produce the optimal outcome, with minimal user input. ^[*medical citation needed*]

Typical treatment times vary from six months to two and a half years depending on the complexity and types of problems. Orthognathic surgery may be required in extreme cases. About 2 weeks before the braces are applied, orthodontic spacers may be required to spread apart back teeth in order to create enough space for the

bands.

Teeth to be braced will have an adhesive applied to help the cement bond to the surface of the tooth. In most cases, the teeth will be banded and then brackets will be added. A bracket will be applied with dental cement, and then cured with light until hardened. This process usually takes a few seconds per tooth. If required, orthodontic spacers may be inserted between the molars to make room for molar bands to be placed at a later date. Molar bands are required to ensure brackets will stick. Bands are also utilized when dental fillings or other dental works make securing a bracket to a tooth infeasible. Orthodontic tubes (stainless steel tubes that allow wires to pass through them), also known as molar tubes, are directly bonded to molar teeth either by a chemical curing or a light curing adhesive. Usually, molar tubes are directly welded to bands, which is a metal ring that fits onto the molar tooth. Directly bonded molar tubes are associated with a higher failure rate when compared to molar bands cemented with glass ionomer cement. Failure of orthodontic brackets, bonded tubes or bands will increase the overall treatment time for the patient. There is evidence suggesting that there is less enamel decalcification associated with molar bands cemented with glass ionomer cement compared with orthodontic tubes directly cemented to molars using a light cured adhesive. Further evidence is needed to withdraw a more robust conclusion due to limited data.^[7]

An archwire will be threaded between the brackets and affixed with elastic or metal ligatures. Ligatures are available in a wide variety of colours, and the patient can choose which colour they like. Arch wires are bent, shaped, and tightened frequently to achieve the desired results.



Dental braces, with a transparent power chain, removed after completion of treatment.

Modern orthodontics makes frequent use of nickel-titanium archwires and temperature-sensitive materials. When cold, the archwire is limp and flexible, easily threaded between brackets of any configuration. Once heated to body temperature, the arch wire will stiffen and seek to retain its shape, creating constant light force on the teeth.

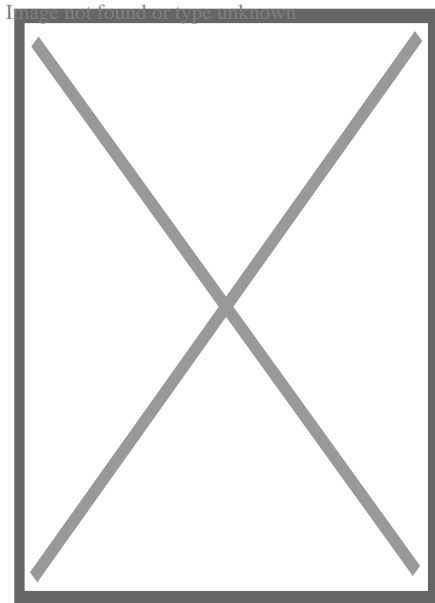
Brackets with hooks can be placed, or hooks can be created and affixed to the arch wire to affix rubber bands. The placement and configuration of the rubber bands will depend on the course of treatment and the individual patient. Rubber bands are made in different diameters, colours, sizes, and strengths. They are also typically available in two versions: Coloured or clear/opaque.

The fitting process can vary between different types of braces, though there are similarities such as the initial steps of moulding the teeth before application. For example, with clear braces, impressions of a patient's teeth are evaluated to create a series of trays, which fit to the patient's mouth almost like a protective mouthpiece. With some forms of braces, the brackets are placed in a special form that is customized to the patient's mouth, drastically reducing the application time.

In many cases, there is insufficient space in the mouth for all the teeth to fit properly. There are two main procedures to make room in these cases. One is extraction: teeth are removed to create more space. The second is expansion, in which the palate or arch is made larger by using a palatal expander. Expanders can be used with both children and adults. Since the bones of adults are already fused, expanding the palate is not possible without surgery to separate them. An expander can be used on an adult without surgery but would be used to expand the dental arch, and not the palate.

Sometimes children and teenage patients, and occasionally adults, are required to wear a headgear appliance as part of the primary treatment phase to keep certain

teeth from moving (for more detail on headgear and facemask appliances see Orthodontic headgear). When braces put pressure on one's teeth, the periodontal membrane stretches on one side and is compressed on the other. This movement needs to be done slowly or otherwise, the patient risks losing their teeth. This is why braces are worn as long as they are and adjustments are only made every so often.



Young Colombian man during an adjustment visit for his orthodontics

Braces are typically adjusted every three to six weeks. This helps shift the teeth into the correct position. When they get adjusted, the orthodontist removes the coloured or metal ligatures keeping the arch wire in place. The arch wire is then removed and may be replaced or modified. When the archwire has been placed back into the mouth, the patient may choose a colour for the new elastic ligatures, which are then affixed to the metal brackets. The adjusting process may cause some discomfort to the patient, which is normal.

Post-treatment

[edit]

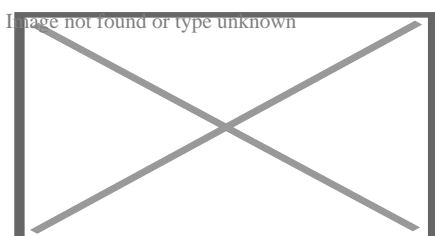
Patients may need post-orthodontic surgery, such as a fiberoctomy or alternatively a gum lift, to prepare their teeth for retainer use and improve the gumline contours

after the braces come off. After braces treatment, patients can use a transparent plate to keep the teeth in alignment for a certain period of time. After treatment, patients usually use transparent plates for 6 months. In patients with long and difficult treatment, a fixative wire is attached to the back of the teeth to prevent the teeth from returning to their original state.^[8]

Retainers

[edit]

Main article: Retainer (orthodontic device)



Hawley retainers are the most common type of retainers. This picture shows retainers for the top (right) and bottom (left) of the mouth.

In order to prevent the teeth from moving back to their original position, retainers are worn once the treatment is complete. Retainers help in maintaining and stabilizing the position of teeth long enough to permit the reorganization of the supporting structures after the active phase of orthodontic therapy. If the patient does not wear the retainer appropriately and/or for the right amount of time, the teeth may move towards their previous position. For regular braces, Hawley retainers are used. They are made of metal hooks that surround the teeth and are enclosed by an acrylic plate shaped to fit the patient's palate. For Clear Removable braces, an Essix retainer is used. This is similar to the original aligner; it is a clear plastic tray that is firmly fitted to the teeth and stays in place without a plate fitted to the palate. There is also a bonded retainer where a wire is permanently bonded to the lingual side of the teeth, usually the lower teeth only.

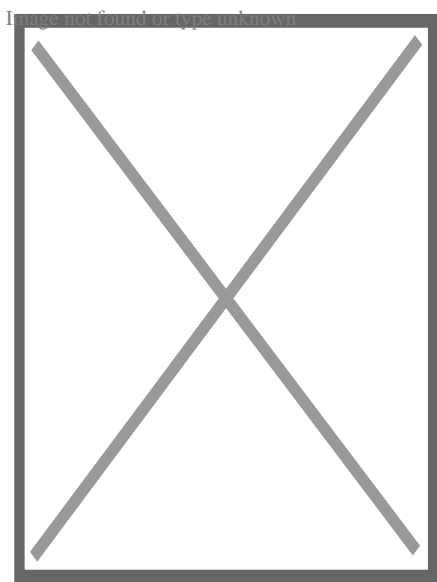
Headgear

[edit]

Main article: Orthodontic headgear

Headgear needs to be worn between 12 and 22 hours each day to be effective in correcting the overbite, typically for 12 to 18 months depending on the severity of the overbite, how much it is worn and what growth stage the patient is in. Typically the prescribed daily wear time will be between 14 and 16 hours a day and is frequently used as a post-primary treatment phase to maintain the position of the jaw and arch. Headgear can be used during the night while the patient sleeps.^[9][[]*better source*

Orthodontic headgear usually consists of three major components:



Full orthodontic headgear with head cap, fitting straps, facebow and elastics

1. Facebow: the facebow (or J-Hooks) is fitted with a metal arch onto headgear tubes attached to the rear upper and lower molars. This facebow then extends out of the mouth and around the patient's face. J-Hooks are different in that they hook into the patient's mouth and attach directly to the brace (see photo for an example of J-Hooks).

2. Head cap: the head cap typically consists of one or a number of straps fitting around the patient's head. This is attached with elastic bands or springs to the facebow. Additional straps and attachments are used to ensure comfort and safety (see photo).
3. Attachment: typically consisting of rubber bands, elastics, or springs—joins the facebow or J-Hooks and the head cap together, providing the force to move the upper teeth, jaw backwards.

The headgear application is one of the most useful appliances available to the orthodontist when looking to correct a Class II malocclusion. See more details in the section Orthodontic headgear.

Pre-finisher

[edit]

The pre-finisher is moulded to the patient's teeth by use of extreme pressure on the appliance by the person's jaw. The product is then worn a certain amount of time with the user applying force to the appliance in their mouth for 10 to 15 seconds at a time. The goal of the process is to increase the exercise time in applying the force to the appliance. If a person's teeth are not ready for a proper retainer the orthodontist may prescribe the use of a preformed finishing appliance such as the pre-finisher. This appliance fixes gaps between the teeth, small spaces between the upper and lower jaw, and other minor problems.

Complications and risks

[edit]

A group of dental researchers, Fatma Boke, Cagri Gazioglu, Selvi Akkaya, and Murat Akkaya, conducted a study titled "Relationship between orthodontic treatment and gingival health." The results indicated that some orthodontist treatments result in

gingivitis, also known as gum disease. The researchers concluded that functional appliances used to harness natural forces (such as improving the alignment of bites) do not usually have major effects on the gum after treatment.^[10] However, fixed appliances such as braces, which most people get, can result in visible plaque, visible inflammation, and gum recession in a majority of the patients. The formation of plaques around the teeth of patients with braces is almost inevitable regardless of plaque control and can result in mild gingivitis. But if someone with braces does not clean their teeth carefully, plaques will form, leading to more severe gingivitis and gum recession.

Experiencing some pain following fitting and activation of fixed orthodontic braces is very common and several methods have been suggested to tackle this.^{[11][12]} Pain associated with orthodontic treatment increases in proportion to the amount of force that is applied to the teeth. When a force is applied to a tooth via a brace, there is a reduction in the blood supply to the fibres that attach the tooth to the surrounding bone. This reduction in blood supply results in inflammation and the release of several chemical factors, which stimulate the pain response. Orthodontic pain can be managed using pharmacological interventions, which involve the use of analgesics applied locally or systemically. These analgesics are divided into four main categories, including opioids, non-steroidal anti-inflammatory drugs (NSAIDs), paracetamol and local anesthesia. The first three of these analgesics are commonly taken systemically to reduce orthodontic pain.^[13]

A Cochrane Review in 2017 evaluated the pharmacological interventions for pain relief during orthodontic treatment. The study concluded that there was moderate-quality evidence that analgesics reduce the pain associated with orthodontic treatment. However, due to a lack of evidence, it was unclear whether systemic NSAIDs were more effective than paracetamol, and whether topical NSAIDs were more effective than local anaesthesia in the reduction of pain associated with orthodontic treatment. More high-quality research is required to investigate these particular comparisons.^[13]

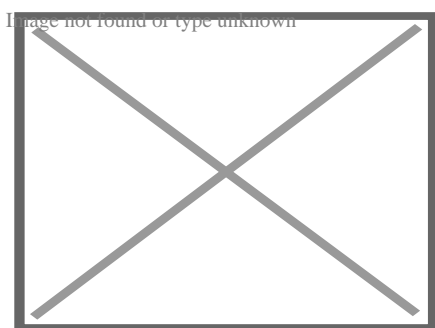
The dental displacement obtained with the orthodontic appliance determines in most cases some degree of root resorption. Only in a few cases is this side effect large enough to be considered real clinical damage to the tooth. In rare cases, the teeth may fall out or have to be extracted due to root resorption.^{[14][15]}

History

[edit]

Ancient

[edit]



Old Braces at a museum in Jbeil, Lebanon

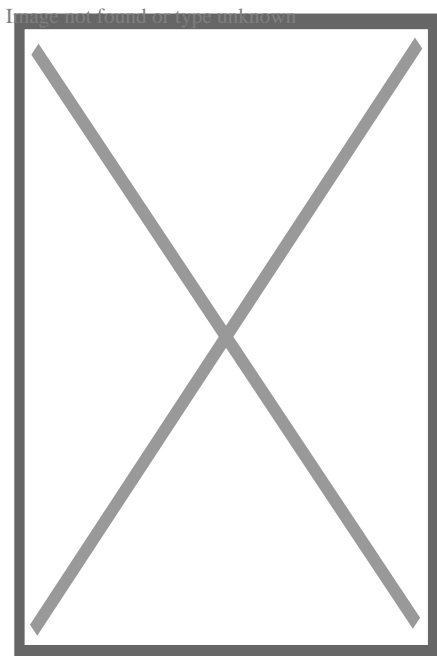
According to scholars and historians, braces date back to ancient times. Around 400–300 BC, Hippocrates and Aristotle contemplated ways to straighten teeth and fix various dental conditions. Archaeologists have discovered numerous mummified ancient individuals with what appear to be metal bands wrapped around their teeth. Catgut, a type of cord made from the natural fibres of an animal's intestines, performed a similar role to today's orthodontic wire in closing gaps in the teeth and mouth.^[16]

The Etruscans buried their dead with dental appliances in place to maintain space and prevent the collapse of the teeth during the afterlife. A Roman tomb was found with a number of teeth bound with gold wire documented as a ligature wire, a small elastic wire that is used to affix the arch wire to the bracket. Even Cleopatra wore a

pair. Roman philosopher and physician Aulus Cornelius Celsus first recorded the treatment of teeth by finger pressure. Unfortunately, due to a lack of evidence, poor preservation of bodies, and primitive technology, little research was carried out on dental braces until around the 17th century, although dentistry was making great advancements as a profession by then. ^[citation needed]

18th century

[edit]



Portrait of Fauchard from his 1728 edition of *"The Surgical Dentist"*.

Orthodontics truly began developing in the 18th and 19th centuries. In 1669, French dentist Pierre Fauchard, who is often credited with inventing modern orthodontics, published a book entitled *"The Surgeon Dentist"* on methods of straightening teeth. Fauchard, in his practice, used a device called a "Bandeau", a horseshoe-shaped piece of iron that helped expand the palate. In 1754, another French dentist, Louis Bourdet, dentist to the King of France, followed Fauchard's book with *The Dentist's Art*, which also dedicated a chapter to tooth alignment and application. He perfected the "Bandeau" and was the first dentist on record to recommend

extraction of the premolar teeth to alleviate crowding and improve jaw growth.

19th century

[edit]

Although teeth and palate straightening and/or pulling were used to improve the alignment of remaining teeth and had been practised since early times, orthodontics, as a science of its own, did not really exist until the mid-19th century. Several important dentists helped to advance dental braces with specific instruments and tools that allowed braces to be improved.

In 1819, Christophe François Delabarre introduced the wire crib, which marked the birth of contemporary orthodontics, and gum elastics were first employed by Maynard in 1843. Tucker was the first to cut rubber bands from rubber tubing in 1850. Dentist, writer, artist, and sculptor Norman William Kingsley in 1858 wrote the first article on orthodontics and in 1880, his book, *Treatise on Oral Deformities*, was published. A dentist named John Nutting Farrar is credited for writing two volumes entitled, *A Treatise on the Irregularities of the Teeth and Their Corrections* and was the first to suggest the use of mild force at timed intervals to move teeth.

20th century

[edit]


In the early 20th century, Edward Angle devised the first simple classification system for malocclusions, such as Class I, Class II, and so on. His classification system is still used today as a way for dentists to describe how crooked teeth are, what way teeth are pointing, and how teeth fit together. Angle contributed greatly to the design of orthodontic and dental appliances, making many simplifications. He founded the first school and college of orthodontics, organized the American Society of Orthodontia in 1901 which became the American Association of

Orthodontists (AAO) in the 1930s, and founded the first orthodontic journal in 1907. Other innovations in orthodontics in the late 19th and early 20th centuries included the first textbook on orthodontics for children, published by J.J. Guilford in 1889, and the use of rubber elastics, pioneered by Calvin S. Case, along with Henry Albert Baker.

Today, space age wires (also known as dental arch wires) are used to tighten braces. In 1959, the Naval Ordnance Laboratory created an alloy of nickel and titanium called Nitinol. NASA further studied the material's physical properties.^[17] In 1979, Dr. George Andreasen developed a new method of fixing braces with the use of the Nitinol wires based on their superelasticity. Andreasen used the wire on some patients and later found out that he could use it for the entire treatment. Andreasen then began using the nitinol wires for all his treatments and as a result, dental doctor visits were reduced, the cost of dental treatment was reduced, and patients reported less discomfort.

See also

[edit]

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- o [Prosthodontics](#)
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External links

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- Useful Resources: FAQ and Downloadable eBooks at Orthodontics Australia
- Orthos Explain: Treatment Options at Orthodontics Australia
-  Media related to Dental braces at Wikimedia Commons
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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
- Overbite
- Overjet
- Open bite
- Crossbite
- Dental crowding
- Dental spacing

Conditions

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- Prognathism
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- Maxillary hypoplasia
- Condylar hyperplasia
- Overeruption
- Mouth breathing
- Temporomandibular dysfunction

- 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
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- Palatal lift prosthesis
- Palatal expander
- Quad helix
- Retainer
- SureSmile
- Self-ligating braces
- Splint activator
- Twin Block Appliance

Appliances

Procedures

- Anchorage (orthodontics)
- Cantilever mechanics
- Fiberotomy
- Interproximal reduction
- Intrusion (orthodontics)
- Molar distalization
- SARPE
- Serial extraction
- Beta-titanium
- Nickel titanium
- Stainless steel

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- Composite
- Dental elastics

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