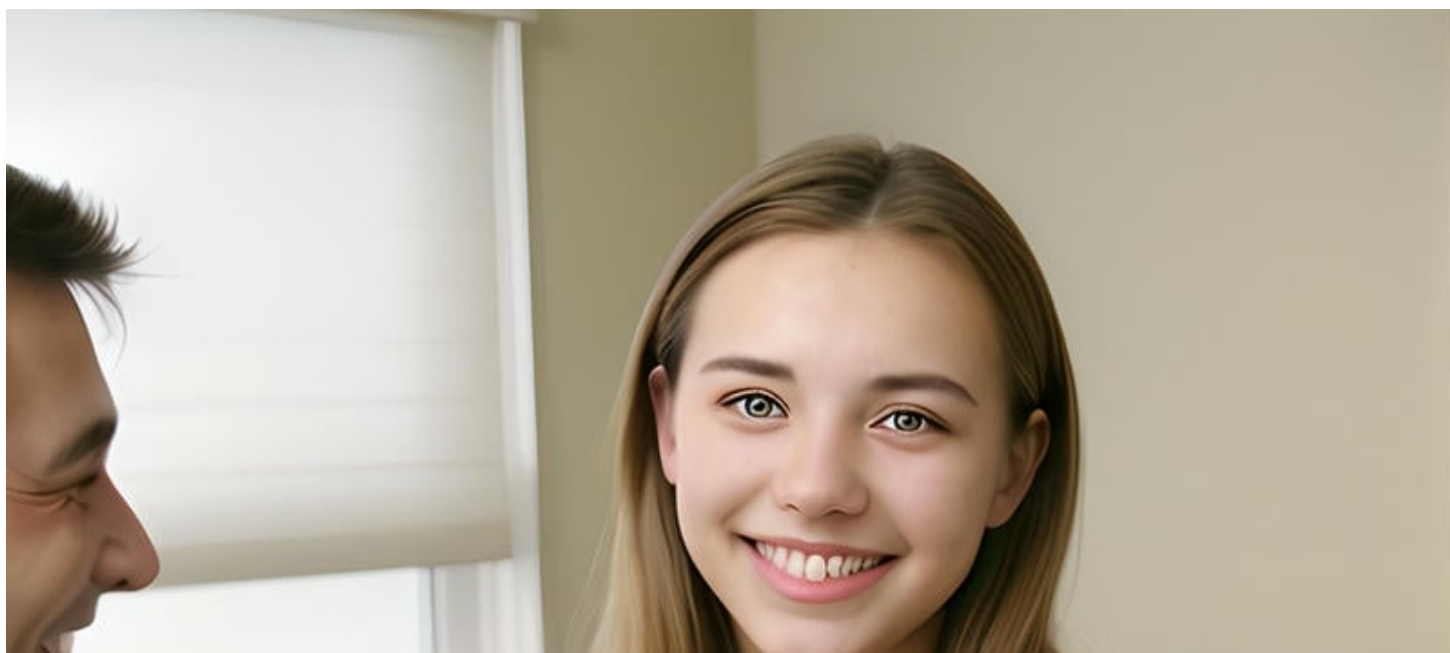


- **Linking Orthodontics with Periodontal Health**  
Linking Orthodontics with Periodontal Health Coordinating with Oral Surgeons for Jaw Corrections Integrating Pediatric Dentistry for Early Intervention Combining Endodontic Care in Complex Cases Collaborative Planning with Prosthodontists Sharing Diagnostic Data Across Multiple Specialists Addressing Aesthetic and Functional Goals Together Communication Strategies Among Dental Teams Balancing Orthodontic Solutions and Restorative Needs Encouraging Holistic Treatment Approaches Managing Patients with Special Medical Conditions Efficient Referrals That Improve Patient Outcomes
- **AI Driven Aligners That Predict Movement**  
AI Driven Aligners That Predict Movement Cloud Based Case Tracking for Efficient Management Digital Impressions That Replace Traditional Molds Virtual Consultations for Remote Care 3D Printing Applications in Orthodontic Appliances Teledentistry and Its Impact on Patient Convenience Software Innovations for Treatment Simulations Aligning Treatment Goals with Technological Advances Advantages of Using Digital Models in Planning Modern Approaches to Virtual Monitoring Reducing Errors Through Computerized Analysis The Future of Orthodontics in a Digital Era
- **About Us**



Okay, let's talk about how digital scanning and 3D printing are shaking up the way we straighten kids' teeth, especially in the context of this whole digital orthodontics revolution.

A child's bite can be improved with timely orthodontic intervention [Kids' dental alignment services](#) health professional.

Imagine the old days: gooey impressions, uncomfortable trays, and a lot of waiting. Now, picture a child sitting comfortably while a wand quickly and painlessly captures a precise 3D image of their teeth. No gagging, no mess! That's digital scanning, and it's a game-changer. This digital data then feeds directly into 3D printers, which can churn out a series of customized aligners, specifically designed for that child's unique bite and growth pattern.

The impact is huge. We're talking about aligners that fit better, are more comfortable, and potentially work faster because they're so precisely tailored. This means less discomfort for the child, which leads to better compliance – they're more likely to actually wear the aligners as prescribed! And that's half the battle won right there.

Beyond comfort, customization opens up possibilities for addressing really specific orthodontic issues early on, guiding jaw growth and preventing more serious problems down the line. We can design aligners that incorporate features to address specific concerns, like tongue thrusting or thumb sucking, all within the same appliance.

The potential for future developments is exciting. Imagine aligners that can deliver micro-vibrations to accelerate tooth movement, or aligners with embedded sensors that track wear time and provide feedback to the orthodontist. It's all within the realm of possibility.

Of course, it's not a perfect solution for every child or every orthodontic problem. But digital scanning and 3D printing are undeniably transforming customized aligner therapy, making it a more efficient, comfortable, and effective option for many young patients. It's a key piece of the puzzle as orthodontics moves further into this exciting digital era.

# \* Common periodontal issues in children undergoing orthodontic treatment. —

- \* The interplay between orthodontic forces and periodontal tissues in young patients.
- \* Common periodontal issues in children undergoing orthodontic treatment.
- \* Preventive measures to maintain periodontal health during orthodontic treatment.
- \* The role of oral hygiene instructions for children and parental involvement.
- \* Early detection and management of periodontal problems during orthodontic care.
- \* Collaboration between orthodontists and periodontists for optimal outcomes.

Alright, let's talk about how those clever AIs are muscling their way into orthodontics, specifically when it comes to predicting growth and making sure kids get the right treatment at the right time. We're in a digital era, and orthodontics is no exception. Gone are the days of purely relying on experience and maybe a cephalometric tracing done by hand. Now, we're talking about algorithms that can crunch massive amounts of data – think facial scans, dental models, family histories – and spit out predictions about how a kid's jaw and teeth are likely to develop.

Why is this a big deal? Well, early intervention in orthodontics can be incredibly powerful. If you can catch a developing problem – a crossbite, a severe overbite, overcrowding – while a child is still growing, you can often guide that growth in a way that's far more effective (and less invasive) than trying to fix things later on with surgery or extensive treatment.

AI comes in by offering a much more precise and personalized prediction. Instead of relying on general growth charts, an AI can analyze a specific child's unique features and compare them to a vast database of similar cases. This allows orthodontists to anticipate potential problems much further in advance and tailor the treatment plan accordingly. Imagine being able to predict, with a high degree of accuracy, that a child is likely to develop a severe Class II malocclusion. You can then implement strategies early on to mitigate that risk, potentially avoiding years of braces or even surgery down the line.

Furthermore, AI can help optimize the timing and type of intervention. Should we use a palatal expander now, or wait a year? Which type of appliance is most likely to be effective in this specific

case? AI can help answer these questions by simulating different treatment scenarios and predicting their outcomes. This leads to more efficient and effective treatment, saving both time and money for the patient.

Of course, AI isn't going to replace orthodontists anytime soon. It's a tool, a very powerful one, but it still requires the expertise and clinical judgment of a trained professional to interpret the data and make informed decisions. But as AI technology continues to advance, its role in predicting growth patterns and optimizing early orthodontic intervention will only become more significant, leading to better outcomes and healthier smiles for future generations. It's a pretty exciting time to be in orthodontics, actually.

## **\* Preventive measures to maintain periodontal health during orthodontic treatment.**

Okay, so picture this: orthodontics, but smaller, cuter, and a whole lot more connected. We're talking about kids, braces, and the magic of teledentistry. When we think about the future of orthodontics in a digital era, especially for our little patients, teledentistry is a game changer.

Think about how much easier it would be for busy parents if they could just snap a quick photo of their child's braces with their phone and send it to the orthodontist for a check-up. No more rushing to the office for every minor adjustment or concern. Remote monitoring becomes a reality, allowing the orthodontist to keep a close eye on progress, identify potential issues early, and provide feedback without the need for constant in-person visits. It's convenient, efficient, and frankly, less stressful for everyone involved.

And it's not just about convenience. Teledentistry opens up access to specialized orthodontic care for kids in rural areas or those with limited mobility. Imagine a child living miles from the nearest orthodontist finally being able to get the treatment they need, all thanks to a virtual consultation. That's the power of digital technology breaking down barriers and ensuring that every child has the opportunity for a healthy, confident smile.

Of course, there are things to consider. We need to make sure the technology is user-friendly, especially for families unfamiliar with it. And we need to protect patient privacy and ensure the security of their data. But the potential benefits of teledentistry in pediatric orthodontics – improved access, increased efficiency, and reduced stress – are simply too significant to ignore. It's a future where technology and compassionate care come together to create brighter, healthier smiles for our youngest patients, one virtual consultation at a time.

## **\* The role of oral hygiene instructions for children and parental involvement.**

Okay, so picture this: you're about to get braces. In the old days, maybe you'd get a pamphlet and a quick chat with the orthodontist. Now, imagine you're putting on a VR headset, and suddenly you're *inside* your own mouth. You can see exactly how the braces will shift your teeth, watch the process unfold over time, and even understand why certain elastics are so important. That's the power of virtual reality in patient education. It's not just about showing; it's about experiencing.

And then there's augmented reality. Think about using your phone or tablet to overlay a digital model of your future smile onto your current one. You can instantly see the projected results, right there in the mirror! It's a fantastic tool for visualising the treatment outcome and getting patients genuinely excited about the process.

But it's not just about making things more fun. VR and AR are also revolutionising treatment simulation. Orthodontists can use these technologies to practice complex procedures in a safe, virtual environment before ever touching a real patient. This means potentially shorter treatment times, fewer complications, and more predictable results. It's like a flight simulator for teeth, allowing orthodontists to hone their skills and explore different treatment plans with unprecedented precision.

Ultimately, VR and AR aren't just fancy gadgets; they're powerful tools that are making orthodontics more engaging, more understandable, and more effective. They're helping patients become active participants in their own treatment, and they're empowering orthodontists to deliver even better care in

this increasingly digital world.

# **\* Early detection and management of periodontal problems during orthodontic care.**

Okay, so picture this: orthodontics, but not your grandma's metal-mouth experience. We're talking about a future where digital tools are totally transforming how we connect with young patients and their parents. Think about it – getting a kid excited about braces isn't exactly the easiest sell. But what if we could make the whole process more engaging, more understandable, and, dare I say, even fun?

That's where these digital tools come in. We're talking about apps that let patients visualize their treatment progress in 3D, so they can actually see how their teeth are moving. Imagine showing a teenager a simulation of their future smile – suddenly, wearing elastics doesn't seem like such a drag.

And it's not just about the kids. Parents are a huge part of the equation. They're the ones driving to appointments, making sure retainers are being worn, and often footing the bill. Digital platforms can give them real-time updates on treatment progress, answer frequently asked questions, and even provide direct communication with the orthodontist. No more phone tag or frantic emails – just clear, concise information at their fingertips.

Think about personalized reminders for appointments or medication, educational videos explaining procedures in a way that's easy to grasp, or even gamified oral hygiene trackers that turn brushing into a fun challenge. These aren't just fancy gadgets; they're tools that build trust, improve compliance, and ultimately lead to better outcomes.

The beauty is that these tools aren't just about bells and whistles. They're about building stronger relationships. They're about empowering patients and their families to be active participants in their own orthodontic journey. And that's a future worth smiling about.

## **\* Collaboration between orthodontists and periodontists for optimal outcomes.**

The Future of Orthodontics in a Digital Era: Ethical Considerations and Data Privacy in Children's Care

The digital revolution is reshaping orthodontics, promising increased efficiency, precision, and even comfort. We're talking about everything from 3D printing of aligners to AI-powered treatment planning. But as we enthusiastically embrace these advancements, especially when it comes to our youngest patients, we need to pause and seriously consider the ethical implications and the critical need for robust data privacy measures.

Think about it. We're collecting huge amounts of data on children – their facial scans, dental records, even potentially genetic predispositions to certain malocclusions. All this data is gold for developing better orthodontic solutions, sure, but it's also incredibly sensitive. How are we protecting it? Are parents fully informed about what data is being collected, how it's being used, and who has access to it? Are we adhering to stringent data privacy regulations like GDPR or HIPAA, and are those regulations truly adequate in this rapidly evolving technological landscape?

Ethical considerations extend beyond just data security. Are we using AI-powered diagnostics in a way that reinforces existing biases, potentially leading to unequal access to care or inappropriate treatment recommendations for certain groups of children? Are we transparent about the limitations of these new technologies and ensuring that human clinical judgment remains at the heart of the treatment process? The lure of shiny new tools shouldn't blind us to the fundamental ethical principles that guide

our profession.

Furthermore, children are particularly vulnerable. They may not fully understand the implications of sharing their data, making informed consent even more crucial. We need to develop age-appropriate ways to explain these technologies and their impact, ensuring that children are active participants in decisions about their own health.

The future of orthodontics is undoubtedly digital, but its success hinges on our ability to navigate these ethical challenges and prioritize data privacy. We need ongoing dialogue, robust regulatory frameworks, and a constant commitment to protecting the well-being of our young patients. Only then can we truly harness the power of digital technologies to create a brighter, healthier smile for every child.

Alright, let's talk about the future of orthodontics, especially for those little smiles we're trying to straighten. We're in a digital world now, and that means how we teach future pediatric orthodontists is changing big time. It's not just about textbooks and plaster models anymore. We're talking about fully embracing digital technologies in their education and training.

Think about it. Instead of just reading about how a certain type of brace works, students can now virtually place it on a 3D model of a child's mouth, rotate it, and see exactly how it interacts with the teeth and gums. They can plan treatment from start to finish using sophisticated software, predicting outcomes and tweaking the plan based on virtual feedback. This hands-on, digital experience is invaluable.

It's not just about the technical stuff either. Digital tools can also help students better understand the underlying science. They can visualize tooth movement in ways that were impossible before, seeing the biological processes that lead to successful orthodontic treatment. This deeper understanding can lead to more informed and effective clinical decisions down the line.



Of course, integrating these technologies isn't without its challenges. We need to make sure that educators are properly trained to use these tools effectively. We also need to ensure that students are not just learning how to use the software, but also developing the critical thinking skills they need to interpret the results and make sound clinical judgments.

But the potential benefits are huge. By incorporating digital technology into orthodontic education, we can better prepare future pediatric specialists to provide the highest quality care for their young patients. We can ensure that they're equipped with the knowledge and skills they need to navigate the ever-evolving landscape of digital orthodontics and deliver beautiful, healthy smiles for generations to come. It's an exciting time to be in the field, and the future looks bright – especially for those little smiles.

## About patient

For the state of being, see [Patience](#). For other uses, see [Patient \(disambiguation\)](#).

- v
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Part of a series on [Patients](#)

**Patients**

**Concepts**

- Doctor-patient relationship
- Medical ethics
- Patient participation
- Patient-reported outcome
- Patient safety

**Consent**

- Informed consent
- Adherence
- Informal coercion
- Motivational interviewing
- Involuntary treatment

**Rights**

- Patients' rights
- Pregnant patients' rights
- Disability rights movement
- Patient's Charter
- Medical law

## Approaches

- Patient advocacy
- Patient-centered care
- Patient and public involvement

## Abuse

- Patient abuse
- Elder abuse

## Medical sociology

- Sick role

A **patient** is any recipient of health care services that are performed by healthcare professionals. The patient is most often ill or injured and in need of treatment by a physician, nurse, optometrist, dentist, veterinarian, or other health care provider.

## Etymology

[edit]

The word patient originally meant 'one who suffers'. This English noun comes from the Latin word *patiens*, the present participle of the deponent verb, *patior*, meaning 'I am suffering', and akin to the Greek verb

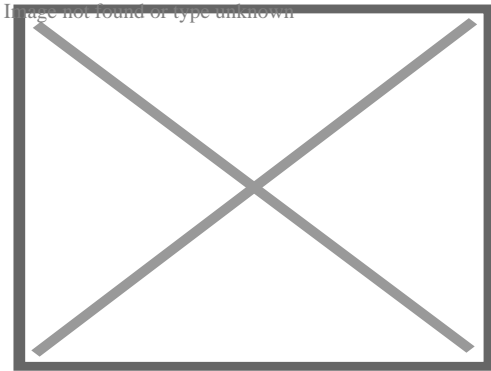
*πάσχειν* ('to suffer') and its cognate noun

*πάθος* (*pathos*).

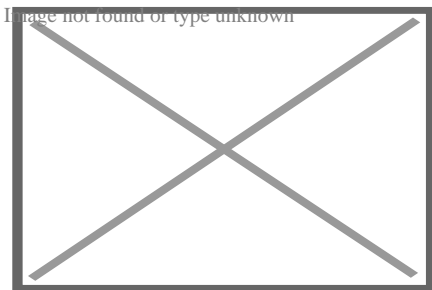
This language has been construed as meaning that the role of patients is to passively accept and tolerate the suffering and treatments prescribed by the healthcare providers, without engaging in shared decision-making about their care.<sup>[1]</sup>

## Outpatients and inpatients

[edit]

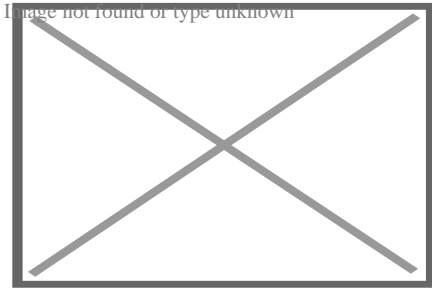


Patients at the Red Cross Hospital in Tampere, Finland during the 1918 Finnish Civil War



Receptionist in Kenya attending to an outpatient

An **outpatient** (or **out-patient**) is a patient who attends an outpatient clinic with no plan to stay beyond the duration of the visit. Even if the patient will not be formally admitted with a note as an outpatient, their attendance is still registered, and the provider will usually give a note explaining the reason for the visit, tests, or procedure/surgery, which should include the names and titles of the participating personnel, the patient's name and date of birth, signature of informed consent, estimated pre-and post-service time for history and exam (before and after), any anesthesia, medications or future treatment plans needed, and estimated time of discharge absent any (further) complications. Treatment provided in this fashion is called ambulatory care. Sometimes surgery is performed without the need for a formal hospital admission or an overnight stay, and this is called outpatient surgery or day surgery, which has many benefits including lowered healthcare cost, reducing the amount of medication prescribed, and using the physician's or surgeon's time more efficiently. Outpatient surgery is suited best for more healthy patients undergoing minor or intermediate procedures (limited urinary-tract, eye, or ear, nose, and throat procedures and procedures involving superficial skin and the extremities). More procedures are being performed in a surgeon's office, termed *office-based surgery*, rather than in a hospital-based operating room.



A mother spends days sitting with her son, a hospital patient in Mali

An **inpatient** (or **in-patient**), on the other hand, is "admitted" to stay in a hospital overnight or for an indeterminate time, usually, several days or weeks, though in some extreme cases, such as with coma or persistent vegetative state, patients can stay in hospitals for years, sometimes until death. Treatment provided in this fashion is called inpatient care. The admission to the hospital involves the production of an admission note. The leaving of the hospital is officially termed *discharge*, and involves a corresponding discharge note, and sometimes an assessment process to consider ongoing needs. In the English National Health Service this may take the form of "Discharge to Assess" - where the assessment takes place after the patient has gone home.<sup>[2]</sup>

Misdiagnosis is the leading cause of medical error in outpatient facilities. When the U.S. Institute of Medicine's groundbreaking 1999 report, *To Err Is Human*, found up to 98,000 hospital patients die from preventable medical errors in the U.S. each year,<sup>[3]</sup> early efforts focused on inpatient safety.<sup>[4]</sup> While patient safety efforts have focused on inpatient hospital settings for more than a decade, medical errors are even more likely to happen in a doctor's office or outpatient clinic or center.<sup>[citation needed]</sup>

## Day patient

[edit]

A **day patient** (or **day-patient**) is a patient who is using the full range of services of a hospital or clinic but is not expected to stay the night. The term was originally used by psychiatric hospital services using of this patient type to care for people needing support to make the transition from in-patient to out-patient care. However, the term is now also heavily used for people attending hospitals for day surgery.

## Alternative terminology

[edit]

Because of concerns such as dignity, human rights and political correctness, the term "patient" is not always used to refer to a person receiving health care. Other terms that are sometimes used include **health consumer**, **healthcare consumer**, **customer** or **client**. However, such terminology may be offensive to those receiving public health care, as it implies a business relationship.

In veterinary medicine, the **client** is the owner or guardian of the patient. These may be used by governmental agencies, insurance companies, patient groups, or health care facilities. Individuals who use or have used psychiatric services may alternatively refer to themselves as consumers, users, or survivors.

In nursing homes and assisted living facilities, the term **resident** is generally used in lieu of *patient*.<sup>[5]</sup> Similarly, those receiving home health care are called *clients*.

## Patient-centered healthcare

[edit]

See also: Patient participation

The doctor–patient relationship has sometimes been characterized as silencing the voice of patients.<sup>[6]</sup> It is now widely agreed that putting patients at the centre of healthcare<sup>[7]</sup> by trying to provide a consistent, informative and respectful service to patients will improve both outcomes and patient satisfaction.<sup>[8]</sup>

When patients are not at the centre of healthcare, when institutional procedures and targets eclipse local concerns, then patient neglect is possible.<sup>[9]</sup> Incidents, such as the Stafford Hospital scandal, Winterbourne View hospital abuse scandal and the Veterans Health Administration controversy of 2014 have shown the dangers of prioritizing cost control over the patient experience.<sup>[10]</sup> Investigations into these and other scandals have recommended that healthcare systems put patient experience at the center, and especially that patients themselves are heard loud and clear within health services.<sup>[11]</sup>

There are many reasons for why health services should listen more to patients. Patients spend more time in healthcare services than regulators or quality controllers, and can recognize problems such as service delays, poor hygiene, and poor conduct.<sup>[12]</sup> Patients are particularly good at identifying soft problems, such as attitudes, communication, and 'caring neglect',<sup>[9]</sup> that are difficult to capture with institutional monitoring.<sup>[13]</sup>

One important way in which patients can be placed at the centre of healthcare is for health services to be more open about patient complaints.<sup>[14]</sup> Each year many hundreds of thousands of patients complain about the care they have received, and these complaints contain valuable information for any health services which want to learn about and improve patient experience.<sup>[15]</sup>

## See also

[edit]

- Casualty
- e-Patient
- Mature minor doctrine
- Nurse-client relationship
- Patient abuse

- Patient advocacy
- Patient empowerment
- Patients' Bill of Rights
- Radiological protection of patients
- Therapeutic inertia
- Virtual patient
- Patient UK

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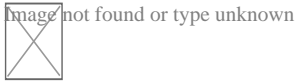
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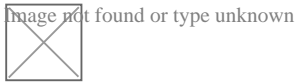
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## External links

[edit]



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



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

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- "Time Magazine's Dr. Scott Haig Proves that Patients Need to Be Googlers!" – Mary Shomons response to the Time Magazine article "When the Patient is a Googler"

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Articles about hospitals

History of hospitals, Hospital network, Category:Hospitals

**Common hospital components**

- Accreditation
- Bed
- Coronary care unit
- Emergency department
- Emergency codes
- Hospital administrators
- Hospital information system
- Hospital medicine
- Hospital museum
- Hospitalist
- Intensive care unit
- Nocturnist
- On-call room
- Operating theater
- Orderly
- Patients
- Pharmacy
- Wards

**Archaic forms**

- Almshouse
- Asclepeion (Greece)
- Bimaristan (Islamic)
- Cottage hospital (England)
- Hôtel-Dieu (France)
- Valetudinaria (Roman)
- Vaishya lying in houses (India)
- Xenodochium (Middle Ages)

**Geographic service area**

- Base hospital (Australia)
- Community hospital
- General hospital
- Regional hospital or District hospital
- Municipal hospital

**Complexity of services**

- Day hospital
- Secondary hospital
- Tertiary referral hospital
- Teaching hospital
- Specialty hospital



**Unique physical traits**

- Hospital ship
- Hospital train
- Mobile hospital
- Underground hospital
- Virtual Hospital

**Limited class of patients**

- Military hospital
- Combat support hospital
- Field hospital
- Prison hospital
- Veterans medical facilities
- Women's hospital

**Funding**

- Charitable hospital
- For-profit hospital
- Non-profit hospital
- State hospital
- Private hospital
- Public hospital
- Voluntary hospital
- Defunct

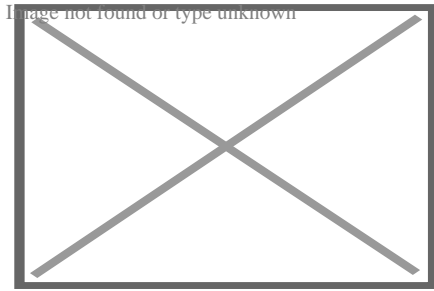
**Condition treated**

- Cancer
- Children's hospital
- Eye hospital
- Fever hospital
- Leper colony
- Lock hospital
- Maternity hospital
- Psychiatric hospital
- Rehabilitation hospital
- Trauma center
- Verterinary hospital



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

Newborn baby thumb sucking



A bonnet macaque thumb sucking

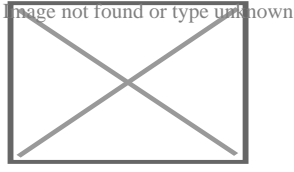
**Thumb sucking** is a behavior found in humans, chimpanzees, captive ring-tailed lemurs,<sup>[1]</sup> and other primates.<sup>[2]</sup> It usually involves placing the thumb into the mouth and rhythmically repeating sucking contact for a prolonged duration. It can also be accomplished with any organ 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.<sup>[3]</sup> This reflex disappears at about 4 months of age; thumb sucking is not purely an instinctive behavior and therefore can last much longer.<sup>[4]</sup> 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.<sup>[5]</sup> 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.<sup>[6]</sup> 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.<sup>[7]</sup>

## 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 <sup>[4]</sup>	Brückl <sup>[8]</sup>
0–1	92%	66%
1–2	93%	
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.<sup>[9]</sup> 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.<sup>[10]</sup>

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.<sup>[11]</sup>

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

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<sup>[9]</sup> 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<sup>[12]</sup> for appliances are available.

The British Orthodontic Society recommends the same advice as ADA.<sup>[13]</sup>

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.<sup>[14]</sup> Psychological interventions such as habit reversal training and decoupling have also proven useful in body focused repetitive behaviors.<sup>[15]</sup>

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.<sup>[16]</sup> 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.<sup>[10]</sup>

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.<sup>[10][17]</sup> 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.<sup>[18]</sup> Experts recommend to use only books in which the topic of thumb sucking is shown in a positive and respectful way.<sup>[19]</sup>

## See also

[edit]

- Stereotypic movement disorder
- Prognathism

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[edit]

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## Further reading

[edit]

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## External links

[edit]

- "Oral Health Topics: Thumbsucking". *American Dental Association*. Archived from the original on 2010-06-19.
- "Pacifiers & Thumb Sucking". *Canadian Dental Association*.

## Frequently Asked Questions

#### How will digital orthodontics help me monitor my child's treatment progress remotely?

Some digital orthodontic systems offer remote monitoring through smartphone apps. These apps allow the orthodontist to track your child's progress by reviewing photos or videos you submit. This can reduce the frequency of in-office visits, particularly for routine check-ups, making the process more convenient for busy families.

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