CONDITION

Tooth formation - delayed or absent

Delayed or absent tooth formation means one or more teeth develop later than expected or never develop.

WHAT IT IS
Late development or congenital absence of one or more teeth

BODY SYSTEM
Teeth and mouth

MAIN SYMPTOMS
Missing teeth, delayed eruption, gaps, retained baby teeth

WHAT CAUSES IT
Usually inherited or developmental; sometimes illness, treatment, or injury

HOW IT IS DIAGNOSED
Dental examination and age-appropriate dental X-rays

MAIN TREATMENT
Monitoring, orthodontics, tooth reshaping, or replacement

CAN IT BE CURED?
No, but missing teeth can be replaced

IS IT AN EMERGENCY?
No, unless severe swelling or breathing difficulty develops

LONG-TERM OUTLOOK
Usually manageable with planned dental care over time

Overview

Delayed or absent tooth formation affects the early development of a tooth. A tooth may start forming later than expected, develop differently, or never form at all.

A tooth that never develops is called tooth agenesis . When one to five permanent teeth are absent, excluding wisdom teeth, this is often called hypodontia . Six or more absent permanent teeth may be called oligodontia . Complete absence of all teeth, called anodontia , is rare.

Delayed formation is not the same as delayed eruption. Formation is the growth of the tooth beneath the gum. Eruption is the tooth moving into the mouth. A fully formed tooth may fail to erupt because it is blocked, out of position, or trapped in the jaw. Dental X-rays can help tell these situations apart.

The condition most often affects permanent teeth. Wisdom teeth, second premolars, and upper side incisors are among the teeth often missing, although any tooth can be involved. Some people have small or unusually shaped teeth as well.

Missing teeth can affect spacing, bite, chewing, appearance, and sometimes speech. Treatment is usually planned over time as the mouth and jaws grow.

Symptoms

Delayed or absent formation does not usually cause pain. It may first become noticeable when a tooth does not appear at around the expected time.

Possible signs include:

Normal timing differs between people, and some children simply develop teeth later than others. A delay alone does not prove that a tooth is absent.

If tooth absence is part of a broader genetic condition, there may also be changes in hair, nails, skin, sweating, or other parts of the body. Most people with one or two missing teeth do not have these additional features.

- A permanent tooth that has not appeared while the matching tooth has
- A baby tooth that remains in place longer than expected
- A visible gap or several gaps
- Small, narrow, or peg-shaped teeth
- Teeth that are crowded or have shifted into an empty space
- Differences in the bite or the way the upper and lower teeth meet

Causes and risk factors

Tooth formation begins before a tooth can be seen in the mouth. Baby teeth start developing before birth, while most permanent teeth begin developing during infancy or early childhood.

Many cases of absent teeth are inherited. Changes in genes involved in tooth development can run in families, although the number and position of missing teeth may differ between relatives. Genes linked with tooth agenesis include WNT10A , PAX9 , and MSX1 , among others.

Tooth agenesis can occur on its own or as part of a genetic condition. Examples include ectodermal dysplasia, which can affect the teeth, hair, nails, skin, and sweat glands. Cleft lip or

palate may also be associated with missing or altered teeth near the cleft.

Other events can disturb a developing tooth. These include:

Often, no single cause can be identified. This does not mean that anyone caused the condition through routine feeding, brushing, or parenting choices.

A tooth lost through decay, gum disease, trauma, or extraction is not tooth agenesis because it formed before it was lost.

- Significant injury or infection affecting a nearby baby tooth
- Radiation treatment involving the head or jaw during childhood
- Some cancer treatments given while permanent teeth are developing
- Certain serious illnesses or nutritional problems during early development

Diagnosis

A dentist begins by asking about tooth development, previous dental treatment, injuries, illnesses, and family history. They examine which teeth are present, whether baby teeth remain, how much space is available, and how the bite fits together.

Dental X-rays are usually needed to confirm whether a tooth is developing under the gum. A panoramic X-ray can show most of the teeth and jaws in one image. Smaller X-rays may provide more detail in a particular area.

The timing of an X-ray matters. Different teeth begin to mineralise, or become visible on an X-ray, at different ages. A tooth may appear absent if imaging is done before it has developed enough to be seen. Dentists therefore interpret the image alongside the person's age and overall pattern of dental development.

The assessment also checks for other explanations, such as:

When many teeth are missing, there is a strong family history, or other body features are present, referral for genetic assessment may be offered. Genetic testing is not necessary for every person with a missing tooth.

- A tooth blocked by another tooth or extra tooth
- An unerupted tooth in an unusual position
- Previous extraction or injury
- Loss of space after a baby tooth came out early
- A tooth joined to nearby bone, called ankylosis

Treatment and management

Treatment depends on which teeth are affected, the amount of space, the condition of retained baby teeth, jaw growth, bite, and personal priorities. Not every missing tooth needs to be replaced.

A healthy baby tooth may sometimes remain useful for years. It needs regular checks because its roots can gradually shorten, it may become worn, or it may sit lower than neighbouring teeth as the jaw grows.

Orthodontic treatment uses braces or aligners to move teeth. It may close a gap or create the correct amount of space for a replacement tooth. The best approach is influenced by facial growth, tooth shape, gum health, and the position of nearby teeth.

Small or peg-shaped teeth can sometimes be built up with tooth-coloured material. Veneers or crowns may be considered later in suitable cases. These treatments can improve shape and help close small spaces.

Options for replacing a missing tooth include:

Implants are generally considered after jaw growth is complete because an implant does not move with the growing teeth and jaws. Bone width, gum health, space, and the position of nearby roots also affect whether an implant is suitable.

Treatment may involve a paediatric dentist, orthodontist, restorative dentist, prosthodontist, or oral surgeon. More complex cases are often planned by several dental specialties together. Treatment can be staged so that appearance and function are supported during growth before a longer-term restoration is chosen.

Good daily dental care remains important. Keeping existing teeth and retained baby teeth healthy may preserve treatment options and reduce the amount of future dental work.

- A removable partial denture
- A resin-bonded bridge attached to a neighbouring tooth
- Other types of dental bridge
- A dental implant placed into the jawbone

Complications

Possible complications depend on the number and position of the affected teeth. They may include:

These problems are not inevitable. Early planning can help protect space, guide developing teeth, and avoid treatment choices that limit later options.

- Gaps, crowding, or tilted teeth
- A bite that does not fit together evenly
- Difficulty biting or chewing certain foods
- Speech changes when several front teeth are absent
- Wear or damage to retained baby teeth
- Reduced jawbone width where a permanent tooth never developed
- Self-consciousness about dental appearance

Prevention

Inherited tooth agenesis usually cannot be prevented. Once a tooth has failed to form, brushing, vitamins, or dietary changes cannot make it begin growing.

Some developmental damage may be unavoidable when serious illness or essential medical treatment occurs during childhood. For children receiving cancer treatment involving the head, neck, or whole body, dental review can help monitor growth and manage later effects.

You can still protect the teeth that are present. Regular dental care, fluoride toothpaste, a tooth-friendly diet, and a mouthguard for contact sports reduce avoidable decay and injury. These measures do not prevent tooth agenesis itself.

Living with it and what to expect

Once imaging confirms that a permanent tooth did not form, it will not appear later. A tooth whose formation is only delayed may continue to develop and eventually erupt, although its progress needs to be assessed over time.

The number of missing teeth usually does not increase after tooth development is complete. What changes is the mouth around the gap. Teeth may drift, a retained baby tooth may wear down, and the jaws continue growing through childhood and adolescence.

Management often happens in stages. During childhood, the focus may be on protecting baby teeth, maintaining or adjusting space, and monitoring growth. Orthodontic treatment may follow. A bridge, implant, or other final restoration may be considered later.

Dental restorations do not necessarily last for life. Dentures, bonding, bridges, and implant

restorations can need adjustment, repair, or replacement over the years. Regular follow-up helps identify changes before they become harder to manage.

Most people with one or a few missing teeth can eat, speak, work, and take part in normal activities. People with many missing teeth may need longer and more complex care, but treatment can often improve chewing, appearance, and confidence.

When to get medical help

Arrange a routine dental appointment if:

These concerns usually need assessment rather than emergency treatment. A dentist can decide whether an X-ray or referral is appropriate.

Seek prompt dental care for tooth pain, gum swelling, pus, fever, or a broken retained baby tooth. These signs are more likely to reflect infection or injury than absent tooth formation.

Seek emergency medical care for rapidly increasing facial or neck swelling, difficulty breathing or swallowing, uncontrolled bleeding, or a serious injury to the mouth or jaw.

- A permanent tooth seems much later than the matching tooth
- A baby tooth remains while nearby permanent teeth have appeared
- There is an unexplained gap or an unusually shaped tooth
- Several family members have missing permanent teeth
- A child with missing teeth also has unusual hair, nails, skin, or sweating
- A retained baby tooth becomes loose, worn, painful, or changes colour

Common questions

Why is my adult tooth not coming through?

It may be developing later than expected, blocked beneath the gum, out of position, or absent. A retained baby tooth or lack of space can also delay eruption. A dental examination and correctly timed X-ray can usually clarify the reason.

Can a missing adult tooth grow later?

If an X-ray confirms that no tooth has formed, it will not grow later. If the tooth is present but developing slowly, it may continue to form and erupt. The distinction cannot always be made by looking in the mouth alone.

Do I have to replace a tooth that never formed?

Not always. A gap may be closed with orthodontic treatment, or a healthy baby tooth may be kept. Replacement may be helpful when the gap affects chewing, bite, speech, appearance, or the stability of nearby teeth.

Is hypodontia inherited?

It often has a genetic component and may affect several members of a family. However, people in the same family can have different missing teeth, and some people have no known family history.

Can children have dental implants for missing teeth?

Implants are usually delayed until jaw growth is complete. Before then, a dentist may preserve the baby tooth, manage the space, reshape nearby teeth, or provide a temporary removable replacement. The timing is based on growth rather than age alone.

Are missing teeth linked to other health conditions?

Most people with one or two missing teeth have no broader medical condition. Multiple missing teeth, unusual tooth shapes, or changes in hair, nails, skin, or sweating can sometimes point to a genetic condition. A dental or medical assessment can determine whether further evaluation is useful.

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