

## Diş Temizliği

### Diş Fırçaları\*

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*\*Kullanıcı olarak değerlendirme; NOT: Herhangi bir Firma veya ürün ile menfaat ilişkisi bulunmamaktadır.*

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*Diş Fırçaları konusunda çoklu bilgi internetten bulunmaktadır. Bu veriler ile kullanıcı olarak görüşlerimin toplandığı bir çalışmadır.*

*Temel her bireyin dişi ve sorunları kadar, bakımı ve yönetimi farklıdır. Bu açıdan doğrudan Diş Hekimlerinin önerilerine uyulmalıdır. Kendi dişlerinizden sorumlu olan hekimin öğütlerine uyulması yaşamsal anlamda önemi, uygulamanız ile daha net ve belirgin olarak göreceksiniz ve önemini algılayacaksınız.*

**S**izin dişiniz, sizin içindir ve bunu bir ömür boyu koruyup, gözetmeniz gerekir. Süt dişleri gelip, geçmiş ise, artık kalıcı dişlerin korunması için aba göstermeliyiz.

Temelde öncelikle diş konusuna girip, daha sonra fırça ve fırçalama üzerinde durulacaktır. Diş macunları yanında, dişlerin beyazlatılması, diş taşlarından temizlenmesi gibi konular geniş olarak irdelenmeyecektir. Bu farklı kapsamda ele alınmasının yararlı olacağı düşünülmektedir.

#### Özet

#### Diş Fırçaları

**Amaç:** Diş sağlığı açısından önemli olan Diş Fırçalarını gözden geçirip, bir kullanıcı olarak görüşler sunulacaktır.

**Dayanaklar/Kaynaklar:** Wikipedia, Google ile konu ile ilgili dokümanlar gözden geçirilmiştir.

**Genel Yaklaşım:** Bir diş sağlığı açısından diş temizliğinin yapılması gerektiği belirgindir. Bunun çeşitli boyutlar ile yapıldığı, ancak temel olarak diş fırçalarının kullanıldığı gerçeği ile diş fırçaları

üzerinde durulmuştur. Bu konuda bir Tıp Doktoru olarak değil, kişisel kullanıcı olarak görüşler sunulmaktadır.

**Yaklaşım:** Diş Fırçalama konusunda cihazlar temelinde değerlendirmedir.

**Sonuç:** Tüm değerlendirmeler ötesinde, günde iki defa, diş yapısına ve bireyin gereksinime göre, yararlı olacak şekilde, aşırı ve tahrip edici olmadan, uygulanması gereklidir.

**Yorum:** Hangi fırçadan daha önemlisi, yapmak, düzenli olarak tüm dişleri fırçalamak önemsenmelidir.

**Anahtar Kelimeler:** Diş Fırçalama, Diş Fırçaları

## Outline

### Toothbrushes

**AIM:** From the aspect of tooth cleaning, and dental health, toothbrushes are taken in notice.

**Grounding Aspects:** Wikipedia, Google and another internet search is performed.

**Introduction:** The cleaning of teeth is important for dental health, thus, several perspectives, considering the toothbrush tips, from the perspective of user, not as MD, just from the user point of view.

**Notions:** Toothbrushing is considered form the brush types.

**Conclusion:** The tooth is differing for each person, even all them is not equal in dentistry, so not from the perspective of Dentistry, thus, not by making harm as harshness, the best for dental health is to do the action, toothbrushing, for 2 times in a day.

**Key Words:** Tooth Brushing and Toothbrushes

## Giriş

Diş yemeklerimizi parçalamadan daha öte, görüntümüzü bile etkileyen, sosyal ve kültürel bize kişilik kazandıran bir organımızdır.

Sorunları ve hastalıkları ötesinde, sağlıklı olmak açısından dişlerimize bakmamız, günde en az 2 defa fırçalama ile birlikte ona dikkat ve özen göstermemiz gerekmektedir. Onları fırçalama demek yanlış olacaktır, onları sevip okşamalıyız.

Sert değil, gerektiği şekilde sevmek, okşamak, kısaca fırçalamayı yapmak için, diş fırçaları konusunda, bu Bölümde bir irdeleme yapmak amaçlanmıştır.

## Diş Konusunda Genel Bilgiler

Öncelikle diş konusunda bilgilerimizi tazelememiz yararlı olacaktır.

### 1) Human tooth/İnsan Dişi (Wikipedia; en ve tr)

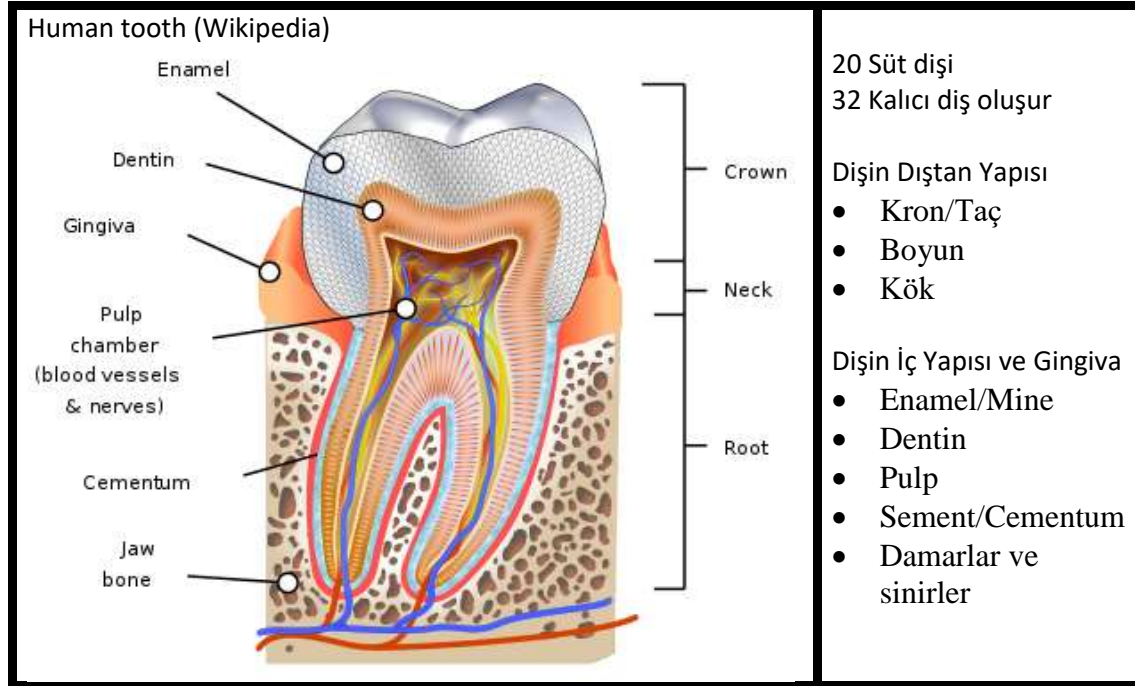
#### Diş Dokuları ve buna göre işlevleri

Diş yapıları Şekil 1’de sunulmaktadır. Bunlar;

- Diş Minesi: Sert madde olup temel olarak temizlediğimiz yapıdır.
- Dentin: Kollajen ve protein organik maddeden yapılmıştır.
- Sement: Diş kökünü kaplayan maddedir.
- Pulpa/Diş pulpu: dişin merkezi olup, sinir ve damarların bulunduğu alandır.
- Peri-dontal ligament: özel bir bağ dokusudur.
- Alveoler kemik: Dişi tutan yuvanın olduğu çene kemiğidir.
- Gingiva: Diş etleri, dişlerin etrafındaki cilt dokusu

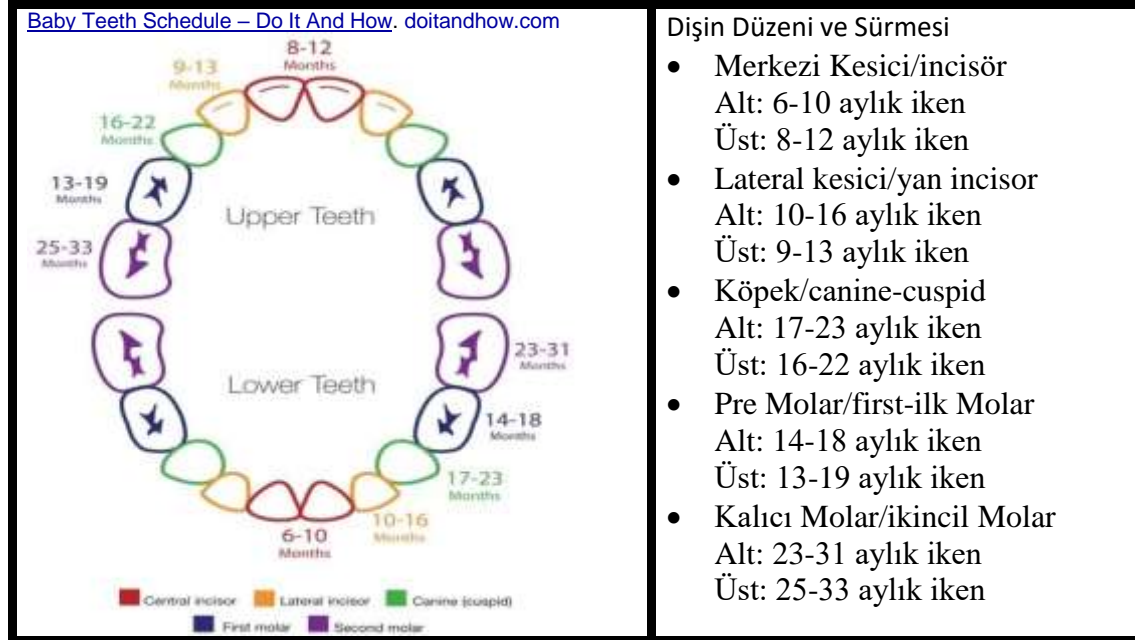
Burada tüm bu oluşumların korunması ve gözetilmesi gereklidir. Dişin fırçalanması bir komple boyut olmalıdır, sadece yüzeysel temizlik ötesi olarak algılanmalıdır.

## Dişin Genel Yapısı



Şekil 1: Diş Yapısı, dıştan ve iç yapıları

## Süt Dişlerinin/Birincil Dişlerin Genel Dizilişi ve çıkış/sürme zamanları



Şekil 2: Dişlerin ağızda dizilişi ile ortalama sürme/çıkma yaşları

Diş temel olarak yiyecekleri kesmek, parçalamak ve ezme üzere yapıldığı belirtilse de ağız yapısı ve sağlık açısından da öne alınması gereken bir organımızdır.

Yaratıklar içinde dişin uzun ömürlü olması, gerektiğinde çoktan ölmüş bireyi tanımlamak için veya bir cinayette kişinin tebtisi amacıyla da diş yapısı irdelenir.

Memeliler gibi iki defa çıkma/sürme söz konusudur.

### Anatomy

... Humans usually have 20 primary (deciduous, "baby" or "milk") teeth and 32 permanent (adult) teeth. Teeth are classified as [incisors](#), [canines](#), [premolars](#) (also called [bicuspid](#)s),<sup>[5]</sup> and [molars](#). Incisors are primarily used for biting pieces from foods such as raw [carrots](#) or [apples](#) and peeled but uncut [bananas](#), while molars are used primarily for grinding foods after they are already in bite size pieces inside the mouth.

Most teeth have identifiable features that distinguish them from others. There are several different [notation systems](#) to refer to a specific tooth. The three most common systems are the [FDI World Dental Federation notation](#), the [universal numbering system](#), and [Palmer notation method](#). The FDI system is used worldwide, and the universal is used widely in the United States.

### Yorum

Diş Hekimi açısından vurgu yapılmasa bile, insanlar açısından hayvanların yaşamlarına göre dişlerinin oluştuğu kavranmalıdır. Aynı şekilde bireylerin özellikle DNA analizleri öncesi kimlik tayini açısından dişler önemlidir. Tarih öncesi insanların kültürleri ve yediklerinin saptanması boyutunda da dişlerin analizi önemlidir.

Diş Hekimleri için diş anatomisini vurgulamak anlamsız gibi olsa da, diğer okuyucular açısından önemi açısından belirtilmektedir.

### Primary teeth

... In the primary set of teeth, there are two types of incisors – centrals and laterals, and two types of molars – first and second. All primary teeth are normally later replaced with their permanent counterparts.

### Permanent teeth

... Third molars are commonly called "[wisdom teeth](#)" and may never erupt into the mouth or form at all. If any additional teeth form, for example, fourth and fifth molars, which are rare, they are referred to as [supernumerary teeth \(hyperdontia\)](#).<sup>[6]</sup> Development of fewer than the usual number of teeth is called [hypodontia](#).

### Yorum

Dişlerin çıkması sorunları, damak yapısının oluşması ve birçok yapının ağız sağlığı açısından önemi belirgindir. Bu nedenle diş fırçasını mutlaka Diş Hekimleri ağız yapısı ve dişleri gördükten sonra vermelidirler. Özellikle çocuklarda sorunlarda değil, sağlık kontrolleri açısından da önemsenmelidir.

### Eruption

Tooth eruption in humans is a process in tooth development in which the teeth enter the mouth and become visible. Current research indicates that the periodontal ligaments play an important role in tooth eruption. Primary teeth erupt into the mouth from around six months until two years of age. These teeth are the only ones in the mouth until a person is about six years old. At that time, the first permanent tooth erupts. This stage, during which a person has a combination of primary and permanent teeth, is known as the mixed stage. The mixed stage lasts until the last primary tooth is lost and the remaining permanent teeth erupt into the mouth.

There have been many theories about the cause of tooth eruption. One theory proposes that the developing root of a tooth pushes it into the mouth. Another, known as the cushioned hammock theory, resulted from microscopic study of teeth, which was thought to show a [ligament](#) around the root. It was later discovered that the "ligament" was merely an [artifact](#) created in the process of preparing the slide. Currently, the most widely held belief is that the periodontal ligaments provide the main impetus for the process.

The onset of primary tooth loss has been found to correlate strongly with somatic and psychological criteria of school readiness.<sup>[25][26]</sup>[\[clarification needed\]](#)

### Yorum

Dişlerin değişmesi açısından da fırçalama öne çıkmaktadır. Çocuklarda fırçalama erken dönemde fırça olmasa da plastik yapılarla yapılmalı, Gingiva kaşınması açısından da rahatlatıcı olmaktadır. Birçok bebeğin elini ağzına sıkması, emme ötesinde de dişini kaşımak amaçlıdır. Bu durum diş yapısı, çene yapısını da bozucu niteliği de unutulmamalıdır. Kalıcı dişler açısından geçici dişlerin önemi belirgindir. Aile nasılsa kalıcılar çıkacak gibi bir yaklaşım içinde olmamalıdır.

### Tooth decay

#### Plaque

Plaque is a [biofilm](#) consisting of large quantities of various [bacteria](#) that form on teeth.<sup>[35]</sup> If not removed regularly, plaque buildup can lead to [periodontal](#) problems such as [gingivitis](#). Given time, plaque can mineralize along the gingiva, forming [tartar](#). The [microorganisms](#) that form the biofilm are almost entirely [bacteria](#) (mainly [streptococcus](#) and [anaerobes](#)), with the composition varying by location in the mouth.<sup>[36]</sup> [Streptococcus mutans](#) is the most important bacterium associated with dental caries.

Certain bacteria in the mouth live off the remains of foods, especially [sugars](#) and starches. In the absence of [oxygen](#) they produce [lactic acid](#), which [dissolves](#) the [calcium](#) and [phosphorus](#) in the enamel.<sup>[12][37]</sup> This process, known as "demineralisation", leads to tooth destruction. [Saliva](#) gradually neutralises the [acids](#) which cause the pH of the tooth surface to rise above the critical pH, typically considered to be 5.5. This causes '[remineralisation](#)', the return of the dissolved minerals to the enamel. If there is sufficient time between the intake of foods then the impact is limited and the teeth can repair themselves. Saliva is unable to penetrate through plaque, however, to neutralize the acid produced by the bacteria.

## Yorum

Dişin fırça ile kaldırılabilir en önemli boyutu plaklar olarak gölşe de alınan besinler ile ilintisi önemlidir. Bu açıdan ağız bakımı bir bütündür. Fırçalama ile bir fark olmadığı şeklinde yaklaşımlar, misvak gibi öneriler ile önemlilik azaltılmamalıdır.

### Caries (cavities)

Dental caries (cavities), described as "tooth decay", is an infectious disease which damages the structures of teeth.<sup>[38]</sup> The disease can lead to [pain](#), [tooth loss](#), and infection. Dental caries has a long history, with evidence showing the disease was present in the [Bronze](#), [Iron](#), and [Middle](#) ages but also prior to the [neolithic](#) period.<sup>[39]</sup> The largest increases in the prevalence of caries have been associated with diet changes.<sup>[40]</sup> Today, caries remains one of the most common diseases throughout the world. In the United States, dental caries is the most common [chronic](#) childhood disease, being at least five times more common than [asthma](#).<sup>[41]</sup> Countries that have experienced an overall decrease in cases of tooth decay continue to have a disparity in the distribution of the disease.<sup>[42]</sup> Among children in the United States and Europe, 60–80% of cases of dental caries occur in 20% of the population.<sup>[43]</sup> Tooth decay is caused by certain types of acid-producing bacteria which cause the most damage in the presence of [fermentable carbohydrates](#) such as [sucrose](#), [fructose](#), and [glucose](#).<sup>[44][45]</sup> The resulting acidic levels in the mouth affect teeth because a tooth's special mineral content causes it to be sensitive to low [pH](#). Depending on the extent of tooth destruction, various treatments can be used to [restore](#) teeth to proper form, function, and [aesthetics](#), but there is no known method to [regenerate](#) large amounts of tooth structure. Instead, dental health organizations advocate preventative and prophylactic measures, such as regular [oral hygiene](#) and dietary modifications, to avoid dental caries.<sup>[46]</sup>

## Yorum

Dişlerin çürümesi en sık görülen ve sorun yaratan, yaratmasa bile yaratma kapasitesi olan bir durumdur. Sağlık temelde öncelikle, a) sağlığın korunması gözetilmesi ve sorun oluşmaması için gereken tedbirleri almak (Anayasa; MADDE 56- Herkes, sağlıklı ve dengeli bir çevrede yaşama hakkına sahiptir, Anayasa; MADDE 17- Herkes, yaşama, maddi ve manevi varlığını koruma ve geliştirme hakkına sahiptir, TCK Madde 1: kişi hak ve özgürlüklerini, ..., kamu sağlığını ...) bir hukuksal gerekliliktir. Bu nedenle kanımca diş çürüklüğün öncelikle 1) oluşmamasını sağlamak, 2) önlemek, ve controller, 3) tedavilerini öncelikli olarak yapmak gelmelidir. Diş Fırçalama boyutu en önemli faktör olarak bakılabilir.

## Diş Bakımı/Genel

Ağız bakımı önemlidir ve bunun yansıması da diş bakımındır. Başlıca mücadele etmemiz gerekenler: a) Diş taşları/plaklar ile b) Diş çürükleridir, ancak c) besinler, özellikle ağızda kalan şekerler ile, d) oral temizlik de öne alınmalıdır.

### Tooth care

#### Oral hygiene

[Toothbrushes](#) are commonly used to help clean teeth.

Oral hygiene is the practice of keeping the mouth clean and is a means of preventing dental caries, [gingivitis](#), [periodontal disease](#), [bad breath](#), and other dental disorders. It consists of both professional and personal care. Regular cleanings, usually done by dentists and dental hygienists, remove [tartar](#) (mineralized plaque) that may develop even with careful [brushing](#) and [flossing](#). Professional cleaning includes [tooth scaling](#), using various instruments or devices to loosen and remove deposits from teeth. The purpose of cleaning teeth is to remove plaque, which consists mostly of bacteria.<sup>[47]</sup> Healthcare professionals recommend regular brushing twice a day (in the morning and in the evening, or after meals) in order to prevent formation of plaque and tartar.<sup>[48]</sup> A toothbrush is able to remove most plaque, except in areas between teeth. As a result, flossing is also considered a necessity to maintain oral hygiene. When used correctly, dental floss removes plaque from between teeth and at the [gum line](#), where [periodontal disease](#) often begins and could develop caries.

## Diş Bakımı

Diş bakımında en önemli boyut diş fırçaları olmaktadır. Ancak belirtilen "manuel fırçalama uygun eğitim ve iyi bir motivasyon, olmayan bir kullanıcı ağız hijyeni en az en iyi elektrik fırçalar gibi tatmin edici standartları elde edebilirsiniz, ama eğitimsiz kullanıcıların nadiren böyle bir şey edilir" vurgular önemsenmelidir.

Elektrikli fırçalar açısından da "elektrikli diş fırçaları diş temizlikte iyi değildir insanlara yardım ve eğilimindedir sonuç olarak oral hijyen problemleri yaşanmıştır" belirtilenler dikkate alınmalıdır.

Electric toothbrushes are a popular aid to oral hygiene. A user without disabilities, with proper training in manual brushing, and with good motivation, can achieve standards of oral hygiene at least as satisfactory as the best electric brushes, but untrained users rarely achieve anything of the kind. Not all electric toothbrushes are equally effective and even a good design needs to be used properly for best effect, but: "Electric toothbrushes tend to help people who are not as good at cleaning teeth and as a result have had oral hygiene problems." <sup>[48]</sup> The most important advantage of electric toothbrushes is their ability to aid people with dexterity difficulties, such as those associated with [rheumatoid arthritis](#).

### Protective treatments



[Fluoride therapy](#) is often recommended to protect against dental caries. [Water fluoridation](#) and [fluoride](#) supplements decrease the incidence of dental caries. Fluoride helps prevent dental decay by binding to the hydroxyapatite crystals in enamel.<sup>[49]</sup> The incorporated fluoride makes enamel more resistant to demineralization and thus more resistant to decay.<sup>[24]</sup> Topical fluoride, such as a fluoride [toothpaste](#) or [mouthwash](#), is also recommended to protect teeth surfaces. Many dentists include application of topical fluoride solutions as part of routine cleanings.

[Dental sealants](#) are another preventive therapy often used to provide a barrier to bacteria and decay on the surface of teeth. Sealants can last up to ten years and are primarily used on the biting surfaces of molars of children and young adults, especially those who may have difficulty brushing and flossing effectively. Sealants are applied in a dentist's office, sometimes by a dental hygienist, in a procedure similar in technique and cost to a fluoride application.

## Ek Yaklaşımlar

Flor temelde kemikte kalsiyum ve yumuşak destek dokusuna etki yaparak, çözülmecek bileşikleri oluşturmaktadır. Bunun için temel su içinde 2ppm geçmeyecek şekilde alınmasıdır. Birçok suda yüksek oranda olduğundan fazlası da zararlı görülmelidir. Bu açıdan tüm sular incelenmekte ve analiz raporlarında flor düzeyi de bulunmaktadır. Ülkemiz için 0,7ppm idealdir, 0,3 altı su içenlerde destekleme gündeme gelebilir.

Çocuklar florsuz diş macunu kullanmalıdırlar.

## Yorum

Dişi sertleştiren flor maddesi, sıklıkla macunlara konulmakta, dişi sertleştirmekte ise de 2-3ppm üstü ise lekelenme yapmaktadır.

Dişlerin korunması için üstüne kaplama yapılması ile dişe dolgu oluşturma ile dişin uzun süre korunması söz edilse de temel olarak doğal yapı ile oluşturmaktadır.

## 2) Oral hygiene (Wikipedia)

**Oral hygiene** is the practice of keeping one's mouth clean and free of [disease](#) and other problems (e.g. [bad breath](#)) by regular brushing and cleaning between the teeth. It is important that oral hygiene be carried out on a regular basis to enable prevention of dental disease. The most common types of dental disease are [tooth decay](#) (*cavities*, *dental caries*) and gum diseases, including [gingivitis](#), and [periodontitis](#).<sup>[1]</sup> Regular brushing consists of brushing twice a day: after breakfast and before going to bed. Cleaning between the teeth is called [interdental cleaning](#) and is as important as [tooth brushing](#).<sup>[2]</sup> This is because a toothbrush cannot reach between the teeth and therefore only cleans 50% of the surfaces. There are many tools to clean between the teeth, including floss, flossettes, and interdental brushes. It is up to each individual to choose which tool he or she prefers to use.

## Yorum

Diş fırçalama ile dişin 50 kısmı temizlenebileceği için, fırçalama ile diğer parametreler de kullanılmalıdır. Ağız temizliği bir bütünü yapmak ile olur. Yemek seçimi, ağız gargarası, dil ve damak temizliği, ile dişin arasında besin kalmaması gibi yaklaşımların bütünü yapılmalıdır.

## Teeth

[Tooth decay](#) is the most common global disease.<sup>[3]</sup> Over 80% of cavities occur inside fissures in teeth where brushing cannot reach food left trapped after eating and saliva and fluoride have no access to neutralize acid and remineralize demineralized teeth, unlike easy-to-clean parts of the tooth, where fewer cavities occur.

[Teeth cleaning](#) is the removal of [dental plaque](#) and [tartar](#) from [teeth](#) to prevent [cavities](#), [gingivitis](#), [gum disease](#), and [tooth decay](#). Severe gum disease causes at least one-third of adult [tooth loss](#).

## Yorum

Diş çürüğü en sık sorun olması, bizlerin diş temizliği, plak, tartar ve dişte boşluklar, diş eti iltihabını önlemek, dişin kırılmaması, çürümemesi gibi faktörleri gözetmek ile ağız temizliği sağlanabilecektir.

Since before recorded history, a variety of oral hygiene measures have been used for teeth cleaning. This has been verified by various excavations done throughout the world, in which [chew sticks](#), tree [twigs](#), bird [feathers](#), animal [bones](#) and [porcupine](#) quills have been found. In historic times, different forms of tooth cleaning tools have been used. [Indian](#) medicine ([Ayurveda](#)) has used the [neem tree](#), or *daatun*, and its products to create [teeth cleaning twigs](#) and similar products; a person chews one end of the neem twig until it somewhat resembles the bristles of a [toothbrush](#), and then uses it to brush the teeth. In the [Muslim](#) world, the [miswak](#), or *siwak*, made from a twig or root, has [antiseptic](#) properties and has been widely used since the [Islamic Golden Age](#). Rubbing [baking soda](#) or [chalk](#) against the teeth was also common; however, this can have negative side effects over time.<sup>[4]</sup> Generally, dentists recommend that teeth be cleaned professionally at least twice per year.<sup>[5]</sup> Professional cleaning includes [tooth scaling](#), [tooth polishing](#), and, if tartar has accumulated, [debridement](#); this is usually followed by a fluoride treatment. However, the [American Dental Hygienists' Association](#) (ADHA) stated in 1998 that there is no evidence that scaling and polishing only above the gums provides therapeutic value, and cleaning should be done under the gums as well.<sup>[6]</sup> The Cochrane Oral Health Group found only three studies meeting the criteria for inclusion in their study and found little evidence in them to support claims of benefits from supragingival (above the gum) tooth scaling or tooth polishing.<sup>[7]</sup>

[Dental sealants](#), which are applied by dentists, cover and protect fissures and grooves in the chewing surfaces of back teeth, preventing food from becoming trapped and thereby halt the decay process. An [elastomer](#) strip has been shown to force sealant deeper inside opposing chewing surfaces and can also force fluoride [toothpaste](#) inside chewing surfaces to aid in remineralising demineralised teeth.<sup>[8]</sup>

Between cleanings by a [dental hygienist](#), good oral hygiene is essential for preventing tartar build-up which causes the problems mentioned above. This is done through careful, frequent brushing with a [toothbrush](#), combined with the use of [dental floss](#) or interdental brushes to prevent accumulation of plaque on the teeth.<sup>[9]</sup> Powered toothbrushes reduce [dental plaque](#) and [gingivitis](#) more than manual toothbrushing in both short and long term.<sup>[10]</sup> Further evidence is needed to determine the clinical importance of these findings.<sup>[10]</sup>

Patient need to be aware of the importance of brushing and flossing their teeth daily. New parents need to be educated to promote a healthy habits in their children.

## Yorum

Diş fırçası yanında tarihsel olarak birçok yaklaşım yapıldığı görülmektedir.

### Plaque

[Dental plaque](#), also known as dental biofilm, is a sticky, yellow film consisting of a wide range of bacteria which attaches to the tooth surfaces and can be visible around the gum line. It starts to reappear after the tooth surface has been cleaned, which is why regular brushing is encouraged.<sup>[11]</sup> A high-sugar diet encourages the formation of plaque. Sugar (fermentable carbohydrates), is converted into acid by the plaque. The acid then causes the breakdown of the adjacent tooth, eventually leading to tooth decay.<sup>[11]</sup> If plaque is left on a subgingival (under the gum) surface undisturbed, not only is there an increased risk of tooth decay, but it will also go on to irritate the gums and make them appear red and swollen.<sup>[11]</sup> Some bleeding may be noticed during tooth brushing or flossing. These are the signs of inflammation which indicate poor gum health ([gingivitis](#)).<sup>[12][11]</sup>

### Calculus

The longer that plaque stays on the tooth surface, the harder and more attached to the tooth it becomes. That is when it is referred to as [calculus](#) and needs to be removed by a dental professional.<sup>[11]</sup> If this is not treated, the inflammation will lead to the bone loss and will eventually lead to the affected teeth becoming loose.<sup>[13]</sup>

## Yorum

Dişin üstünde plak olmaması il taşlanmaması, yediğimiz yemek ile ağız temizliğinin önemi yadsınmamalıdır.

### Tooth brushing

Routine tooth brushing is the principal method of preventing many oral diseases, and perhaps the most important activity an individual can practice to reduce [plaque](#) buildup.<sup>[14]</sup> Controlling plaque reduces the risk of the individual suffering from plaque-associated diseases such as [gingivitis](#), [periodontitis](#), and [caries](#) – the three most common oral diseases.<sup>[15]</sup> The average brushing time for individuals is between 30 seconds and just over 60 seconds.<sup>[16][17][18][19][20][21]</sup> Many oral health care professionals agree that tooth brushing should be done for a minimum of two minutes, and be practiced at least twice a day.<sup>[22]</sup> Brushing for at least two minutes per session is optimal for preventing the most common oral diseases, and removes considerably more plaque than brushing for only 45 seconds.<sup>[14][22]</sup>

Toothbrushing can only clean to a depth of about 1.5 mm inside the [gingival pockets](#), but a sustained regime of plaque removal above the gum line can affect the ecology of the microbes below the gums and may reduce the number of pathogens in pockets up to 5 mm in depth.<sup>[23]</sup>

[Toothpaste](#) (dentifrice) with [fluoride](#) is an important tool to readily use when tooth brushing. The fluoride in the dentifrice is an important protective factor against [caries](#), and an important supplement needed to remineralize already affected [enamel](#).<sup>[24][25]</sup> However, in terms of preventing gum disease, the use of toothpaste does not increase the effectiveness of the activity with respect to the amount of plaque removed.<sup>[14]</sup>

## Yorum

Diş fırçası ile diş macunu birlikte kullanılmalıdır. Diğer sağlık parametreleri ile fırçalama işlemi birlikte yapılmalıdır.

### Manual tooth brush

The modern manual [tooth brush](#) is a dental tool which consists of a head of nylon bristles attached to a long handle to help facilitate the manual action of tooth brushing. Furthermore, the handle aids in reaching as far back as teeth erupt in the oral cavity. The tooth brush is arguably a person's best tool for removing [dental plaque](#) from teeth, thus capable of preventing all plaque-related diseases if used routinely, correctly and effectively. Oral health professionals recommend the use of a tooth brush with a small head and soft bristles as they are most effective in removing plaque without damaging the gums.<sup>[26]</sup>

The technique is crucial to the effectiveness of tooth brushing and disease prevention.<sup>[26]</sup> Back and forth brushing is not effective in removing plaque at the gum line. Tooth brushing should employ a systematic approach, angle the bristles at a 45-degree angle towards the gums, and make small circular motions at that angle.<sup>[26]</sup> This action increases the effectiveness of the technique in removing plaque at the gum line.

## Yorum

El ile olan ve küçük, doğrudan dişe tek olarak yaklaşıma olanak sağlayanlar dikkatli ve eğitilmesi ile başarı şansı yüksek olan bir Diş fırçası olmaktadır.

### Electric tooth brush

[Electric toothbrushes](#) are toothbrushes with replaceable moving or vibrating bristle heads. The two main types of electric toothbrushes are the sonic type which has a vibrating head, and the oscillating-rotating type in which the bristle head makes constant clockwise and anti-clockwise movements.

Sonic or ultrasonic toothbrushes vibrate at a high frequency with a small amplitude, and a fluid turbulent activity that aids in plaque removal.<sup>[27][28]</sup> The rotating type might reduce plaque and gingivitis compared to manual brushing, though it is currently uncertain whether this is of clinical significance.<sup>[29]</sup> The movements of the bristles and their vibrations help break up chains of bacteria up to 5mm below the gum line.<sup>[27]</sup> The oscillating-rotating electric toothbrush on the other hand uses the same mechanical action as produced by manual tooth brushing – removing plaque via mechanical disturbance of the biofilm – however at a higher frequency. Using electric tooth brushes is less complex in regards to brushing technique, making it a viable option for children, and adults with limited dexterity. The bristle head should be guided from tooth to tooth slowly, following the contour of the gums and crowns of the tooth.<sup>[26]</sup> The motion of the toothbrush head removes the need to manually oscillate the brush or make circles.

## Yorum

Elektronik Diş fırçası ve farklı başlıkları, düzenli ve etkin kullanılması ile faydalıdır. Zorlama ve uygun olmayan boyuttan kaçınılmalıdır.

## Flossing

Tooth brushing alone will not remove plaque from all surfaces of the tooth as 40% of the surfaces are interdental.<sup>[2]</sup> One technique that can be used to access these areas is dental floss. When the proper technique is used, flossing can remove plaque and food particles from between the teeth and below the gums. The [American Dental Association](#) (ADA) reports that up to 80% of plaque may be removed by this method.<sup>[30]</sup> The ADA recommends cleaning between the teeth as part of one's daily oral hygiene regime.<sup>[30]</sup> There are different types of floss available, including:<sup>[1]</sup>

- Unwaxed floss: Unbound nylon filaments that spread across the tooth. Plaque and debris get trapped for easy removal.<sup>[1]</sup>
- Waxed floss: less susceptible to tearing or shredding when used between tight contacts or areas with overhanging restorations.<sup>[1]</sup>
- Polytetrafluoroethylene ([Teflon](#)): Slides easily through tight contacts and does not fray.<sup>[1]</sup>

The type of floss used is a personal preference, however without proper technique it may not be effective.<sup>[31]</sup> The correct technique to ensure maximum plaque removal is as follows:<sup>[1]</sup>

1. Floss length: 15–25 cm wrapped around middle fingers.
2. For upper teeth grasp the floss with thumb and index finger, for lower teeth with both index fingers. Ensure that a length of roughly an inch is left between the fingers.
3. Ease the floss gently between the teeth using a back and forth motion.
4. Position the floss in such a way that it becomes securely wrapped around the interdental surface of the tooth in a C shape.
5. Ensure that the floss is taken below the gum margins using a back and forth up and down motion.

There are a few different options on the market that can make flossing easier if dexterity or coordination is a barrier, or as a preference over normal floss. Floss threaders are ideal for cleaning between orthodontic appliances, and flossetts are ideal for those with poor dexterity.<sup>[1]</sup>

## Yorum

Diş ipinin kullanılması ayrı bir tecrübe ve seçilecek ip önemlidir. Bu konu Çalışmamızda söz edilmeyecektir.

## Interdental brushes

Interdental brushes come in a range of color-coded sizes. They consist of a handle with a piece of wire covered in tapered bristles, designed to be placed into the interdental space for plaque removal.<sup>[1]</sup> Studies indicate that interdental brushes are equally or more effective than floss when removing plaque and reducing gum inflammation.<sup>[1]</sup>

The steps in using an interdental brush are as follows:<sup>[1]</sup>

1. Identify the size required, the largest size that will fit without force is ideal. Often more than one size is required in the mouth.
2. Insert the bristles into the interdental space at a 90-degree angle.
3. Move the brush back and forth between the teeth.
4. Rinse under water to remove debris when necessary.
5. Rinse with warm soapy water once complete, and store in a clean dry area.
6. Replace once bristles are worn.

## Yorum

Diş arası fırçaları da özen ve önemli gerekçe ile kullanılmalıdır. Dikkat edilecekler; a) araya girebilecek boyutta olmalı, b) 90 derece ile sokulmalıdır, c) ileri ve geri oynatılmalı, d) kalıntılar yıkanmalıdır, e) sabunlu/deterjanlı kısaca diş macunu ile yıkama, f) yeniden takılmalı, her sefer ayrı uç kullanılmalıdır.

## Single-tufted brushes

Single-tufted brushes are a tool in conjunction with tooth brushing.<sup>[37]</sup> The tooth brush is designed to reach the 'hard to reach places' within the mouth. This tool is best used behind the lower front teeth, behind the back molars, crooked teeth and between spaces where teeth have been removed.<sup>[38]</sup> The single-tufted brush design has an angled handle, a 4mm diameter and rounded bristle tips.<sup>[38]</sup>

## Yorum

Diş fırçası dişlerin %50 boyutunda temizlediği düşünülerek, her diş için ayrı fırça gündeme gelmelidir.

## Tongue scrapers

The tongue contains numerous bacteria which causes bad breath. [Tongue cleaners](#) are designed to remove the debris built up on the tongue. Using a toothbrush to clean the tongue is another possibility, however it might be hard to reach the back of the



tongue and the bristles of the toothbrush may be too soft to remove the debris. Some may find it easier to use a tongue scraper instead because it does not tend to cause a gag reflex as readily as a toothbrush.<sup>[41]</sup> Steps of using a tongue scraper:

1. Rinse the tongue scraper in order to clean it and remove any present debris
2. Start at the back of the tongue and gently scrape forwards
3. Be sure to clean the sides of the tongue as well, not just the middle portion
4. After the cleaning is completed, rinse the tongue scraper and any debris that is left behind
5. Rinse the mouth<sup>[32]</sup>

### Oral irrigation

Some dental professionals recommend subgingival irrigation as a way to clean teeth and gums.<sup>[33][34][35][36]</sup>

### Yorum

Diş fırçası aynı zamanda dil temizliği içinde kullanabilir, sıklıkla fırça arkasında özel yapı ile bunu yapmak daha kolay olmaktadır. Yapılacaklar; a) dil temizleyici yıkanmalı, b) arkadan öne temizlenmeli, c) her tarafı temizlenmelidir, d) dil temizleyici temizlenir ve sonra e) ağız yıkanır.

### Food and drink

Foods that help muscles and bones also help teeth and gums. [Vitamin C](#) is needed for healthy gums, to prevent [scurvy](#). Eating a balanced diet and limiting snacks can help prevent tooth decay and [periodontal disease](#).<sup>[citation needed]</sup> The [Fédération dentaire internationale](#) (FDI World Dental Federation) has promoted foods such as raw vegetables, plain yogurt, cheese, or fruit as dentally beneficial—this has been echoed by the [American Dental Association \(ADA\)](#).<sup>[39]</sup>

### Beneficial foods

Community water fluoridation is the addition of [fluoride](#) to adjust the natural fluoride concentration of a community's water supply to the level recommended for optimal dental health, approximately 1.0 ppm (parts per million).<sup>[40]</sup> Fluoride is a primary protector against dental cavities. Fluoride makes the surface of teeth more resistant to acids during the process of [remineralization](#). Drinking fluoridated water is recommended by some dental professionals while others say that using toothpaste alone is enough. Milk and cheese are also rich in [calcium](#) and [phosphate](#), and may also encourage remineralization. Foods high in fiber may help to increase the flow of saliva and a bolus of fibre like celery string can force saliva into trapped food inside pits and fissures on chewing surfaces where over 80% of cavities occur, to dilute carbohydrates like sugar, neutralize acid and remineralize tooth on easy to reach surfaces.

### Harmful foods

Sugars are commonly associated with dental cavities. Other carbohydrates, especially cooked starches, e.g. [crisps/potato chips](#), may also damage teeth, although to a lesser degree (and indirectly) since starch has to be converted to [glucose](#) by [salivary amylase](#) (an enzyme in the [saliva](#)) first. Sugars that are higher in the stickiness index, such as [toffee](#), are likely to cause more damage to teeth than those that are lower in the stickiness index, such as certain forms of [chocolate](#) or most fruits.

[Sucrose](#) (table sugar) is most commonly associated with cavities. The amount of sugar consumed at any one time is less important than how often food and drinks that contain sugar are consumed. The more frequently sugars are consumed, the greater the time during which the tooth is exposed to low pH levels, at which point demineralisation occurs (below 5.5 for most people). It is important therefore to try to encourage infrequent consumption of food and drinks containing sugar so that teeth have a chance to be repaired by remineralisation and fluoride. Limiting sugar-containing foods and drinks to meal times is one way to reduce the incidence of cavities. Sugars from [fruit](#) and fruit juices, e.g., [glucose](#), [fructose](#), and [maltose](#) can also cause cavities.

Sucrose is used by [Streptococcus mutans](#) bacteria to produce biofilm. The sucrose is split by [glucansucrase](#), which allows the bacteria to use the resulting [glucose](#) for building [glucan](#) polymer film and the resulting [fructose](#) as fuel to be converted to [lactic acid](#).

Acids contained in fruit juice, vinegar and soft drinks lower the pH level of the oral cavity which causes the enamel to demineralize. Drinking drinks such as orange juice or cola throughout the day raises the risk of dental cavities tremendously.

Another factor which affects the risk of developing cavities is the stickiness of foods. Some foods or sweets may stick to the teeth and so reduce the pH in the mouth for an extended time, particularly if they are sugary. It is important that teeth be cleaned at least twice a day, preferably with a [toothbrush](#) and fluoride toothpaste, to remove any food sticking to the teeth. Regular brushing and the use of dental floss also removes the dental plaque coating the tooth surface.

### Yorum

Diş yemek için gerekli ise, yemeklerin de dişe faydalı olanları seçilmelidir. Bazı gerekli olanlar; a) Kalsiyum, fosfor, C vitamini ve flor ile lifli yiyecekler, b) nişastalı yiyecekler tükürük ile glikoza döner ve pancar şekeri dahil tüm şekerler dişte kavite ve sonra da çürüklere neden olabilmektedir, c) portakal suyu gibi, kalsiyum çözücüler ile d) diş ve diş etine zarar veren metal veya tahta çubuk gibi zorlamalar yapılmamalıdır

### Chewing gum

[Chewing gum](#) assists oral irrigation between and around the teeth, cleaning and removing particles, but for teeth in poor condition it may damage or remove loose fillings as well. [Dental chewing gums](#) claim to improve dental health. Sugar-free chewing gum stimulates saliva production, and helps to clean the surface of the teeth.<sup>[41]</sup>

### Yorum

Dişlere sakız eğer şekerli değilse, özel olarak dişlere faydalı olarak imal edilmiş ise önerilmektedir.

### Ice

When it comes to chewing ice, many might think it will do no harm since ice is made from water. However, chewing on solid objects such as ice can have catastrophic consequences for your teeth. Chipping may occur and this can lead to more tooth fractures in the future. Chewing on ice has been linked to symptoms of anemia. People with [anemia](#) tend to want to eat food with no nutritional value.<sup>[42][43]</sup>

## Yorum

Buz çiğneme sert olması yanında, diş kırılmalarına neden olabilmekte, farklı sorunlara da yol açabilmektedir.

### Alcohol

Drinking dark colored beverages such as wine or beer may stain the teeth leading to a discolored smile. Drinking high-concentration alcohol can lead to a dry mouth, with little saliva to protect the teeth from plaque and bacteria.<sup>[44]</sup>

## Yorum

Alkol, diş lekesine neden olabilmektedir. Alkol, ağız kuruluğu ve tükürük azalması ile sorunlar yaratabilmektedir.

### Other

**Smoking** is one of the leading risk factors associated with periodontal diseases.<sup>[45][46]</sup> It is thought that smoking impairs and alters normal immune responses, eliciting destructive processes while inhibiting reparative responses promoting the incidence and development of periodontal diseases.<sup>[47]</sup>

Regular vomiting, as seen in **bulimia nervosa** and **morning sickness** also causes significant damage, due to **acid erosion**.

### Mouthwash

There are three commonly used kinds of **mouthwash**: **saline** (salty water), **essential oils** (**Listerine**, etc.), and **chlorhexidine gluconate**.

#### Saline

**Saline** (warm salty water) is usually recommended after procedures like dental extractions. In a study completed in 2014, warm saline mouthrinse was compared to no mouthrinse in preventing alveolar osteitis (dry socket) after extraction. In the group that was instructed to rinse with saline, the prevalence of alveolar osteitis was less than in the group that did not.<sup>[48]</sup>

#### Essential oils (EO) or cetyl pyridinium chloride (CPC)

**Essential oils**, found in **Listerine** mouthwash, contains **eucalyptol**, **menthol**, **thymol**, and **methyl salicylate**. CPC containing mouthwash contains **cetyl pyridinium chloride**, found in brands such as Colgate Plax, Crest Pro Health, Oral B Pro Health Rinse. In a meta-analyses completed in 2016, EO and CPC mouthrinses were compared and it was found that plaque and gingivitis levels were lower with EO mouthrinse when used as an adjunct to mechanical plaque removal (toothbrushing and interdental cleaning).<sup>[49]</sup>

#### Chlorhexidine

**Chlorhexidine gluconate** is an antiseptic mouthrinse that should only be used in two-week time periods due to brown staining on the teeth and tongue.<sup>[50]</sup> Compared to essential oils, it is more efficacious in controlling plaque levels, but has no better effect on gingivitis and is therefore generally used for post-surgical wound healing or the short-term control of plaque.<sup>[51]</sup>

#### Sodium hypochlorite

As mentioned earlier, **sodium hypochlorite**, a common household bleach, can be used as a 0.2% solution for 30 seconds two or three times a week as a cheap and effective means of combating harmful bacteria. The commercial product is 5% or 6%, so this requires diluting the product by a factor of about 30 (half a **tablespoon** in a full glass of water). The solution will lose activity with time and may be discarded after one day.<sup>[23]</sup>

## Yorum

- Sigara dişlerde sorun yaratmaktadır.
- Ağızın yıkanması
  - Diş ve ağız temizliği için üretilen solüsyonlar ağızda sterilize yapıp, sonra patojen bakterilerin yerleşmesine neden olabilir.
  - Dezenfektan olarak, klorheksidin, birçok sorun için kullanılmakta, içindeki ağrı kesiciler ile etkinlik artırılmaktadır.
  - Bikarbonat, özellikle pamukçuk/Candida için önemlidir ve dildeki kökü de temizlemek için gazlı bez ile sürtmek önemlidir.

### Denture care

**Dentures**, retainers, and other appliances must be kept extremely clean. It is recommended that dentures be cleaned mechanically twice a day with a soft-bristled brush and denture cleansing paste. It is not recommended to use toothpaste, as it is too abrasive for acrylic, and will leave plaque retentive scratches in the surface.<sup>[52]</sup>

Dentures should be taken out at night, as leaving them in whilst sleeping has been linked to poor oral health. Leaving a denture in during sleep reduces the protective cleansing and antibacterial properties of saliva against **Candida albicans** (oral thrush) and denture stomatitis; the inflammation and redness of the oral mucosa underneath the denture.<sup>[53]</sup> For the elderly, wearing a denture during sleep has been proven to greatly increase the risk of pneumonia.<sup>[53]</sup>

It is now recommended that dentures should be stored in a dry container overnight, as keeping dentures dry for 8 hours significantly reduces the amount of **Candida albicans** on an acrylic denture.<sup>[54]</sup> Approximately once a week it is recommended to soak a denture overnight with an alkaline-peroxide denture cleansing tablet, as this has been proved to reduce bacterial mass and pathogenicity.<sup>[55][56]</sup>

## Yorum

Diş bakımı özellikle gece önemlidir, ağızdaki bakteri ve çürüklerin oluşması için zemin hazırdır.

### Oral hygiene and systemic diseases

Several recent clinical studies suggest oral disease and inflammation (oral bacteria & oral infections) may be a risk factor for serious **systemic diseases**, such as:<sup>[57][58]</sup>

- [cardiovascular disease](#) (heart attack and Stroke)
- bacterial [pneumonia](#): Oral hygiene care for critically ill patients has been reported to reduce the risk of [ventilator associated pneumonia](#).<sup>[59]</sup>
- [low birth weight](#) or extreme high birth weight of one's baby
- [diabetes complications](#)
- [osteoporosis](#)

## Yorum

Ağız ve Diş bakımı birçok hastalıklar açısından oldukça önemlidir, bazıları; a) kalp hastaları, b) pnömoni, c) düşük doğum ağırlığı, gebelik sorunları, d) diyabetin sorunları, e) osteoporoz oluşumunda etkin veya yardımcı faktör olabilmektedir.

## 3) Diş Temizlenmesi / Teeth cleaning (Wikipedia)

**Teeth cleaning** is part of [oral hygiene](#) and involves the removal of [dental plaque](#) from [teeth](#) with the intention of preventing [cavities](#) (dental caries), [gingivitis](#), and [periodontal disease](#). People routinely clean their own teeth by [brushing](#) and [interdental cleaning](#), and [dental hygienists](#) can remove hardened deposits ([tartar](#)) not removed by routine cleaning. Those with [dentures](#) and natural teeth may supplement their cleaning with a [denture cleaner](#).

## Yorum

Dişlerin diş plaklarının temizlenmesi ve dolayısıyla kavite ve çürüklerin önlenmesi için, ayrıca diş eri ve diş sorunları açısından günde 2 defa dişlerin temizlenmesi gereklidir. Kanımca her yemekten sonra fırçalanma olmasa bile, dişlerin temizlenmesi ve ağızın yıkanmasının önemi belirgindir. Bir yumuşak su alarak ağızı çalkalamak ve bir bakıma gargara yapmak önemsenmelidir.

### Brushing, scrubbing and flossing

Main articles: [Tooth brushing](#) and [Dental floss](#)

#### Brushing

Careful and frequent brushing with a [toothbrush](#) helps to prevent build-up of [plaque](#) bacteria on the teeth.<sup>[1]</sup> [Electric toothbrushes](#) were developed, and initially recommended for people with strength or dexterity problems in their hands, but they have come into widespread general use. The effectiveness of electric toothbrushes at reducing plaque formation and gingivitis is superior for reducing plaque and gingivitis to that of conventional manual toothbrushes.<sup>[2]</sup>

#### Flossing

In addition to brushing, cleaning between teeth may help to prevent build-up of [plaque](#) bacteria on the teeth. This may be done with [dental floss](#) or [interdental brushes](#).

80% of cavities occur in the grooves, or pits and fissures, of the chewing surfaces of the teeth,<sup>[3]</sup> however, there is no evidence currently showing that normal at-home flossing reduces the risk of cavities in these areas.<sup>[4]</sup>

Special appliances or tools may be used to supplement toothbrushing and interdental cleaning. These include special [toothpicks](#), [oral irrigators](#), and other devices.

#### Scrubbing

Teeth can be cleaned by scrubbing with a twig instead of a toothbrush. Plant sap in the twig takes the place of toothpaste.<sup>[citation needed]</sup> In many parts of the world [teeth cleaning twigs](#) are used. In the Muslim world the [miswak](#) or *siwak* is made from twigs or roots that are said to have an [antiseptic](#) effect when used for cleaning teeth.<sup>[5]</sup>

#### Professional teeth cleaning

Teeth cleaning (also known as [prophylaxis](#), literally a preventive treatment of a disease) is a procedure for the removal of [tartar](#) (mineralized plaque) that may develop even with careful brushing and flossing, especially in areas that are difficult to reach in routine toothbrushing. It is often done by a [dental hygienist](#). Professional cleaning includes [tooth scaling](#) and [tooth polishing](#) and [debridement](#) if too much [tartar](#) has accumulated. This involves the use of various instruments or devices to loosen and remove deposits from the teeth.

As to the frequency of cleaning, research on this matter is inconclusive. That is, it has *neither* been shown that more frequent cleaning leads to better outcomes *nor* that it does not. A review of the research literature on the question concluded "[t]he research evidence is not of sufficient quality to reach any conclusions regarding the beneficial and adverse effects of routine scaling and polishing for periodontal health and regarding the effects of providing this intervention at different time intervals".<sup>[6]</sup> Thus, any general recommendation for a frequency of routine cleaning (e.g. every six months, every year) has no empirical basis.<sup>[7][8]</sup> Moreover, as economists have pointed out, private dentists (or other dental professionals) have an economic incentive to recommend frequent cleaning, because it increases their revenues.

Most dental hygienists recommend having the teeth professionally cleaned every six months.<sup>[citation needed]</sup> More frequent cleaning and examination may be necessary during treatment of dental and other oral disorders. Routine examination of the teeth is recommended at least every year. This may include yearly, select [dental X-rays](#). See also [dental plaque](#) identification procedure and removal.

Good oral hygiene helps to prevent cavities, tartar build-up, and gum disease.<sup>[citation needed]</sup>

#### Complications

Overly vigorous or incorrectly performed brushing or flossing may cause injury to the [gingiva](#) (gums). Improper or over-vigorous brushing may cause sore gums, damage to tooth enamel, [gingivitis](#), and bleeding gums. Dentists and dental hygienists can instruct and demonstrate proper brushing or flossing techniques.<sup>[9]</sup>

#### History

Historically, professional tooth cleaning was sometimes referred to as *odontexesis* (literally "tooth-scraping")<sup>[10]</sup> or *odontexis* ("scraping off"),<sup>[10]</sup> and the instruments involved *odontoglyphs*.<sup>[11]</sup>

## Yorum

Dişlerin temizlenmesinde elektrikli cihazların üstünlüğü vurgulanmaktadır. %80 çürüğün fırçanın ulaşmadığı yerlerde olması ile, diş ipinin önemi belirginleşmektedir. Bitkisel kökenli çubuklarla dişin temizlenmesi ile etkili olunacağı da unutulmamalıdır.

Diş temizliğinin uzmanlarca, kısaca Diş Hekimlerince yapılmasının gerekliliği ve önemi belirgindir. Gereken yılda bir röntgen ve tartar durumunu da tanımlayıp, gereken temizliğin yapılması da unutulmamalıdır.

## 4) Tooth brushing (Wikipedia)

**Tooth brushing** is the act of scrubbing [teeth](#) with a [toothbrush](#) equipped with [toothpaste](#). Since only two thirds of the outer tooth can be reached by a toothbrush, interdental cleaning (with [floss](#) or an [interdental brush](#)) can usefully accompany tooth brushing. Together, these two activities are the primary means of [cleaning teeth](#), one of the main aspects of [oral hygiene](#). Brushing teeth properly helps prevent [cavities](#), and [periodontal](#), or [gum disease](#), which causes at least one-third of adult [tooth loss](#).<sup>[1]</sup> If teeth are not brushed correctly and frequently, it could lead to the calcification of saliva minerals, forming [tartar](#). Tartar hardens (then referred to as 'calculus') if not removed every 24 hours. Poor dental health has been associated with heart disease and shortened [life expectancy](#).<sup>[2][3][4]</sup>

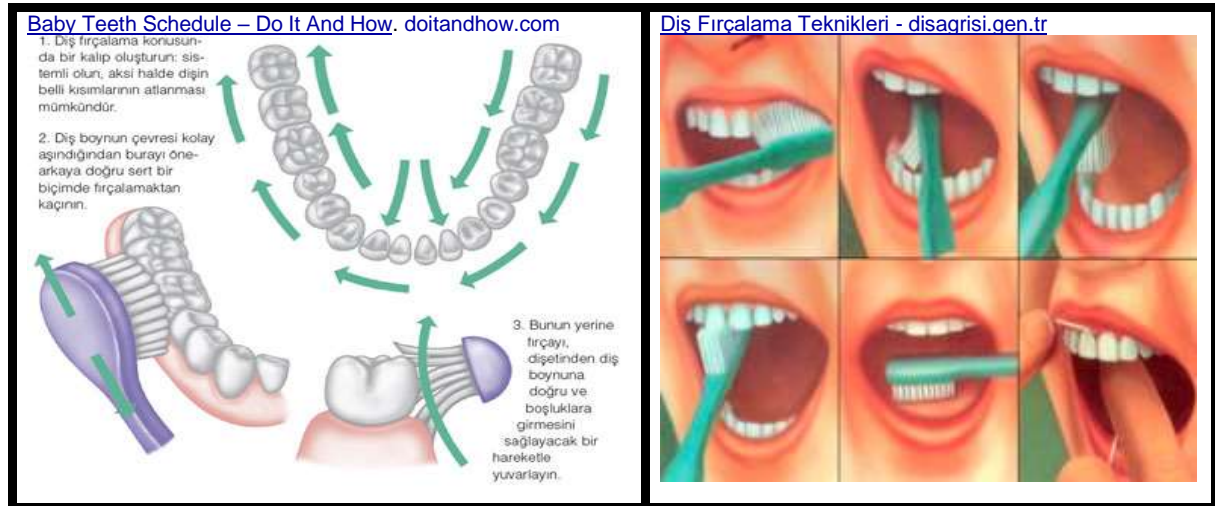
## Yorum

Diş fırçasının başarılı olması için tüm dişe ulaşması gerekir. Ancak 2/3 oranında ulaşabilir. Ayrıca temizleme bir bilinçli işlemdir.

Dişler başlıca 4 yöntemle temizlenirler:

- 1) Her bir çene iki alana bölünerek, üst soldan başlayıp, sonra sol alt, sağ alt ve sağ üst şeklinde toplam iki dakika olarak temizlenmeli, genel temizlik ile bir dakika ayırdığınızda üç dakikayı geçmemelidir.
- 2) Dişler, yatay boyunca temizlenirken, diş etinden yukarıya doğru yönlendirilerek, dişetine de masaj yaparak temizlenmelidir.
- 3) Her diş için 45 derecelik açı ile, yukarıya doğru temizlik yapılmalıdır.
- 4) İçte dışa ve dıştan içe temizlik yapılmalı, özellikle iç kesimlerdeki alan temizlenmelidir.

## Diş Fırçalama Yöntemleri



**Şekil 3:** Başlıca 3 yöntem önemlidir; a) 4 parça şeklinde 30 dakikalık ayrı temizlik, b) dıştan ve içten temizlik, yukarı, aşağıya hareket ile, c) öne, arkaya doğru temizlik, yatay hareket

## History

As long ago as 3000 B.C., the ancient Egyptians constructed crude [toothbrushes](#) from [twigs](#) and leaves to clean their teeth. Similarly, other cultures such as the Greeks, Romans, Arabs and Indians cleaned their teeth with twigs. Some would fray one end of the twig so that it could penetrate between the teeth more effectively.

Modern day toothbrushing as a regular habit became prevalent in Europe after contact with the Muslim world in Africa and Asia where the people's teeth remained healthy into old age. It was advised as a scientifically supported practice toward the end of the 17th century. The modern toothbrush was developed in England in 1780. While languishing in jail, [William Addis](#) decided to drill holes into a sheep's tibia, and pulled through the bristles of boar hair. While he was credited with the discovery of the modern toothbrush, a similar design has since been discovered in China from 1400. In the United States, although toothbrushes were



available at the end of the 19th century, the practice did not become widespread until after the [Second World War](#), when U.S. soldiers continued the toothbrushing that had been required during their military service. <sup>[5]</sup>[\[better source needed\]](#)

## Yorum

Tarihsel olarak misvak kullanıldığı ve bu yaklaşım açısından ilerideki Bölümlerde bu konu işlenecektir.

## Diş Fırçalama Zaman Belirteci



**Şekil 4:** Dişlerin düzenli fırçalanması ve belirli açıdan yapılması önemsenmelidir.

Çocuklar için zamanlama yanında temizleme yaklaşımı da şematik sunulmalıdır.

### Toothbrushing guidelines

#### Frequency

Although there is a consensus that a thorough toothbrushing once a day is sufficient for maintaining oral health, most dentists recommend patients brush twice a day since a sufficient level of thoroughness in brushing is not normally achieved. <sup>[6]</sup>

#### Proper technique

The front and backs of teeth should be brushed with the toothbrush at a 45 degree angle towards the gumline, moving the brush in a back and forth rolling motion that makes contact with the gumline and tooth. <sup>[7]</sup> To brush the backs of the [front teeth](#) the brush should be held vertically to the tooth and moved in an up and down motion. <sup>[7]</sup> The chewing surfaces of the teeth are brushed with a forward and back motion, with the toothbrush pointing straight at the tooth. <sup>[7]</sup>

#### Toothbrush

A toothbrush is an instrument used to clean [teeth](#), consisting of a small [brush](#) on a handle. [Toothpaste](#), often containing [fluoride](#), is commonly added to a toothbrush to aid in cleaning. Toothbrushes come in manual and electric varieties. Although there is conflicting evidence as to which is more effective, most evidence points to electric toothbrushes with an oscillatory motion being more effective than manual toothbrushes, with toothbrushes lacking an oscillatory motion being equivalent. <sup>[8]</sup> Both manual and electric toothbrushes are effective, however, and it is often recommended that people use whichever one they feel comfortable with and will be more likely to regularly brush with. <sup>[9]</sup>

Toothbrushes are offered with varying textures of [bristles](#), and come in many different forms and sizes. Most [dentists](#) recommend using a toothbrush labelled "soft", since firmer bristled toothbrushes can damage [tooth enamel](#) and irritate [gums](#) as indicated by the [American Dental Association](#). <sup>[citation needed]</sup> Toothbrushes are often made from [synthetic fibers](#), although natural toothbrushes are also known in many parts of the world. Those with [dentures](#) may also brush their teeth with traditional tooth brushes, specially made denture brushes or [denture cleaners](#).

## Yorum

Diş fırçası kullanma çocukluk çağında kazanılması gereken beceridir. Elektrikli diş fırçaları halen aktif kullanılmaması, onların tekniği konusunda beceri kazanmamaya bağlıdır.

Teknik olarak 45 derecelik bir açı ile yapılması ve ağız içi, dişin arka kısmı da özenle fırçalanmalıdır.

Fırçalar ufak yapı ile dişi çevirecek boyutta ve arkasına sığabilecek yapıda olmalıdır. Fırça kılları olarak değişik yapıdadırlar. Sert olan iyi temizler denilebilir ama diş gingivasına da zararlı olmamalıdır. Eski kıllardaki yuvarlak yapı, sert dik olması ile değişilmesini gerekli olmaktadır.

Fırçalanma günde bir defa yeterli olduğu belirtilse de iki defa uygulanması önerilmelidir.

### Toothpaste

Toothpaste is a paste or [gel dentifrice](#) used to clean and improve the aesthetic appearance and health of [teeth](#). It is almost always used in conjunction with a [toothbrush](#). Toothpaste use can promote good [oral hygiene](#): it can aid in the removal of [dental plaque](#) and [food](#) from the teeth, it can aid in the elimination and/or masking of [halitosis](#) when [tonsil stones](#) are not the cause, and it can deliver active ingredients such as [fluoride](#) to prevent tooth and gum ([gingiva](#)) disease.

There is evidence that the addition of [xylitol](#) to fluoride-containing toothpastes reduces incidence of tooth decay by about 13%. <sup>[10]</sup>

### Tooth powder

Tooth powder (or 'toothpaste powder') is an alternative to toothpaste. It may be recommended for people with [sensitive teeth](#). Tooth powder typically does not contain the chemical [sodium lauryl sulphate](#) which can be a skin irritant. <sup>[11]</sup>[\[better source needed\]](#) The



function of sodium lauryl sulphate is to form suds when teeth are brushed. It is a common chemical in toothpaste. Those with dentures may also use denture cleaner which can also come in powder format.

### Yorum

Dişlerin temizliği için diş macunları önemlidir. Fırça ile bütünleşmesi önemlidir. Çok fazla kimyasal madde olması onun en iyisi olduğu anlamında değildir. Diş tozları da aynı şekilde uygun dişe, uygun uygulama ve uygun dozda, metot ile yapılması önemlidir.

## 5) Toothbrush/Diş Fırçası (Wikipedia; en, tr)

The **toothbrush** is an [oral hygiene](#) instrument used to clean the [teeth](#), [gums](#), and [tongue](#). It consists of a head of tightly clustered [bristles](#) mounted on a [handle](#) which facilitates the cleaning of hard to reach areas of the mouth.

Toothbrushes are available with different bristle textures, sizes, and forms. Most [dentists](#) recommend using a soft toothbrush since hard bristled toothbrushes can damage [tooth enamel](#) and irritate the [gums](#).<sup>[1]</sup>

### Yorum

Diş fırçası çok çeşitli yapıda olabilmektedir. Bu açıdan her birey kendi Diş Hekiminin önerisine göre seçimi uzmana bırakarak, yapmalıdır. Kullanma, devamlı ve dikkatli, özenli olmalıdır.

### History

The [horsehair](#) toothbrush was said to have been used by [Napoleon Bonaparte](#) (1769–1821)

Before the invention of the toothbrush a variety of [oral hygiene](#) measures had been used.<sup>[2]</sup> This has been verified by excavations in which [chew sticks](#), tree [twigs](#), bird [feathers](#), animal [bones](#) and [porcupine](#) quills were recovered.

The predecessor of the toothbrush is the [chew stick](#). Chew sticks were twigs with frayed ends used to brush the teeth<sup>[3]</sup> while the other end was used as a toothpick.<sup>[4]</sup> The earliest chew sticks were discovered in [Sumer Mesopotamia](#) in 3500 BC,<sup>[4]</sup> an Egyptian tomb dating from 3000 BC,<sup>[3]</sup> and mentioned in Chinese records dating from 1600 BC. The Greeks and Romans used toothpicks to clean their teeth and toothpick like twigs have been excavated in [Qin Dynasty](#) tombs.<sup>[4]</sup> Chew sticks remain common in Africa<sup>[5]</sup> the rural Southern United States<sup>[3]</sup> and in the Islamic world the use of chewing stick [Miswak](#) is considered a pious action and has been prescribed to be used before every prayer five times a day.<sup>[6]</sup> Miswaks have been used by Muslims since 7th century.

Modern toothbrush originated in China. The first bristle toothbrush resembling the modern one was found in China. Used during the [Tang Dynasty](#) (619–907), it consisted of hog bristles.<sup>[7][8]</sup> The bristles were sourced from hogs living in Siberia and northern China because the colder temperatures provided firmer bristles. They were attached to a handle manufactured from bamboo or bone, forming a toothbrush.<sup>[3]</sup> In 1223, Japanese [Zen](#) master [Dōgen](#) Kigen recorded on [Shōbōgenzō](#) that he saw monks in [China](#) clean their teeth with brushes made of horsetail hairs attached to an oxbone handle. The bristle toothbrush spread to Europe, brought from China to Europe by travellers.<sup>[9]</sup> It was adopted in Europe during the 17th century.<sup>[10]</sup> The earliest identified use of the word toothbrush in English was in the autobiography of [Anthony Wood](#) who wrote in 1690 that he had bought a toothbrush from J. Barret.<sup>[11]</sup> Europeans found the hog bristle toothbrushes imported from China too firm and preferred softer bristle toothbrushes made from horsehair.<sup>[3]</sup> Mass produced toothbrushes made with horse or boar bristle continued to be imported to England from China until the mid 20th century.<sup>[2]</sup>

'Indexo' finger toothbrush, New York, United States, 1901–1919. It is made entirely of rubber, which has been shaped to fit over the index finger.

In Europe, [William Addis](#) of England is believed to have produced the first mass produced toothbrush in 1780.<sup>[9][12]</sup> In 1770, he had been jailed for causing a riot. While in prison he decided that using a [rag](#) with [soot](#) and [salt](#) on the teeth was ineffective and could be improved. After saving a small [bone](#) from a meal, he drilled small holes into the bone and tied into the bone tufts of bristles that he had obtained from one of the guards, passed the tufts of bristle through the holes in the bone and sealed the holes with glue. After his release, he became wealthy after starting a business manufacturing toothbrushes. He died in 1808, bequeathing the business to his eldest son. It remained within family ownership until 1996.<sup>[13]</sup> Under the name Wisdom Toothbrushes, the company now manufactures 70 million toothbrushes per year in the UK.<sup>[14]</sup> By 1840 toothbrushes were being mass produced in England, France, Germany, and Japan.<sup>[15]</sup> Pig bristles were used for cheaper toothbrushes and badger hair for the more expensive ones.<sup>[15]</sup>

The first [patent](#) for a toothbrush was granted to H.N. Wadsworth in 1857 (U.S.A. Patent No. 18,653) in the United States, but mass production in the United States did not start until 1885. The improved design had a bone handle with holes bored into it for the Siberian [boar](#) hair bristles. Unfortunately, animal bristle was not an ideal material as it retained [bacteria](#), did not desiccate efficiently and the bristles were often extricated from their intended fixed insertions. In addition to bone, handles were made of wood or ivory.<sup>[16]</sup> In the United States, brushing teeth did not become routine until after [World War II](#), when American soldiers had to clean their teeth daily.<sup>[12]</sup>

During the 1900s, celluloid gradually replaced bone handles.<sup>[7]</sup> Natural animal bristles were also replaced by [synthetic fibers](#), usually [nylon](#), by [DuPont](#) in 1938. The first nylon bristle toothbrush made with nylon yarn went on sale on February 24, 1938. The first [electric toothbrush](#), the Broxodent, was invented in Switzerland in 1954.<sup>[17]</sup> By the turn of the 21st century nylon had come to be widely used for the bristles and the handles were usually molded from [thermoplastic](#) materials.<sup>[2]</sup>

[Johnson & Johnson](#), a leading medical supplies firm, introduced the "[Reach](#)" toothbrush in 1977.<sup>[18]</sup> It differed from previous toothbrushes in three ways: it had an angled head, similar to dental instruments, to reach back teeth; the bristles were concentrated more closely than usual to clean each tooth of potentially [cariogenic](#) (cavity-causing) materials; and the outer bristles were longer and softer than the inner bristles [to better clean between teeth](#)<sup>[citation needed]</sup>. The Reach toothbrush was the first to have a specialized design intended to increase its effectiveness. Other models from other manufacturers soon followed. Each of these had unique design features intended to be more effective than the previous design.

In January 2003, the toothbrush was selected as the number one invention [Americans](#) could not live without according to the [Lemelson-MIT](#) Invention Index.<sup>[19]</sup>

## Yorum

Diş fırçası çok aşamalardan geçmiş ise de kanımca halen gelişim devam etmektedir. Teknoloji ile de değişime ve gelişim uğraması beklenilmelidir. En yeni en iyisi değil, size uygun olanı, yeterli ve dengeli olan ve kullandığınızı iyidir.

### Types of toothbrush

#### Electric toothbrush

It has been discovered that compared to a manual brush, the multi-directional power brush might reduce the incidence of gingivitis and plaque, when compared to regular side-to-side brushing. These brushes tend to be more costly. An [electric toothbrush](#) performs rotations of its bristles and cleans hard to reach places. Most studies report performances equivalent to those of manual brushings, possibly with a decrease in plaque and gingivitis.<sup>[20]</sup> although the electric version can be more comfortable. An additional timer and pressure sensors can encourage a more efficient cleaning process.<sup>[21]</sup> Electric toothbrushes can be classified, according to the speed of their movements as: standard power toothbrushes, sonic toothbrushes, or [ultrasonic toothbrushes](#). Any electric toothbrush is technically a power toothbrush. If the motion of the toothbrush is sufficiently rapid to produce a hum in the [audible frequency](#) range (20 Hz to 20,000 Hz), it can be classified as a sonic toothbrush. Any electric toothbrush with movement faster than this limit can be classified as an ultrasonic toothbrush. Certain ultrasonic toothbrushes, such as the Megasonex and the Ultreo, have both sonic and ultrasonic movements.

## Yorum

Elektronik diş fırçaları sınıflandırma olarak; a) standart güçlü olanlar, b) sonik fırçalar, c) ultra-sonik fırçalar olarak ayrılabilir.

#### Interdental brush

An interdental or interproximal ("proxy") brush is a small brush, typically disposable, either supplied with a reusable angled plastic handle or an integral handle, used for cleaning between [teeth](#) and between the wires of [dental braces](#) and the teeth. The use of interdental brushes in conjunction with tooth brushing, has been shown to reduce both the amount of plaque and the incidence of gingivitis when compared to toothbrushing alone.<sup>[22]</sup> Although there is some evidence that after tooth brushing with a conventional tooth brush, interdental brushes remove more plaque than [dental floss](#),<sup>[23]</sup> a systematic review reported insufficient evidence to determine such an association.<sup>[22]</sup>

The size of interdental brushes is standardized in [ISO 16409](#).<sup>[24][25]</sup> The brush size,<sup>[26]</sup> which is a number between 0 (small space between teeth) and 8 (large space), indicates the *passage hole diameter*. This corresponds to the space between two teeth that is just sufficient for the brush to go through without bending the wire. The color of the brushes differs between producers. The same is the case with respect to the wire diameter.<sup>[27]</sup>

Brush size according to ISO 16409<sup>[24]</sup>

|                             |                   |                   |         |         |         |         |         |                   |                   |
|-----------------------------|-------------------|-------------------|---------|---------|---------|---------|---------|-------------------|-------------------|
| Brush size                  | 0 <sup>[28]</sup> | 1 <sup>[29]</sup> | 2       | 3       | 4       | 5       | 6       | 7 <sup>[30]</sup> | 8 <sup>[30]</sup> |
| Passage hole diameter in mm | ≤ 0.6             | 0.7–0.8           | 0.9–1.0 | 1.1–1.2 | 1.3–1.5 | 1.6–1.8 | 1.9–2.3 | 2.4–2.8           | ≥ 2.8             |

#### Sulcabrush

A Sulcabrush is a type of toothbrush used specifically for cleaning along the gumline adjacent to the [teeth](#). The bristles are usually shaped in a pointed arrow pattern to allow closer adaptation to the gums. A Sulcabrush is ideal for cleaning specific difficult-to-reach areas, such as between crowns, bridgework and crowded teeth. End-tufted brushes may also be used around fixed orthodontic appliances, such as [braces](#).

## Yorum

Diş arası temizlik ile diş telinin oluşturduğu sorunlar açısından özel fırça gerekli olmaktadır.

#### End-tuft brush

The small round brush head comprises seven tufts of tightly packed soft nylon bristles, trimmed so the bristles in the center can reach deeper into small spaces. The brush handle is ergonomically designed for a firm grip, giving the control and precision necessary to clean where most other cleaning aids cannot reach.<sup>[31]</sup> These areas include the posterior of the wisdom teeth (third molars), orthodontic structures (braces), crowded teeth, and tooth surfaces that are next to missing teeth. It can also be used to clean areas around implants, bridges, dentures and other appliances.<sup>[32]</sup>

## Yorum

Diş fırçası uç noktalara erişemez, bu açıdan uçlara ulaşan özel ince ucu ve ince uzun kıllı fırçalar gerekli olabilir.

#### Chewable toothbrush

A chewable toothbrush is a miniature plastic moulded toothbrush which can be placed inside the mouth. While not commonly used they are useful to travelers and are sometimes available from [bathroom vending machines](#). They are available in different flavors such as mint or bubblegum and should be disposed of after use. Other types of disposable toothbrushes include those that contain a small breakable plastic ball of toothpaste on the bristles, which can be used without water.<sup>[citation needed]</sup>

## Yorum

Çiğnenebilir Diş fırçası, ufak sakız şeklinde olanlardır.

#### Ecological toothbrushes

Commonly, toothbrushes are made of plastic. Such brushes constitute a source of pollution.<sup>[33][34]</sup> In order to reduce the environmental impact, some manufacturers have switched to using [biodegradable](#) materials and/or use replaceable heads.<sup>[35]</sup> In

order to avoid plastic altogether alternative toothbrushes on offer consist of wooden handles (often bamboo) and bristles of [bamboo viscose](#) or pig bristles.

## Yorum

Diş fırçası biyolojik yıkılabilen, eriyebilen maddeden yapılmaktadır.

### Adversity of toothbrushes

Teeth can be damaged by several factors including poor oral hygiene, but also by wrong oral hygiene. Especially for sensitive teeth, damage to dentin and gums can be prevented by several measures<sup>[36]</sup> including a correct brushing technique.

It is beneficial not to scrub horizontally over the necks of teeth, not to press the brush too hard against the teeth, to choose a toothpaste that is not too abrasive,<sup>[37]</sup> and to wait at least 30 minutes after consumption of acidic food or drinks before brushing.<sup>[36][38]</sup> Harder tooth brushes reduce plaque more efficiently but are more stressful to teeth and gum; using a medium to soft tooth brush for a longer cleaning time was rated to be the best compromise between cleaning result and gum and tooth health.<sup>[39]</sup>

A study by [University College London](#) found that advice on brushing technique and frequency given by 10 national dental associations, toothpaste and toothbrush companies, and in dental textbooks was inconsistent.<sup>[40]</sup>

## Yorum

Diş fırçası bireye özgü ve dişine göre, zaman sürecine göre yapılandırılması gerekli ve uzman olmaya göre seçim yapılmalıdır. Bu açıdan belirli süre, yılda bir gibi, Diş Hekimliğine başvurmak, kontrol yaptırmak önemlidir

### Hygiene and care

- It is not recommended to share toothbrushes with others since besides general hygienic concerns there is a risk of transmitting diseases that are typically transmittable by blood, such as [Hepatitis C](#).<sup>[41]</sup>
- After use it is advisable to rinse the toothbrush with water, shake it off and let the toothbrush dry.
- Bent and worn out bristles of a toothbrush lead to decreased cleaning efficiency. It is therefore recommended to change it for a new one when it appears to be worn out (roughly after 6–16 weeks).<sup>[citation needed]</sup>

## Yorum

Diş fırçası, a) bireye özgü, paylaşılmayan ve değişimi öngörülmesi ve hastalık taşıyabileceği algısı ile kullanılmalı, b) kullandıktan sonra yıkanmalıdır, c) 6-16 haftada bir değiştirilmesi önerilir.

# Sonuç

Diş temizliği önemli olup, diş fırçası önemli rol oynamaktadır. Sadece fırçalama değil, birçok işlevlerle birlikte kullanılmalıdır. Bunlar arasında en öne çıkan diş macunlarıdır.

Her bireye ve her dişe göre fırça farklı olmalıdır. Bu açıdan seçim Diş Hekiminize bırakılmalıdır.

Diş fırça kullanılması belirli beceri gerektiren iştir. Bu açıdan temizleme işlevi, yine bir eğitim ile yapılmalıdır. Bu yapılmaz ise ancak %50 kadarı temizlenebilir. Ayrıca yumuşak gerekli iken, sert fırça ve daha uzun zaman veya asitli/sirke gibi maddeler ile zarar oluşturulabilecektir.

Kısaca dişinizi uzmanına sorun ve öneriyi de uzmandan almalısınız.