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Triaging dental presentations for medical practitioners

Triaging dental presentations for medical practitioners

Patients with dental problems commonly present initially to a medical practitioner. The medical practitioner should usually redirect these patients to a dentist, particularly if the presentation relates to previous dental treatment (eg complications after tooth extraction). However, medical practitioners often provide acute care for dental problems, particularly in the rural or remote setting—see Table 13.27.

Table 13.27 Common dental problems encountered by medical practitioners

Acute dental pain	
	Comments
acute dental pain **with or without facial swelling**	antibiotics are rarely indicated analgesics may be indicated for a guide to differentiating acute dental pain, see Table 13.12 **Urgency and referral** urgency and referral are dependent on the diagnosis
Conditions presenting after an oral or dental procedure	
	Comments
bleeding after oral surgery **(eg tooth extraction)**	check anticoagulant status manage with direct pressure and local haemostatic measures **Urgency and referral** if bleeding is not controlled, emergency referral to hospital or oral surgeon
pain and swelling after oral surgery **(eg tooth extraction)**	**Comments** pain and swelling usually peaks 48 to 72 hours after surgery, before it starts to resolve antibiotics are rarely indicated **Urgency and referral**

	referral to or consultation with practitioner who performed the oral surgery (within 24 hours)
	Comments
prolonged numbness (anaesthesia) or altered sensation in the mouth (paraesthesia) after a dental procedure	can be caused by nerve trauma or local anaesthetic neurotoxicity
	Urgency and referral
	referral to or consultation with practitioner who performed the procedure (within 24 hours)
Dental and maxillofacial trauma	
	Comments
	assess whether dentine or pulp has been exposed
	antibiotics are not indicated
broken tooth or filling, or lost filling **(or other restoration)**	**Urgency and referral**
	without pain, nonurgent referral to dentist (within a few days)
	with pain, urgent referral to dentist (within 24 hours)
	Comments
	requires urgent assessment
	primary teeth (baby teeth) must not be replanted
tooth avulsion (knocked-out tooth)	**Urgency and referral**
	for a secondary tooth, urgent referral to dentist
	for a primary tooth, nonurgent referral to dentist
	Comments
	address any life-threatening complications immediately
	all patients require thorough assessment
maxillofacial trauma**, deranged occlusion (teeth not biting together normally)**	**Urgency and referral**
	for patients with significant trauma, emergency referral to hospital
Conditions affecting the gums	
	Comments
	in children, commonly due to exfoliating teeth
	in adults, commonly due to gingivitis or periodontitis
bleeding gums caused by minor trauma (eg eating, cleaning teeth)	**Urgency and referral**
	for adults, referral to dentist or periodontist (urgency dependent on severity)
spontaneously bleeding gums	**Comments**
	with pain, halitosis, necrosis or ulceration of the interdental papillae, the likely cause is necrotising gingivitis

	consider drugs that affect haemostasis, acquired or congenital bleeding disorders, or other haematological disorders **Urgency and referral** necrotising gingivitis requires urgent referral to dentist **Comments** consider adverse effects of drug (eg calcium channel blockers, phenytoin, ciclosporin); encourage improved oral hygiene
swollen, puffy or enlarged gums (gingival hyperplasia), with or without bleeding	in the absence of drug causation, consider possible malignancy **Urgency and referral** nonurgent referral to dentist if review required **Comments** see Peri-implant diseases
swollen, painful or bleeding gums around a dental implant, or a loose or broken implant	**Urgency and referral** referral to dentist who placed the implant (urgency dependent on severity) **Comments** remove denture and examine the mouth and denture, consider denture hygiene consider trauma from an ill-fitting denture—it may need adjustment
sore areas beneath dentures	consider oral candidiasis or denture-associated erythematous stomatitis (see Table 13.11) consider possible malignancy—any suspicious lesions or pigmentation require investigation, see Assessment of oral mucosal disease **Urgency and referral** nonurgent referral to dentist (within a few weeks) if dental review required
Conditions affecting the jaw	**Comments** jaw clicking without pain, discomfort or trismus is normal—referral is not needed
jaw clicking or locking with acute unilateral or bilateral pre-auricular pain	consider temporomandibular disorders **Urgency and referral** referral to oral medicine specialist or oral and maxillofacial surgeon (urgency dependent on severity)
restricted mouth opening (trismus)	**Comments** consider tetanus and dystonic reactions, including drug-related dystonic reactions (eg metoclopramide)

	oral and dental causes include infection, procedural complications (eg haematoma), partially erupted wisdom tooth or temporomandibular disorders **Urgency and referral** if medical causes excluded, urgent referral to dentist (within 24 hours)
Other oral presentations	
oral malodour (halitosis)	**Comments** commonly caused by oral conditions, but may be a symptom of systemic disease **Urgency and referral** if medical causes excluded, referral to dentist (urgency dependent on likely intraoral cause)
acute onset of numbness (anaesthesia), altered sensation (paraesthesia) or weakness in the mouth	**Comments** consider malignancy, multiple sclerosis **Urgency and referral** urgent referral for medical investigation

Oral and dental issues in older people

Oral and dental issues in older people

Medical practitioners have an important role to play in promoting oral health in older people, who may rarely see a dentist. Encourage older people to have regular dental reviews.

Medical practitioners have an important role to play in promoting oral health in older people, who may rarely see a dentist.

Poor oral hygiene is common in older people, particularly in residential aged-care facilities. Maintaining oral hygiene is often hampered by cognitive or physical impairment (eg dementia, poor manual dexterity, blindness). Promote oral hygiene—the use of a powered toothbrush and alcohol-free mouthwash are effective strategies to prevent dental caries and periodontal disease.

Undiagnosed or poorly managed dental conditions that cause pain can contribute to behavioural issues in patients with dementia. Older people, particularly those in residential aged-care facilities, often have complex oral health issues. Dry mouth and falls are common in older people, particularly in people taking multiple medications. Falls have the potential to cause oral trauma (eg a broken tooth, tooth avulsion, maxillofacial trauma).

Denture use is associated with traumatic ulcers, denture-associated erythematous stomatitis, oral candidiasis and angular cheilitis (see Table 13.11). Ask about denture fitting and check denture hygiene is correct and effective. However, denture use is declining with older people increasingly retaining their teeth; this is contributing to a significant increase in the incidence of dental caries and periodontal disease.

Dental caries in older people is exacerbated by dry mouth, poor oral hygiene and changes in diet. The stages of dental caries are depicted in Figure 13.5 and Figure 13.6. While awaiting dental review, consider the use of toothpaste containing 5000 ppm of fluoride. Reassure patients that, in some cases, dental caries can be managed with professionally applied topical treatments (eg fluoride varnish, silver fluoride formulations) that do not require tooth extraction or fillings.

Periodontal disease (eg gingivitis, periodontitis) is common in older people. There is growing evidence that poor periodontal health is associated with many systemic diseases, including aspiration pneumonia, cerebrovascular events, atherosclerosis, diabetes, autoimmune diseases (eg rheumatoid arthritis) and other chronic diseases.

For patients presenting with lesions in the mouth, have a high index of suspicion for oral cancer—oral cancer is more common in older people and can mimic many oral mucosal diseases (see Assessment of oral mucosal disease).

Oral and dental issues in children

Oral and dental issues in children

Overview

Overview

Medical practitioners may encounter oral and dental issues in children. Common presentations are outlined below:

- tooth eruption and teething pain
- dental caries—can lead to hospital admission for extractions under general anaesthesia; encourage regular dental review and good oral hygiene
- tooth avulsion (knocked-out tooth)—a primary (baby) tooth should not be replanted.

Painful intraoral lesions in children may be caused by oral infection with herpes simplex virus (see Oral mucocutaneous herpes). This may resemble necrotising gingivitis, which is rarely, if ever, seen in children.

Periodontitis in children is rare and usually associated with systemic disease (eg leukaemia, type 1 diabetes, cyclic neutropenia).

Tooth eruption and teething pain

Tooth eruption and teething pain

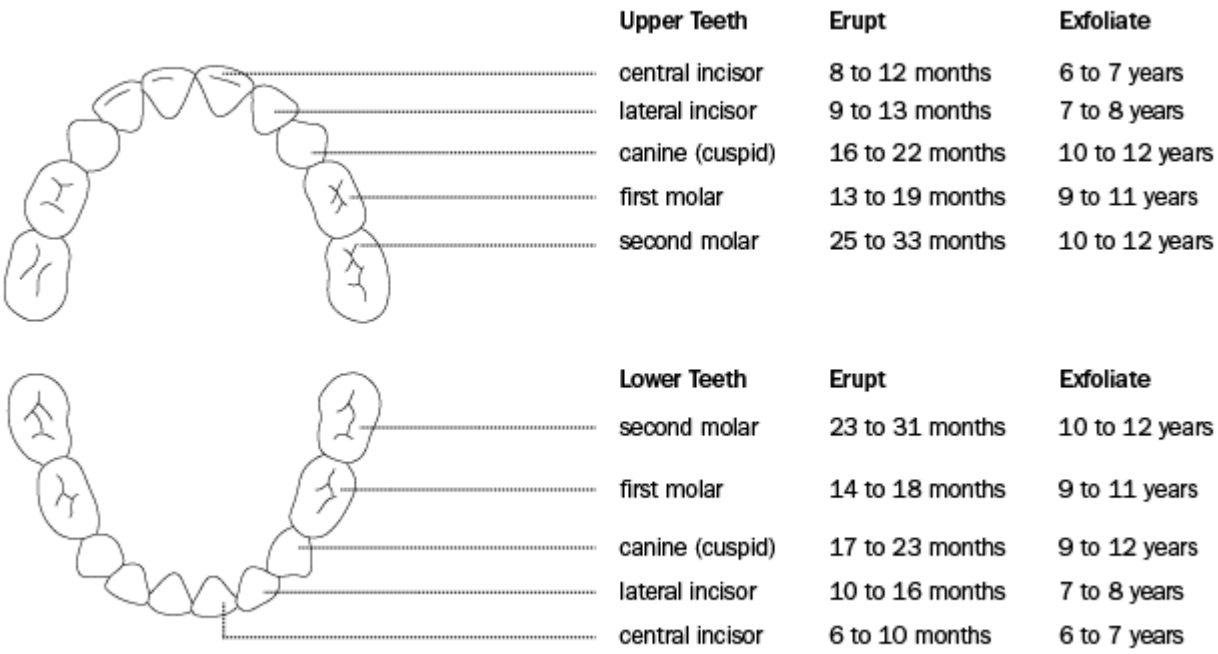
Tooth eruption (teething) in infants is often accompanied by local pain and swelling, drooling, irritability and occasionally a mild fever. Rubbing the gums with a clean finger, teething rings and cold compresses can provide symptomatic relief of teething pain. Teething rings should be cold but not frozen. Systemic analgesics (eg paracetamol) can be used.

Teething gels should not be used because of the lack of evidence of efficacy and the potential for harm. Some teething gels contain salicylates and excessive doses or prolonged use can cause systemic toxicity. Teething gels containing local anaesthetic should not be used for teething pain in infants and children due to the risk of serious adverse effects (eg seizures, cardiac effects, death). Amber teething necklaces are ineffective and dangerous because they are a choking and strangulation hazard.

Teething gels should not be used because of the lack of evidence of efficacy and the potential for harm.

Figure 13.64 and Figure 13.65 give an indication of the average ages at which tooth eruption occurs.

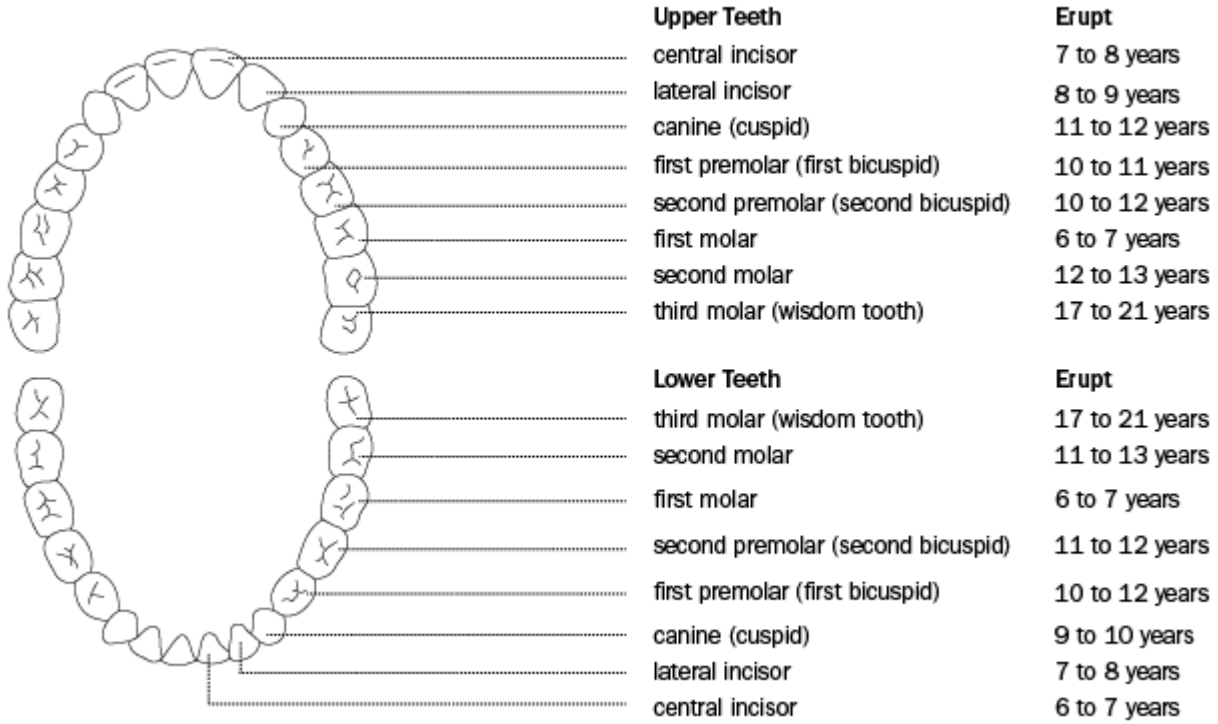
Figure 13.64 Primary teeth eruption and exfoliation pattern



Upper Teeth	Erupt	Exfoliate
central incisor	8 to 12 months	6 to 7 years
lateral incisor	9 to 13 months	7 to 8 years
canine (cuspid)	16 to 22 months	10 to 12 years
first molar	13 to 19 months	9 to 11 years
second molar	25 to 33 months	10 to 12 years

Lower Teeth	Erupt	Exfoliate
second molar	23 to 31 months	10 to 12 years
first molar	14 to 18 months	9 to 11 years
canine (cuspid)	17 to 23 months	9 to 12 years
lateral incisor	10 to 16 months	7 to 8 years
central incisor	6 to 10 months	6 to 7 years

Figure 13.65 Secondary teeth eruption pattern

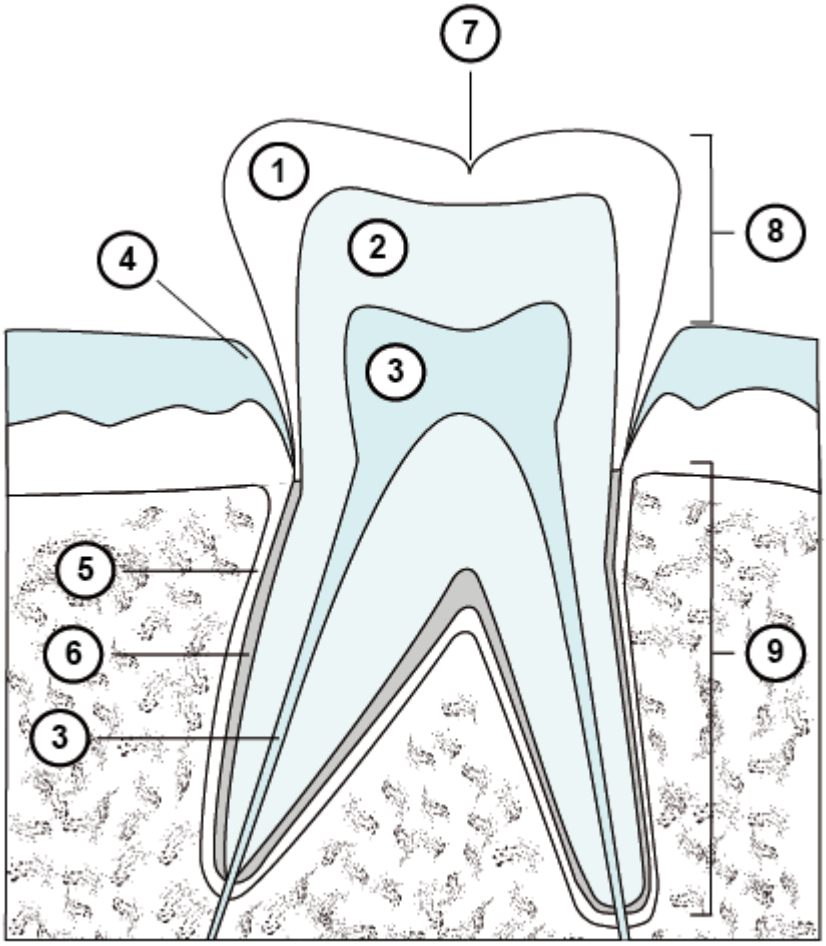


Upper Teeth	Erupt
central incisor	7 to 8 years
lateral incisor	8 to 9 years
canine (cuspid)	11 to 12 years
first premolar (first bicuspid)	10 to 11 years
second premolar (second bicuspid)	10 to 12 years
first molar	6 to 7 years
second molar	12 to 13 years
third molar (wisdom tooth)	17 to 21 years

Lower Teeth	Erupt
third molar (wisdom tooth)	17 to 21 years
second molar	11 to 13 years
first molar	6 to 7 years
second premolar (second bicuspid)	11 to 12 years
first premolar (first bicuspid)	10 to 12 years
canine (cuspid)	9 to 10 years
lateral incisor	7 to 8 years
central incisor	6 to 7 years

Dental anatomy and terminology

Dental anatomy and terminologyFigure 13.66 Anatomy of the tooth and surrounding tissues



1. Enamel: The hard, calcified substance that is the surface of a crown of a tooth.

2. Dentine: The calcified tissue that forms the major part of a tooth. In the crown of the tooth, the dentine is covered by enamel. The pulp chamber of the tooth is enclosed by dentine.

3. Pulp: The organ at the centre of a tooth containing blood vessels, connective and neural tissue, and cells that produce dentine. Blood vessels and neural tissue enter the tooth from the apex of the root.

4. Gingiva: The marginal part of the gum that surrounds the tooth where it emerges from the deeper, supporting tissues.

5. Periodontal ligament: The ligament that connects a tooth, by its root, to the supporting bone.

6. Cementum: The calcified tissue on the surface of the root of a tooth, which provides attachment for the periodontal ligament.

7. Fissure: A naturally occurring crevice in the enamel.

8. Crown: The part of the tooth that is visible and is above the gingival margin.

9. Root: The part of the tooth below the gingival margin; it is connected through cementum on its surface and the fibres of the periodontal ligament to the supporting bone.

Dental numbering system

Dental numbering system

There are numerous dental numbering systems to identify teeth and their maturity. The most commonly used system in Australia is the Federation Dentaire Internationale (FDI) system (see Figure 13.67). When communicating with a dentist, identify which numbering system is being used.

The FDI numbering system divides the mouth into quadrants. The first number indicates the quadrant and whether it is a primary or secondary tooth. The second number indicates the tooth; tooth numbering begins at the central incisor and counts backward to the molars.

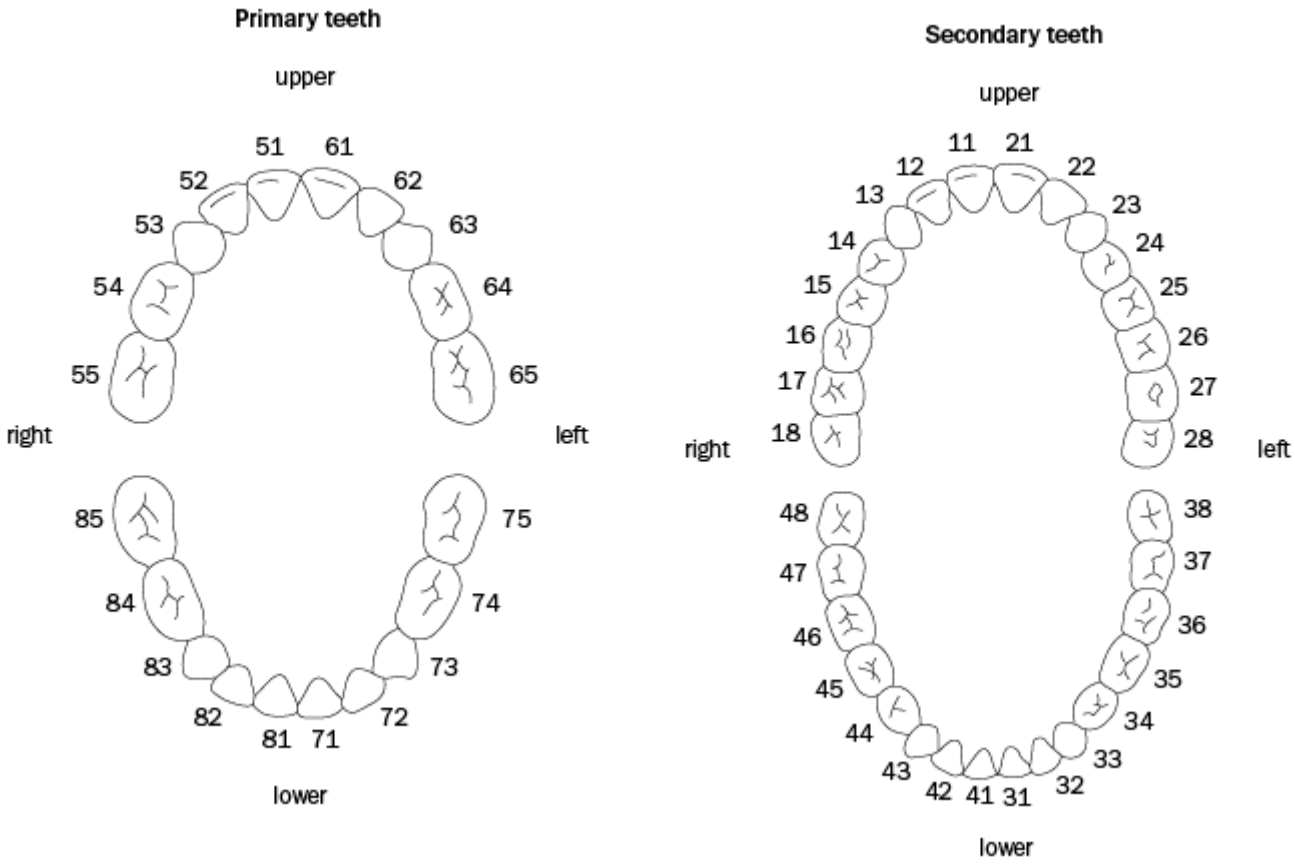
Using the FDI numbering system, for adults, the quadrants are numbered as:

- patient's upper right is quadrant 1
- patient's upper left is quadrant 2
- patient's lower left is quadrant 3
- patient's lower right is quadrant 4.

For primary teeth in children, the quadrants are numbered as:

- patient's upper right is quadrant 5
- patient's upper left is quadrant 6
- patient's lower left is quadrant 7
- patient's lower right is quadrant 8.

Figure 13.67 The Federation Dentaire Internationale (FDI) dental numbering system



Oral hygiene

Oral hygiene

General information

General information

Regular oral hygiene by mechanical brushing and cleaning between the teeth removes soft dental plaque. When dental plaque becomes mineralised (calculus), it must be removed by a dental practitioner. Dental plaque and calculus can cause periodontal disease (eg gingivitis) and dental caries.

Frequent exposure to dietary sugar and carbohydrates leads to an increase in the risk of dental caries. Avoid sucrose in sticky forms and limit other sugars (eg acidic drinks) and carbohydrates as snacks between meals.

Avoid drinks other than water at bedtime after brushing teeth (including milk, formula and expressed breastmilk)—saliva flow diminishes during sleep and the sugar from the drink remains on the teeth overnight. This is a common cause of dental caries in children and the elderly.

Interdental cleaning

Interdental cleaning

Interdental cleaning using floss or interdental brushes is recommended once each day before brushing the teeth [Note 1]. Brushing teeth with a toothbrush does not remove plaque from between the teeth or below the gum line.

Dental floss can be used to wipe the interdental tooth surface to remove plaque (back and forth, then up and down several times on each tooth surface). Manual dental floss, floss-holding devices or automated flossing devices are available—the choice is based on personal preference or level of dexterity.

Interdental brushes areas effective as dental floss in plaque removal, and often more effective for debris removal. They require less dexterity than dental floss. Interdental brushes are particularly useful in patients with gum recession or disease, where the spaces between the teeth are larger.

Interdental wood sticks can remove food particles, but do not effectively remove plaque.

Water jets do not effectively remove plaque.

Note 1: Further information on oral hygiene techniques can be found in: Daly C. Prescribing good oral hygiene for adults. Australian Prescriber 2009;32(3):72-5. [URL]

Tooth and tongue cleaning

Tooth and tongue cleaning

Soft-bristle toothbrushes are recommended; hard-bristle toothbrushes are not more effective and can damage the gums and the softer root surface. Children younger than 6 years should use a children's toothbrush. Powered toothbrushes with a rotation oscillation action are slightly more effective at plaque removal than manual brushes. Powered toothbrushes are useful for people with dexterity or disability problems, and for carers. Toothbrushes should be replaced once damaged or when the bristles become deformed.

Advise patients to use a fluoride-containing toothpaste; for recommended concentrations of fluoride in toothpaste, see Table 13.7. Toothpastes that do not contain fluoride provide little protection against dental caries. Toothpastes also contain other additives (eg abrasives, detergents, antibacterials, bleaches, remineralising agents).

Toothpastes that do not contain fluoride provide little protection against dental caries.

Advise patients to brush teeth for 2 minutes, twice each day with fluoride toothpaste. Toothpaste should be spat out and not swallowed to minimise fluoride ingestion; the mouth should not be rinsed to allow increased uptake of fluoride from the saliva.

Advise patients to brush or gently scrape the tongue, but not to brush or massage the gums [Note 2].

Note 2: Further information on oral hygiene techniques can be found in: Daly C. Prescribing good oral hygiene for adults. Australian Prescriber 2009;32(3):72-5. [URL]

Mouthwash

Mouthwash

Mouthwash is usually not required as part of a standard oral hygiene routine, provided mechanical cleaning (toothbrushing, interdental cleaning) is performed properly. Mouthwash should not be used as substitute for proper mechanical teeth cleaning.

Fluoride-containing mouthwashes can be used as an additional source of fluoride for people at high risk of dental caries on the recommendation of a dentist (see Fluoride).

Mouthwash that inhibits plaque formation (eg chlorhexidine) can be used for a short duration in addition to mechanical tooth cleaning, usually when pain associated with periodontal disease restricts mechanical cleaning (see Management of necrotising gingivitis and Gingivitis).

Alcohol-containing mouthwashes may be associated with oral cancer and are not recommended. See here for further information on mouthwashes.

Specialised oral hygiene

Specialised oral hygiene

People with dental implants, bridges, crowns that are joined together, and orthodontic brackets should follow the oral hygiene advice from their dentist.

Denture hygiene

Denture hygiene

Dentures should be regularly cleaned twice a day to remove food particles and plaque. Advise patients to remove dentures from the mouth and clean them with warm water, mild soap and a toothbrush, denture brush or soft nail brush. Avoid cleaning dentures with hot water, toothpaste, kitchen detergents, laundry bleaches, methylated spirits, antiseptics or abrasives (unless instructed to by a dental practitioner). Patients should clean their gums and remaining teeth with a soft toothbrush and toothpaste.

Advise patients to place dentures in a dry environment overnight after cleaning them. Traditionally, it was recommended that dentures were kept in liquid overnight. However, allowing the cleaned denture to dry out at night is more effective for reducing yeast colonisation and plaque accumulation, compared with both denture cleansers and water. Although repeated cycles of hydration and dehydration can change the shape of the denture, these changes are small and not clinically significant.

Dentures should be cleaned then placed in a dry environment at night.

If there is a build-up of hard deposits (tartar, calculus), dentures can be soaked overnight in a solution of white vinegar (diluted 1:4), then cleaned as usual. Advise patients to see their dentist for professional cleaning if hard deposits cannot be removed.

Denture-associated erythematous stomatitis is prevented by regular cleaning of the dentures and storing them in a dry environment overnight. Advise patients with denture-associated erythematous stomatitis to optimise denture hygiene—it can take 1 month for symptoms to improve; see Oral candidiasis and Candida-associated lesions for further information.

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