



The mouth

A guide to oral health in schools



dental health
services victoria



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This document describes the generally accepted practice at the time of publication. It is a guide only and as such is a general summary of clinical knowledge. Nurses and other health professionals who work in schools should regularly update their knowledge in these areas and exercise their clinical judgment when applying this information.

If you have any doubts as to the correct application of this information you should obtain advice from a registered dental practitioner.

No warranty is made, express or implied, that the information contained in this document is comprehensive. Parties associated with this publication accept no responsibility for any consequence arising from inappropriate application of this information.

The mouth: A guide to oral health in schools is also available at: www.dhsv.org.au

i. Foreword

We are pleased to present ***The mouth: A guide to oral health in schools*** (from here on referred to as *The mouth*).

The mouth is a general guidance document, designed to support school nurses and other health professionals (e.g., first aid officers), who may be required to assess or manage oral health issues in school children.

This resource covers oral health best practice and should be read in conjunction with any relevant workforce and/or position-specific protocols, policies and guidelines.

The mouth: A guide to oral health in schools has evolved from its predecessor *The Mouth: Oral Health Information for Primary School Nurses (2005)*. While this edition continues to focus on Primary School Nurses and their role in promoting oral health and undertaking mouth checks in their health assessment role, additional information on emergency dental care for other health professionals (such as first aid officers) has been included.

Future editions will include topics more relevant to those working in secondary schools.

ii. Acknowledgements

The mouth: A guide to oral health in schools has a reputable provenance.

A significant proportion of its predecessor *The Mouth: Oral Health Information for Primary School Nurses* (DHSV 2005) manual was reproduced from *TEETH: Oral Health Information for Maternal and Child Health Nurses* (DHSV 2004; re-produced in 2011). The vision and work of the people who contributed to both foundation documents is gratefully acknowledged.

Numerous others provided expertise and support in the preparation of this resource, including staff from the Department of Education. We are grateful for their contributions.

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1. Introduction

There are many reasons to promote oral health in primary school aged children. Good oral health is an essential part of general health and wellbeing but is often overlooked. A healthy mouth enables people to eat, speak and socialise without pain, discomfort or embarrassment (COAG 2015).

The deciduous teeth (also called baby or primary teeth) are important as they help develop eating ability, speech patterns and appearance, and later guide the eruption and position of the permanent teeth. Good oral health in childhood contributes to good oral health in adulthood (AIHW 2016).

Dental issues and poor oral hygiene can impact on the primary school student in several ways, including:

- articulation difficulties
- poor nutrition: when pain and absent teeth affect a child's ability to bite and chew food
- confidence and self-esteem
- general well-being.

The burden of oral disease in children can be attributed to three main conditions, all of which are largely preventable:

1. dental caries (tooth decay)
2. gum disease
3. oral trauma.

Many children suffer unnecessarily from the pain and complications of dental caries. Whilst every child is at risk of developing dental caries, some groups are more vulnerable than others. As noted in the [Victorian action plan to prevent oral disease 2020-30](#) (Department of Health 2020b), children from lower socio-economic backgrounds, culturally and linguistically diverse communities and rural communities experience the greatest risk.

- 43% of children aged 5-10 years have signs of tooth decay.
- Dental conditions (predominantly dental caries) are the highest cause of all potentially preventable hospitalisations in children 0–9 years.
- Advanced dental caries is more prevalent in children with:
 - a parent who has a health care card – 1.8 times more prevalent
 - an Aboriginal background – 1.9 times more prevalent
 - families who do not speak English at home – 2.1 times more prevalent.

Furthermore, in Australia, children living in areas with optimal water fluoridation experience considerably less dental caries than those in areas without water fluoridation (Do 2020).

In 2023, nearly 9,000 children aged 6-12 years attended government-funded dental clinics for emergency care. Of these, nearly one third were triaged as Category 1 – requiring emergency (immediate) attention for oral trauma, severe mouth or facial swelling, or uncontrolled bleeding (DHSV 2024).

1.1 Oral health policy context

Oral health is a recognised priority of the Victorian Department of Health (DH).

Victorian action plan to prevent oral disease 2020-2030

This action plan focuses on opportunities for oral health promotion across the life course and acknowledges that **the places where Victorians conduct their daily lives are important in influencing their ability to prevent oral disease**. This action plan focuses on promoting oral health in key settings such as early childhood services, **schools**, health services, residential aged care and disability settings.

[Victorian action plan to prevent oral disease 2020-30](#)

School nurses are well-placed to promote oral health for school students.

Victorian free school dental program – Smile Squad

The [Smile Squad](#) free school dental program is a partnership between Dental Health Services Victoria, the Department of Health, Department of Education, community dental agencies and Victorian government schools.

2. Using this resource

The purpose of *The mouth* is to provide nurses and other health professionals (such as first aid officers) working in primary schools with information to assist them in the oral health component of their roles.

The mouth recognises the broad knowledge and skill base of nurses and other health professionals and highlights the practical procedures they may be expected to perform in schools. People working in these roles will be able to identify the information of most use to them.

Whilst information is presented in a logical sequence, this manual does not need to be read in its entirety, or in sequential order.

- **Section 3 – Promoting good oral health**: Highlights that good individual oral health practices should start at an early age, by following oral health messages that apply to everyone – eat well, drink well, clean well, play well, stay well. Links to oral health resources for families are provided. It also outlines population and clinical oral health prevention options.
- **Section 4 – Mouth checks**: Provides a framework, including rationale and indicators, to help anyone conducting a mouth check. This is a practical guide on *how* to look into the mouth.
- **Section 5 – A healthy mouth**: Orients you around the main anatomical features of the mouth, and introduces concepts such as tooth types, exfoliation and eruption. It will help prepare you to recognise what is considered “normal” in a primary school child’s mouth.
- **Section 6 – Common dental diseases and conditions**: Provides information and images of dental diseases such as dental caries and gum disease. It also covers oral habits such as thumb sucking, and the eruption and positioning of teeth.
- **Section 7 – Dental emergencies**: Covers the most serious of dental emergencies. A quick guide to managing dental trauma is included.
- **Section 8 – Recommendations and referrals**: Providing recommendations and timely referrals to a dental practitioner are described in detail. Referral pathways are provided, with sample referral letters provided in the appendix.
- **Section 9 – Dental services and websites**: Explains the public, private and specialist dental services available in Victoria. Links to helpful websites and resources are given.
- **Section 10 – Bibliography**
- **Section 11 – Appendices**: Provides supplementary oral health information that might be helpful.
 - **Understanding population oral health – fluoride**
 - **Understanding preventive clinical interventions**: such as fluoride varnish, fissure sealants and the use of mouthguards.
 - **Tooth structure**
 - **Brief guide to oral medicine**: Provides information and images of oral conditions more likely to be seen in primary school aged children.
 - **Children with additional needs**: Provides guidance to nurses who provide oral health support to students with additional needs.
 - **Suggested content for correspondence.**

3. Promoting good oral health

This section provides information to help nurses and other health professionals educate and support parents and carers to promote good oral health practices in their children. Healthy smiles can be supported by eating, drinking and cleaning well, and accessing dental care by visiting a dental practitioner.

A multi-faceted approach to oral health promotion is important. In addition to individual oral health promotion, a whole-school-approach, as well as population and clinical prevention measures also help prevent dental disease. These include the addition of fluoride to community water supplies, oral hygiene products and professional products, as well as clinical services like fissure sealants and mouthguards.

More information on these is available in [Appendix 11.1 Understanding population oral health – fluoride](#) and [Appendix 11.2 Understanding oral health and preventive clinical interventions](#).

3.1 Oral health promotion in schools

Schools have an important role to play in supporting good oral health in the school environment.

Relevant Department of Education policies (for example, [Canteens, Health Eating and Other Food Services](#)), guidelines and other resources are available.

The Healthy Schools [Achievement Program](#)

Healthy Eating and Oral Health is one of the seven key health areas supported by this program. Each health area sets achievement targets, leading to healthy changes to a participating school's physical environment, policies and practices, and health promoting activities. Schools receive Victorian Government recognition when all targets for a health area are met.

Smile Squad oral health resources

Smile Squad has developed resources especially for use in schools.

- [A guide to supporting good oral health in schools](#)
This guide explores the ways schools can create an environment that encourages good oral health behaviours.
- [Cool.org lesson plans](#)
DHSV has partnered with Cool.org to develop free, curriculum-aligned and teacher-approved lesson plans with an oral health theme.

3.2 Promoting individual oral health practices

3.2.1 Establish good oral health practices at an early age

Establishing good oral health practices at an early age provides the best chance of reducing unnecessary oral disease and its associated burden.

The primary school years are a time when eating and drinking habits are established, so it is important for parents and carers to encourage healthy eating and drinking behaviours (NHMRC 2013). It is also a time where new behaviours and skills are learned and refined. Healthy eating habits at home guide children and teenagers towards healthy food choices away from home (Department of Social Services 2021).

The home and school environment are two places where children spend large amounts of time, and different factors in each can influence a child's oral health. These range from being able to fill their water bottle up at school or buy a healthy lunch from the canteen to what rules there are at home around sugars and snacking, or if toothbrushing is part of the family routine.

For many children, attending school offers the first opportunity to exercise some personal freedoms about what they eat and drink. Parents and carers can influence behaviours such as toothbrushing, and role model actions that can be carried into adolescence and adulthood.

3.2.2 Oral health messages for everyone

Eat well, drink well, clean well applies to everyone across all life stages, including children.

An important opportunity exists for nurses and other health professionals to identify and begin addressing any oral health literacy gaps that families in their schools may have.



Eat well

A healthy diet for growing bodies and minds is the best choice for teeth. Eat a wide variety of healthy foods every day, including:

- fruit and vegetables
- grains and cereals like rice and bread
- dairy products like milk, cheese and yoghurt
- eggs
- meat without too much fat, and fish.

Food manufacturers hide sugars in many of the snacks marketed to children. Compare packets to choose products with less sugar.

Eat well

To eat *well*, it's important to eat a variety of healthy foods that are fresh and nutritious, especially during childhood when growth and development are occurring.

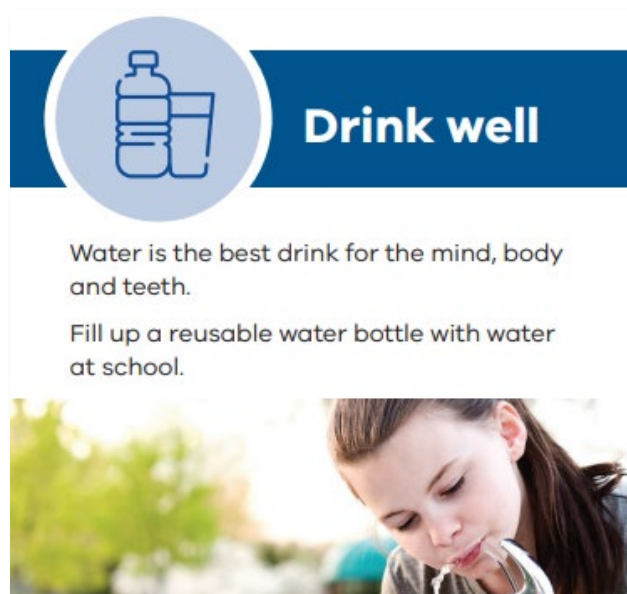
Whilst eating well for general health and oral health share the same nutrition principles, eating well for oral health places significant consideration on a food's local effect when it is in the mouth and in contact with teeth.

Bacteria in dental plaque are able to metabolise *any* fermentable carbohydrate, which can lead to dental caries. Foods containing natural sugars (e.g., fresh fruit, honey), as well as those added to processed foods by manufacturers can contribute to dental caries. Sweet, sticky foods are of particular concern.

Whilst we often focus on the *quantity* of sugar consumed, it is believed that *frequency* of consumption creates the greater risk of dental caries. Exposure to foods and drinks containing sugars should be limited. They are better eaten with main meals rather than between meals (Australian Dental Association 2024a).

Foods to encourage	Foods to limit
<ul style="list-style-type: none"> • fruit – fresh, stewed, or frozen 	<ul style="list-style-type: none"> • fruit bars and straps • candied fruits or dried fruits (infused with sugar syrup prior to dehydration)
<ul style="list-style-type: none"> • vegetables – raw, steamed, or grilled <ul style="list-style-type: none"> ○ Try veggie sticks with creamed cheese, peanut butter, yoghurt and other dips ○ Plain or lightly salted popcorn is a great snack 	<ul style="list-style-type: none"> • sweetened popcorn (e.g., caramel-coated)
<ul style="list-style-type: none"> • grains, breads and cereals – including low sugar breakfast cereals • pretzels 	<ul style="list-style-type: none"> • cakes and icing • sweet biscuits and donuts • chocolates and lollies

	<ul style="list-style-type: none"> • sugar-sweetened breakfast cereals • muesli/health bars high in sugar
<ul style="list-style-type: none"> • dairy – cheese or plain yoghurt. Plant-based, calcium enriched foods can be a substitute for dairy products 	<ul style="list-style-type: none"> • ice cream, dairy desserts
<ul style="list-style-type: none"> • spreads and fillings – hummus dip, tahini spread, peanut butter, cheese spread, Vegemite 	<ul style="list-style-type: none"> • sweet spreads (such as jam, honey, hazelnut spread)



Drink well

Drinking well for oral health considers the local contact effect of drinks on teeth (namely dental caries and dental erosion), as well as the presence of fluoride that has a protective effect on teeth.

Everyone should be encouraged to drink tap water. Fluoridated tap water (where available) is the best option for healthy teeth. Plain milk is another preferred option. Calcium-enriched, plant-based milks (with little to no added sugar) are an option for people intolerant to dairy.

Sugary drinks (even those with natural sugars such as fruit juice) should be limited. If consumed, these are best drunk with meals,

rather than in between. In addition, drinking these directly from a cup is preferred over “pop-top” bottles to reduce the total number of sips (and therefore overall exposure time), and drinking through a straw can reduce the drink’s direct contact with teeth. Eating a fresh piece of fruit with a glass of water is a more nutritious alternative to juice.

Carbonated and other acidic drinks can cause irreversible loss of tooth structure by erosion. The pH of some common drinks can be as low as 2 (lemon juice), 2.5 (cola), 3.5 (apple juice). Water has a neutral pH (7) so does not cause erosion and likely has the added benefit of being fluoridated. Adding a squeeze of lemon juice to water increases the water’s acidity and should therefore be avoided. Plain milk has a nearly neutral pH (6.5-6.9), plus the added benefit of calcium.

Drinks to encourage	Drinks to limit
Tap water (especially if contains fluoride)	Fruit juices (including 100%, fresh or processed)
Plain milk	Soft drinks and cordials
Calcium-enriched, plant-based milks (no-low sugar)	Sports drinks, energy drinks

Clean well

Good oral hygiene reduces the chance of developing dental caries and gum disease. Brushing teeth twice a day with fluoride toothpaste, and cleaning in between teeth daily is recommended. People who have difficulty cleaning their teeth should be supported according to their needs.

Each day a sticky, soft layer of bacteria known as plaque, forms on the teeth. Food debris is also left behind on teeth after eating and drinking. A good oral hygiene routine will help limit the damage these can cause, and should include:

1. cleaning the outside and top surfaces of teeth twice a day (e.g., toothbrushing)
2. cleaning in between teeth once a day (e.g., flossing)
3. using fluoride toothpaste every time you brush
4. providing help and support to those who require it.

Clean the outside and top surfaces of teeth twice a day

Toothbrushing in the morning and at night before bed helps to physically remove plaque and food debris from the outside and top surfaces of teeth. Parents can support children to use the correct technique and brush for an adequate amount of time (approx. 2-3 minutes).

According to data from *The Royal Children's Hospital National Child Health Poll (2018)*:

- one in four of all school-aged children (27%) and two in five preschoolers (39%) don't have their teeth brushed twice a day.

A small, soft-headed toothbrush is recommended for children. Manual or electric toothbrushes are both good options. Each person should have their own toothbrush.

Toothbrushing is also an effective means to apply fluoride to the teeth.

Clean in-between teeth once a day

Toothbrushing is unable to remove plaque and food debris that collect between teeth, however there are many options that can. These include floss, flossettes, interdental brushes and water flossers.

Floss is used most frequently; however, an oral health professional can provide personalised advice on the most appropriate product to use.

- [Cleaning between the teeth | teeth.org.au](https://teeth.org.au/cleaning-between-the-teeth/)
- [Tips for cleaning between teeth | teeth.org.au](https://teeth.org.au/tips-for-cleaning-between-teeth/)

Use fluoride toothpaste when brushing

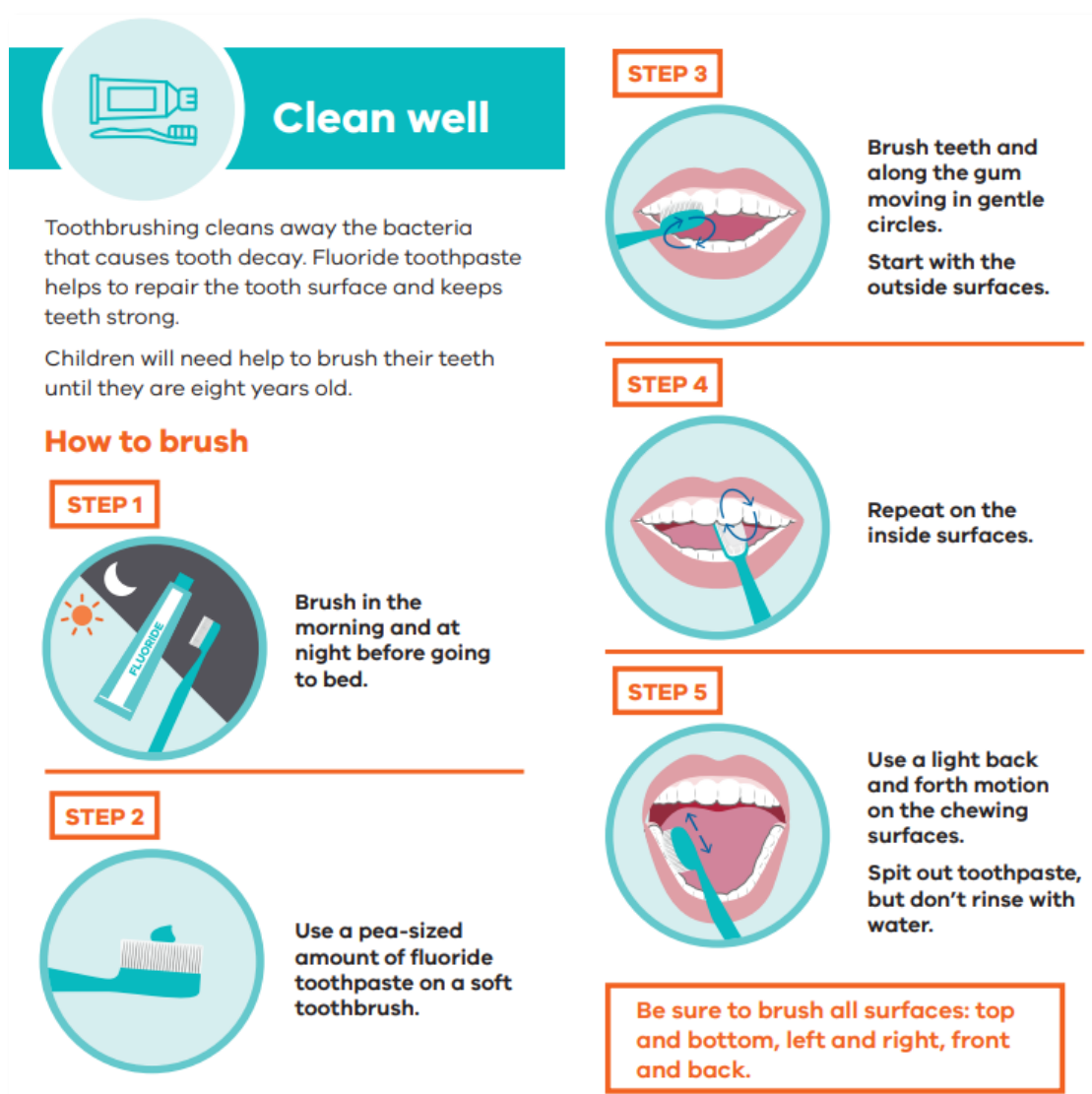
Fluoride toothpaste reduces tooth decay. For primary school aged children, a small pea-sized amount is enough.

Junior toothpaste has a milder flavour which young children find more palatable, and a lower fluoride concentration means that less fluoride is swallowed when young children are learning how to spit.

Age	Recommended toothpaste
18 months – 6 years	Low fluoride (junior) toothpaste (500ppm)
6 years and over	Standard fluoride toothpaste (1000-1500ppm)

Children should be encouraged to spit the toothpaste out after brushing and discouraged from swallowing it. There is no need to rinse away the toothpaste. This allows the fluoride to stay in contact with the teeth for longer, providing extra protection against decay.

Where a child is at higher risk of dental caries, oral health professionals may recommend children under 6 years of age use standard fluoride toothpaste. Parental supervision is required to ensure the toothpaste isn't swallowed.



Children should receive appropriate oral hygiene help and support

Nurses and other health professionals may be asked by parents for tips on how to assist their child with oral hygiene.

Suggested tips

- Parents should assist young children with brushing and interdental cleaning until the age of 8 years. A general rule is that once a child can tie their own shoelaces, they should also have the dexterity to brush their teeth adequately on their own.
- Parents can teach and encourage pre- and primary school children to use their toothbrush independently, however most children do not have sufficient manual dexterity to brush effectively. One popular technique has the child start the brushing routine, which is then completed by an adult.

- The best way to clean a child's teeth is to sit the child on a lap or to stand behind the child, tilting the child's head upwards so that all tooth surfaces can be brushed using a gentle scrubbing motion.
- Reward charts and allowing a child to choose their own toothbrush can help motivate a child to clean their teeth. Observing other family members brush their teeth from young age helps establish this as an important habit.
- Children with additional needs may also require extra help from their parents/carers. An oral health professional may recommend using adapted products such as toothbrushes with special handgrips, or low-foaming, plain-tasting toothpaste.

Play well

Whilst *Play well* has not been promoted widely in childhood settings, oral health professionals recognise that there is an inherent risk of mouth injury associated with playing sport and physical activities, regardless of age.

Custom-made mouthguards should be worn for all sports and training where there is a reasonable risk of a mouth injury. Properly fitted (custom-made) mouthguards absorb and spread the impact of a knock to the mouth and protect against mouth or dental injuries which can be difficult to treat and have lifetime repercussions.

The Australian Dental Association supports custom-made mouthguards as the most protective for the teeth and mouth. Store-bought mouthguards are less effective, and do not provide the same level of protection as a custom-made mouthguard (Australian Dental Association 2024b).

Families can obtain personalised advice from a dental practitioner.

For more information:

- [Appendix 11.2.3: Mouthguards](#)
- <https://www.teeth.org.au/sports-mouthguards>

Stay well

Regular professional dental check-ups are important throughout life. Dental practitioners are the best to advise on the frequency of check-ups, based on an individual's oral health needs.

By the time a child enters primary school, they should have already seen a dental practitioner for general care.

Where access to dental practitioners is limited, general medical practitioners and aboriginal health practitioners may be able to assist with basic mouth checks and guidance.

Many medical conditions and medications can have impacts on the health of the mouth (e.g., diabetes, asthma and some epilepsy medications), and vice versa. Nurses should encourage children and their families to seek additional information and support from their medical or oral health team.

3.2.3 Visiting a dental practitioner

Regular dental examinations for children allow early identification of oral health issues. Early identification is important in disease prevention and early intervention, and usually means simpler treatment options and minimising costs. Dental decay has been described as a silent disease, where the first signs are hard to see. Damage to the tooth structure can increase by stealth, until it causes big issues that require treatment or extraction.

Children should start having their teeth checked from the eruption of the first primary tooth, and before one year of age. However, for many children this is not the case.

According to data from [The Royal Children's Hospital National Child Health Poll](#) (2018):

- one in four (23%) Australian parents believe children only need to see the dentist if they have a problem with their teeth
- one in three (31%) Australian preschoolers have never visited a dentist
- more than three quarters (77%) of Australian parents don't know that children should visit the dentist for a checkup when they are about one year old
- more than one in five primary school children (22%) and one in four teenagers (25%) have not seen a dentist within the past year
- half of parents (49%) are not aware their children may qualify for free dental services.

A child's first (and subsequent) dental visit/s should be regarded as a normal part of growing up. For most children, irrespective of age, the first dental visit is about familiarisation with the dental setting and providing oral health information to families. It is preferable to visit a dental practitioner before a dental issue or emergency arises. Many families find dental visits anxiety-inducing, which is heightened when a child is in pain, or requires urgent care.

For some helpful tips on visiting the dentist, the following resources may be useful:

- [Dental checks for young children - Better Health Channel](#)
 - (Please note, the recommended age at first visit needs updating in this resource)
- [First Dental Visits | teeth.org.au](#)

Story books or social stories can help introduce children to dental visits.

- DHSV has compiled a list of storybooks aimed at younger children:
 - [DHW Storytime Kit - storybook.indd \(dhsv.org.au\)](#)
 - [DHSV Activity-Storybooks.pdf](#)
- Generic social stories are available to support clients on the autism spectrum. However, other children may also find them helpful. Some examples can be accessed here:
 - [Accessing Dental and Healthcare Services - Autism Association of Western Australia](#)
- Some dental clinics have developed their own social stories, using images of their own dental clinics and staff. This is Merri Health's social story:
 - [Visiting the Dentist at Merri Health](#)

3.2.4 Oral health resources for families

DHSV has a range of oral health resources available for health professionals as well as families.

These are available in English, and many have been translated into commonly used community languages.

- [Home | dhsv.org.au](https://dhsv.org.au)
- For information and resources, select **Oral Health Advice** on the home page.

For Smile Squad resources:

- [Smile Squad | health.vic.gov.au](https://health.vic.gov.au)

Also see [Section 9.8 Useful websites](#).

4. Mouth checks

Mouth checks provide an excellent opportunity to identify oral diseases or conditions in school children. Interventions, such as sharing information or advice with parents, or making a recommendation (or referral) to see a dental practitioner may follow.

All health professionals should understand the consent requirements pertaining to mouth checks, as they relate to their roles.

4.1 When is a mouth check required?

4.1.1 Foundation (preparatory grade) students

Primary school nurses may perform targeted mouth checks on prep students, in connection with the School Entrant Health Questionnaire (SEHQ), as per Department of Education protocols.

4.1.2 Students presenting with a mouth-related concern

Mouth checks may be undertaken in response to a concern raised by a student, their family and/or teacher. Concerns may include:

- teacher has noticed difference in child's behaviour (e.g., not eating their lunch, cradling their jaw, covering mouth with hand while talking or laughing), or is concerned there is a dental problem
- teacher has noticed change in child's appearance (e.g., external swelling or bruising around the child's face)
- concerns around a child's general health, safety or wellbeing
- child has injured their mouth in a schoolground accident.

Oral symptoms can also be associated with medical conditions (including viral infections like chickenpox or hand, foot and mouth disease, diabetes, or bulimia).

4.2 Preparing for a mouth check

In the school setting, a simple mouth check can be performed using minimal equipment, and without any physical contact between the nurse and child. Mouth check requirements include:

- a room with good lighting
- additional light source to see inside the mouth (e.g., a small torch)
- a chair for the nurse to sit on (child will stand facing them)
- hand sanitising lotion
- mouth check checklist (see [Section 4.3.4: What to look for during a mouth check](#)).

Optional extras

- Disposable examination gloves, face mask and protective eyewear should be worn if there is any contact with the mouth, especially if the mouth is bleeding (e.g., following trauma), or when a communicable disease risk exists.
- Display a poster showing children what happens during a mouth check. The DHSV mouth check poster can be downloaded from: [School nurses | dhsv.org.au](http://Schoolnurses.dhsv.org.au).
- Oral health promotion resources. Most times these will be distributed to parents electronically. Links for specific oral health topics appear under the relevant section/s in this manual.
- A disposable tongue depressor can be helpful to retract cheeks/lips/tongue.

- A hand-held mirror is routinely used by oral health professionals during dental visits, so that children can watch themselves as they lift their lips and open their mouth. A wall-mounted mirror could be used as an alternative.

4.2.1 Preparing a child for a mouth check – Tell, Show, Do

Many young children will not have had a mouth check before, and may be fearful or nervous due to the following factors:

- lack of familiarity with school nurse, or environment in which mouth check occurs
- wariness of strangers or medical personnel
- invasion of personal space
- mistaking the torch for something more threatening
- accidentally having the torch light shine in their eyes
- previously hearing scary things about dental visits by family or friends (e.g., they'll pull your teeth out or give you a big needle if you don't brush your teeth).

Even if a child has visited an oral health professional before, a parent/carer is likely to have been in attendance to help guide or assist. The child has possibly even had a negative dental experience.

Tell, Show, Do

Young children may find it difficult to conceptualise what they are meant to do during a mouth check and may struggle to follow instructions on how they need to assist you. *Tell, Show, Do* is a technique that can help overcome this. The wording and level of detail provided can be adapted to suit individual student needs.

<p>Tell: A simple explanation of what you are going to do.</p> <p>e.g., <i>"I'd like to look inside your mouth today. I want to check (and count) your teeth, and your tongue and your cheeks. Do you know how many teeth you have?"</i></p> <p><i>I'll have to get up quite close so that I can look inside. Is that OK?</i></p> <p><i>And because it's very dark in your mouth, I have this torch to help me see. Do you think you'll be able to help me?"</i></p>
<p>Show: Demonstrate what you are about to do (outside of their mouth).</p> <p>e.g., <i>"This is my torch. Do you think you can hold it for me and check that it's working?"</i></p> <p><i>"In a moment, I'm going to ask you to hold your top lip with your fingers so I can see your top front teeth just like this."</i> ... and do this yourself, or point to photo (e.g., Mouth check poster).</p> <p><i>"Then I'm going to ask you to hold your bottom lip with your fingers so I can see your bottom front teeth just like this."</i> ... and do this yourself or point to a photo.</p> <p><i>"Then I'm going to ask you to open really wide and say "AAH" just like this."</i> ...</p> <p><i>"And I might even ask you to look up to the ceiling just like this."</i> ...</p> <p>You may ask the student to copy your actions as you demonstrate or show them a photo (e.g., Mouth check poster).</p> <p>Having the student look in a hand-held mirror during a mouth check is routinely used by oral health professionals to help engage with timid or uninterested individuals.</p>

If you demonstrate on yourself, don't forget to wash or sanitise your hands before taking the torch back and continuing.

Do: Proceed with the mouth check as per your previous instructions.

e.g., "OK, are we ready now? Let's go."

Be ready to respond to a child who says "no", by asking about and addressing any concerns.

Anxious children or children with additional needs

Children who are anxious or with additional needs may require extra time and supports, such as:

- showing them photos of other children having their teeth checked (e.g., Mouth check poster)
- allowing the student to watch other children having their mouths checked before their turn
- asking the student to look into the mouth of a friend, teacher or support person
- attending with a friend, teacher or support person, who can help demonstrate the procedure and reassure how simple a mouth check can be
- schools may choose to create their own social story relating to a mouth check. Generic and dental clinic-based social stories are available online for reference.

See also:

- [Section 3.2.3: Visiting an oral health professional](#)
- [Appendix 11.5: Children with additional needs](#)

4.3 Looking in the mouth

Where practical, asking a child to have a small drink, or rinse with water prior to looking in their mouth can make a big difference to your visibility, by:

- clearing the mouth of any food remnants. Dark-coloured foods, such as chocolate biscuits are notorious for settling into the pits and grooves of teeth, giving the appearance of dental caries. Light-coloured foods, such as bread, mimic the appearance of dental plaque. Both will impede vision of tooth surfaces
- rehydrating the mouth and washing away any thick, bubbly saliva (which may be present if the child is a little dehydrated (e.g., after exercise or play)).

In the case of mouth trauma, it is not recommended for a child to rinse their mouth out (or have a drink) in case they accidentally swallow a loose tooth or tooth fragment.

Nurses who find this suggestion helpful might consider asking the children to bring their own drink bottles with them or stop by a water fountain on their way to see the nurse.

4.3.1 Positioning the child

There are a number of different ways to position a child to make looking in their mouth easier.

- For most primary school children, mouth checks will be conducted facing the child, with the child sitting or standing in an upright position.
- Following a traumatic injury, children may be most comfortable lying down on their back or their side.

As the ultimate goal is to look inside the child's mouth, some children may require that nurses get a little creative to achieve success.

4.3.2 Lift the Lip

The 'Lift the Lip' protocol for school children has been developed to enable an effective mouth check. It is not considered a full dental examination.

A co-operative, physically capable child will be able to lift his or her own lips, therefore freeing up the nurse's hands to hold a torch. The nurse will not need gloves.



Even prep children should be able to assist the nurse in the following way:

- with the child's mouth at rest, or teeth lightly biting together (i.e., do not ask them to open wide):
 - ask the child to lift their top lip off their teeth using their thumbs and forefingers to give a good view of the upper front teeth
 - the child can also lift their lower lip from their lower teeth to give a good view of the lower front teeth
 - for a closer look at the inside of the cheek (buccal mucosa), ask the child to use their fingers to move the outer lip and cheek to one side.

With practice, Lifting the Lip will give a reasonable view of the “outside” surfaces of the teeth, but is unlikely to provide an adequate view of the “inside” and “biting” surfaces of the teeth, tongue, palate, or floor of mouth.

4.3.3 Open wide and say AAH

To look inside the mouth, it is necessary for the child to open their mouth.



- Ask the child to open their mouth wide.
 - Most will be unaware of their tongue position, or inadvertently poke it out. Asking them to say “Aah” should lower their tongue for a full view of the back of the mouth.
 - The child can continue holding their lips loosely, but this is not essential.
- For better vision:
 - you may need the child to tilt their head back (“please look up to the ceiling”)
 - or move their tongue in different directions
 - “Poke your tongue out”
 - “Curl your tongue up”
- A simple mouth position reset can usually be achieved by asking the child to close their mouth and swallow.

4.3.4 What to look for during a mouth check

Summary checklist: What to look for during a mouth check			Column A	Column B	Column C
1	Reason for presentation	SEHQ follow-up: <ul style="list-style-type: none"> Parent/carer concern? Has student had an oral health check by a dental practitioner in the past 12 months? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> Unsure
		Child seeking first aid care for trauma to the teeth or mouth	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
		Child reports pain from the teeth or mouth	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
		Concerns have been raised by child/ family/ school	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
2	Home care and oral hygiene	Visible plaque build-up on teeth, or obvious mouth odour?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
		Does child report brushing their teeth twice a day with a fluoride toothpaste?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Unsure
3	Teeth	Tooth decay concerns? White spot lesions? Clearly visible holes?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
		Tooth appearance concerns? Tooth discolouration? Chalky white spots or patches? Broken or chipped teeth? Excessive tooth wear? (e.g., from grinding)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
		Tooth eruption or position concerns? Number of teeth present? Is this well outside "expected" range? Crooked or crowded teeth?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
4	Gums	Red, swollen, bleeding? Lumps, sores, abscesses or suppuration?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
5	Tongue, lips & cheeks (inside), palate, floor of mouth	Lumps or sores? Asymmetries? Presence of tongue-tie or lip-tie?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> Unsure
6	Function and bite	Thumb-, finger-, lip- sucking? Tongue-thrust? Lisp? Anterior open bite?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> Unsure
7	Other	Underlying medical conditions that may affect the teeth/mouth? Any additional concerns?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
After mouth check: Use your professional judgement to consider all responses					
8	No concerns (= Ticks <i>only</i> in Column B)	<ul style="list-style-type: none"> Provide oral health information, as required. https://www.health.vic.gov.au/smile-squad/smile-squad-oral-health-resources Provide dental service information, as required. 			
9	Concerns (= Any ticks in Columns A and/or C)	<ul style="list-style-type: none"> Provide relevant oral health information. Provide dental service information. Recommend a visit to see a dental practitioner, OR Provide a referral letter. For more information, see Section 8 Recommendations and referrals 			
Please note: Column C "Unsure" might be selected for clinical uncertainty and/or when there is poor visibility (e.g., child not able to co-operate, food debris covering teeth, difficulty obtaining information).					

4.4 Documenting a mouth check

It is good practice to document the findings of a mouth check in line with workplace protocols.

When undertaking a mouth check, nurses and other health professionals are expected to look for any appearance outside the norm which may indicate a visit to a dental practitioner is required, or that oral health promotion resources should be provided to parents/carers.

Documentation should include a brief description of presenting reason, findings and any actions undertaken. The ***Summary checklist: what to look for during a mouth check*** can be used as a guide.

Nurses and other health professionals are not expected to use dental jargon or provide a diagnosis.

5. A healthy mouth

5.1 At a glance

Some of the major structures that are visible when looking inside the mouth include the following.

- Hard tissues:
 - teeth
- Soft tissues:
 - gums
 - mucosal (inside) lining of the lips
 - mucosal (inside) lining of cheeks
 - tongue
 - floor of mouth
 - palate
 - uvula
 - tonsils



5.2 The hard tissues: a summary

In a healthy mouth:

- teeth are **clean and free of plaque** (the sticky soft film containing bacteria)
- teeth will be **whitish in colour, shiny and smooth**. Permanent teeth tend to be more yellowish in colour compared to deciduous teeth
- newly erupted teeth may have **mamelons** (wavy incisal/biting edge). These wear down over time
- the **crowns** of the teeth will be visible above the gum line; the **roots** of the teeth will be covered by gum tissue (and underlying bone)
- the number and type of teeth present will vary depending on the age of the child
- the shape of the dental arches (the line where the teeth sit) will be rounded and reasonably symmetrical.

5.3 The soft tissues: a summary

In a healthy mouth:

- the gums will be **pink and stippled** (like they have tiny indentations). In darker-skinned children the gums may also be pigmented a darker brown
- the mucous membranes (inside of the lips, cheeks, palate and underside of the tongue) will be pink, smooth, glistening, uniform and moist
- the tongue will have papillae (small projections that contain several tastebuds) which give the tongue its characteristic rough appearance, and
- the roof of the mouth will be symmetrical (left and right sides) with a dome-shaped palate, and may have:
 - a soft, hanging midline protrusion called the uvula (at the back of the soft palate)
 - a hard, bony projection in the midline of the hard palate called a palatal torus (Hockenberry, Wilson, Winkelstein & Kline, 2023)
- the oral environment should be wet, with (plenty of) watery saliva.

5.4 Inside the mouth

Knowing what to expect when looking inside the mouth at each age requires consideration of general anatomical features, as well as tooth exfoliation and eruption sequence and timing.

There are more physical similarities than differences between the mouths of children at the start of primary school compared to the end of their primary school years. The main differences are:

- jaws and mouths (including soft tissues) grow as children get older
- the ratio of deciduous (primary) teeth to permanent (secondary) teeth decreases, as deciduous teeth are lost and replaced by permanent teeth
- additional permanent molars erupt at the back of the mouth, increasing the arch length.

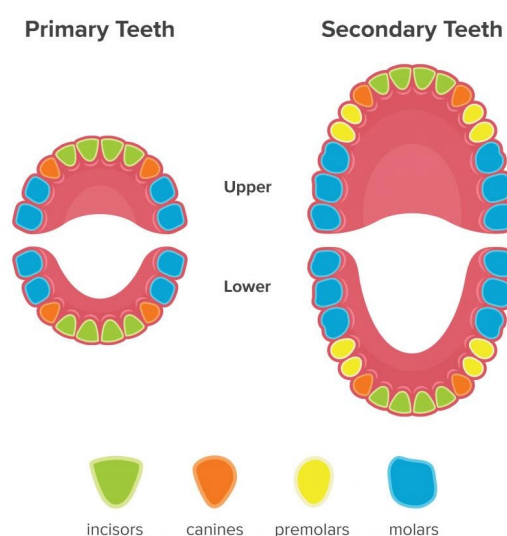







Image 1: Comparing mouths: primary (deciduous) teeth and secondary (permanent) teeth

Capturing an exact view of what every mouth will look like at specific ages is not straightforward. Whilst tooth eruption timing and sequence are well-described in the literature, what is considered “normal” covers a range of variations that can exist between children of the same age. This also means, for example, that the mouth of a 6-year-old child with advanced dental development, might look very similar to an 8-year-old with delayed dental development.

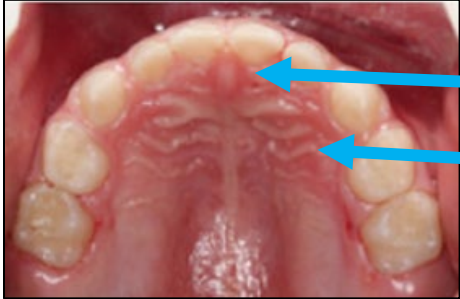
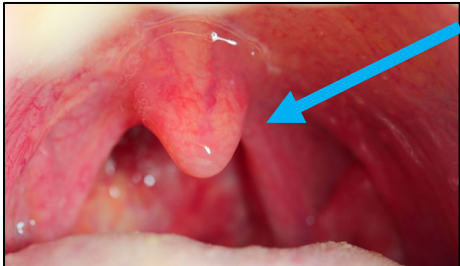

5.4.1 4-6 year old children

When a prep child has their mouth checked, they will generally be between 4-6 years old. This is the time when children **begin** to transition from having *only* deciduous teeth, to a *mixed* dentition of both deciduous *and* permanent teeth.


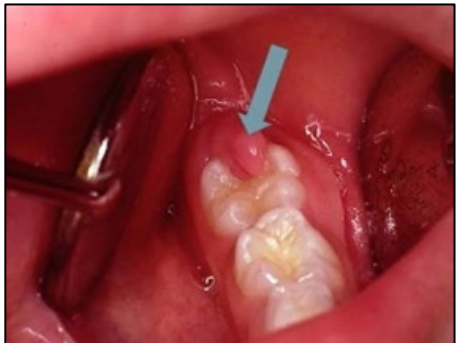


FRONT VIEW OF MOUTH: What you might see

<p>Image 2:</p> <p>Healthy mouth with deciduous teeth</p>		<ul style="list-style-type: none"> • “Only deciduous teeth are present.” • “Teeth look very clean.” • “Gums look healthy – not inflamed, sharp contours.” • “Gaps are present between teeth, which is normal (and desirable) in the deciduous dentition.”
<p>Image 3:</p> <p>Recently exfoliated lower incisor</p>		<ul style="list-style-type: none"> • “Child has recently lost (exfoliated) a lower incisor.” • “Upper incisors look like they are mobile (loose/wobbly).”
<p>Image 4:</p> <p>Newly erupted lower incisors</p>		<ul style="list-style-type: none"> • “Child has newly erupted lower permanent incisors.” • “Mamelons form a wavy, biting edge on the new incisors.” • It is normal for permanent teeth to be more yellow than deciduous teeth.
<p>Image 5:</p> <p>Newly erupted lower incisors</p>		<ul style="list-style-type: none"> • “Child has recently lost (exfoliated) an upper incisor.” • “Two permanent central incisors (with mamelons) have erupted.” • Mamelons are completely normal and wear down over time to create a flat biting edge.
<p>Image 6:</p> <p>Melanin (racial) pigmentation of gums</p>		<ul style="list-style-type: none"> • The darker brown line of colour on the gums above the teeth is due to racial (melanin) pigmentation. • The pattern of pigmentation can vary in extent and shape. • “The gums display racial pigmentation.” • “The upper right central permanent incisor is a little crooked, creating a gap between the central incisors. It is too early to know if this will self-correct.”

INSIDE VIEW OF UPPER JAW (Including palate): What you might see

<p>Image 7: Upper dental arch</p>		<ul style="list-style-type: none"> • “The upper arch is symmetrical and parabolic-shaped.” • The <i>incisive papilla</i> is the small lump behind the upper incisors. • “<i>Rugae</i> (wavy ridges) are present (on the anterior palate).”
<p>Image 8 Uvula</p>		<ul style="list-style-type: none"> • The <i>uvula</i> hangs down at the back of the soft palate. • It can vary in size and shape but is always in the midline.
<p>Image 9 Palatal torus</p>		<ul style="list-style-type: none"> • The <i>palatal torus</i> is a hard, bony projection in the middle of the hard palate. • They can vary in size and shape and are not always symmetrical. • Not everyone has one, but they are completely normal.

INSIDE VIEW OF LOWER JAW (Including floor of mouth): What you might see

<p>Image 10</p> <p>Lower dental arch</p>		<ul style="list-style-type: none"> • “The lower arch is symmetrical and parabolic shaped.” • The floor of the mouth is the area underneath the tongue.
<p>Image 11</p> <p>Erupting lower molar</p>		<ul style="list-style-type: none"> • “The lower first permanent molar (also known as a 6-year old molar) is erupting into the mouth.” • “This tooth is erupting behind the deciduous second molar tooth.” No tooth has been lost for this to occur. • “A flap of gum remains across the back section of the erupting tooth.” This usually goes away on its own. • It is important to keep this area clean to prevent germs and food becoming trapped under the flap.
<p>Image 12</p> <p>Permanent incisors erupting behind deciduous incisors</p>		<ul style="list-style-type: none"> • “The permanent lower incisors are erupting behind the deciduous incisors (due to lack of space).” • Common; usually self-correcting. • The deciduous incisors will usually exfoliate (fall out) on their own without intervention, and the permanent incisors will eventually be pushed forward into place by the tongue. • A dental practitioner can provide reassurance to families and arrange monitoring of the condition.
<p>Image 13</p> <p>Tongue</p>		<ul style="list-style-type: none"> • The tongue is wet and clean (with no coating). • There are many pink papillae (projections) on the upper surface of the tongue. • There are four different types of papillae on the tongue; the largest at the rear of the tongue are visible when the tongue is hyperextended.

5.4.2 7-9 year old children

Following on from the 4-6 year old child.

- The first permanent molars (6-year-old molars) should have erupted (or be close to finishing erupting) into the mouth behind the last standing deciduous molar.
- Any remaining permanent incisors will be in the process of (or have finished) erupting into the mouth.
- Children may experience a temporary period where their upper front teeth are splayed out due to the movement of unerupted upper canine teeth. This is referred to colloquially by dental practitioners as the *Ugly Duckling stage* (see [Section 6.4.2.1 Crooked and overcrowded teeth](#)). This usually self-corrects as the upper canine teeth erupt into position.
- It is common for the first deciduous molars to loosen or begin exfoliating around 9 years of age.

5.4.3 10-13 year old children

Following on from a 7-9 year old child.

- Eruption of permanent incisors should be complete.
- The permanent premolars are in the process of (or have finished) erupting into the mouth. These replace the deciduous molars.
- The second permanent molars (12-year-old molars) should be erupting (or be close to finishing erupting) into the mouth behind the 6-year-old molars. These are not wisdom teeth.
- The permanent canines are in the process of (or have finished) erupting into the mouth. These are usually the last of the permanent teeth to erupt, except for the wisdom teeth which do not erupt until approx. 18 years of age.

5.5 Oral hygiene

The cleanliness of a child's mouth gives an indication of the frequency and quality of home oral hygiene practices. Even if a child says they brush their teeth, the presence of visible plaque tells us that their technique or frequency needs improvement.

Proper tooth cleaning requires good manual dexterity, and parental assistance is recommended for children up until about 8-10 years of age. If a child cannot tie their own shoelaces, this is a generally a sign that they have not developed the manual dexterity required to clean their own teeth effectively.

5.4.1 Plaque

- Is the soft, sticky, creamy white substance found on the surface of teeth. It is primarily made up of bacteria.
- It is most commonly found along the gumline, and its presence is easily confirmed by scraping the front a tooth with a fingernail.
- People often describe the feeling of plaque on their teeth as "furry" (although sometimes this is only noticed once plaque is removed, and teeth feel smooth).
- Plaque can be removed from the surface of teeth using a soft toothbrush and from in between teeth using dental interdental aids like floss.
- Once plaque is removed, it begins to form again almost immediately.

- Plaque disclosing products (available from pharmacies) can be used to temporarily stain the plaque pink or purple, making it easier to see. These products are often used by oral health professionals to show people how effective their cleaning technique is.



Image 14 Teeth before cleaning	Image 15 Plaque is stained	Image 16 Teeth after cleaning
<ul style="list-style-type: none"> • Plaque is a creamy white colour, so can be difficult to see on teeth. • “Plaque is present on the teeth near the gumline.” • “The gums are a little inflamed, where they are in contact with the plaque.” 	<ul style="list-style-type: none"> • The plaque disclosing product stains the plaque to make it easier to see. • The purple stain shows established plaque, the pink stain shows newly formed plaque. 	<ul style="list-style-type: none"> • This photo is taken immediately after cleaning. • The plaque has been removed, but the gums are still inflamed. • If the teeth are kept clean, this inflammation will resolve in a few days.

5.4.2 Calculus (tartar)

- Is plaque that has been calcified (hardened) following exposure to the minerals found in saliva.
- The colour ranges from yellow to brown to black and is commonly found behind the lower front teeth (although it can be found on any tooth).
- It firmly attaches to tooth surfaces, cannot usually be removed by a toothbrush so will require cleaning (scaling) by a dental practitioner.

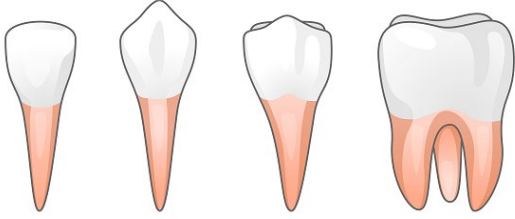
Image 17 Calculus		<ul style="list-style-type: none"> • Calculus is commonly found behind the lower front teeth. • It is firmly attached to the tooth surface. • It can be removed by a dental practitioner in a procedure called “scaling”.
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While plaque is a causative agent in both tooth decay and gum disease, calculus is only implicated in gum disease.

5.6 Tooth types

Types of teeth

There are four types of teeth.

Incisors	<ul style="list-style-type: none"> Also referred to as front teeth Are used to cut food (a bit like scissors) 	<p>Image 18:</p> <p>Tooth types</p>  <p>Incisor Canine Premolar Molar</p>
Canines	<ul style="list-style-type: none"> Also known as dog teeth or eye teeth Are used to tear food 	
Premolars	<ul style="list-style-type: none"> Are only found in the permanent dentition These teeth sit behind the canines and before (pre) the molars Are used to tear and grind food 	
Molars	<ul style="list-style-type: none"> Also referred to as back teeth or chewing teeth Are used to grind food 	

Sets of teeth

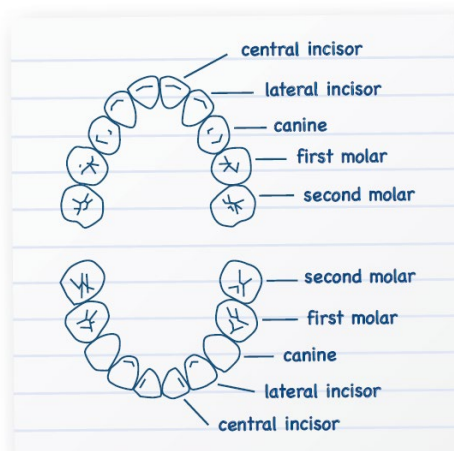
We all have two sets of teeth.

- Deciduous teeth:** also known as baby teeth, milk teeth, primary teeth or first teeth.
- Permanent teeth:** also known as secondary or adult teeth.

Deciduous teeth

There are ten (10) deciduous teeth in each arch – making a total of twenty (20).

Deciduous teeth are whiter, smaller and softer than permanent teeth. Because they are softer, it is quite normal for them to become quite worn due to normal wear and tear.



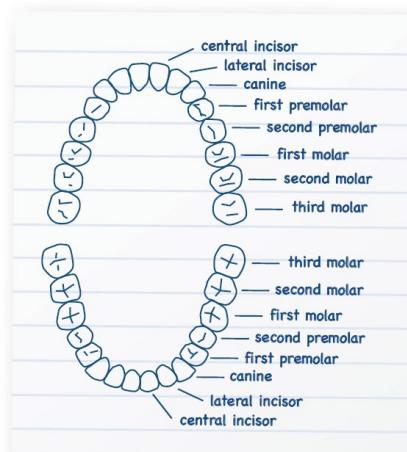
Deciduous teeth are just as important as permanent teeth, as they assist with:

- efficient chewing of food. Missing or badly decayed teeth may cause young children to reject foods that are difficult to chew
- maintaining normal facial appearance
- formulating/developing clear speech patterns
- maintaining space for and guiding the eruption of the permanent teeth
- jaw development and self-esteem.

Permanent teeth

There are sixteen (16) permanent teeth in each arch – making a total of thirty two (32).

Permanent teeth are larger, stronger and more yellow in colour than deciduous teeth.



Based on their anticipated eruption times:

- first permanent molars are often known as 6-year-old molars
- second permanent molars as 12-year-old molars
- third permanent molars as wisdom teeth.

5.7 Tooth exfoliation and eruption

Tooth exfoliation

Tooth exfoliation is the natural process by which deciduous teeth become loose and are shed from the mouth, to be replaced by permanent teeth.

Unerupted permanent teeth develop in the jaws beneath the deciduous teeth. As the permanent tooth crown finishes forming and eruptive movement begins, the root of the deciduous tooth begins to resorb (dissolve). When enough of the deciduous root has dissolved, the tooth becomes loose and falls out, and the permanent tooth is ready to erupt into the mouth.

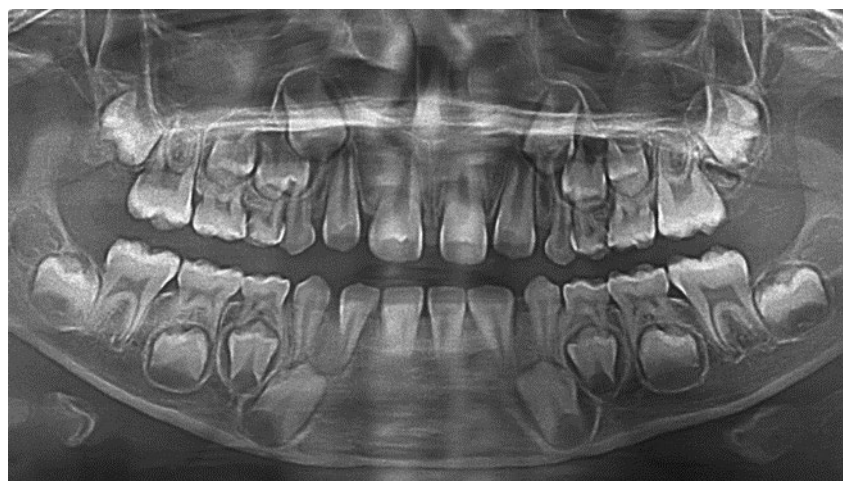


Image 19: **OPG radiograph showing permanent teeth developing in the jaw beneath the deciduous teeth**

Usual eruption and exfoliation sequence for deciduous teeth

Tooth	Eruption month (approximately)	Shed year (approximately)	Eruption sequence
Lower central incisor	6-10	6-7	<p>8-12 months</p> <p>9-13 months</p> <p>16-22 months</p> <p>13-19 months</p> <p>25-33 months</p> <p>23-31 months</p> <p>14-28 months</p> <p>17-23 months</p> <p>10-16 months</p> <p>6-10 months</p>
Lower lateral incisor	10-16	7-8	
Upper central incisor	8-12	6-7	
Upper lateral incisor	9-13	7-8	
Lower first molars	14-28	9-11	
Upper first molars	13-19	9-11	
Lower canines	17-23	9-12	
Upper canines	16-22	10-12	
Lower second molars	23-31	10-12	
Upper second molars	25-33	10-12	

Tooth eruption

The exact age at which teeth erupt into the mouth varies from child to child, just as the individual growth rate varies. There can also be some normal variation in the sequence of eruption.

In general:

- lower teeth erupt before their upper teeth counterparts
- tooth eruption occurs earlier in girls than boys
- the teeth in both jaws usually erupt in pairs - one on the right and one on the left.

During their primary school years, children are transitioning from a fully deciduous dentition to a fully permanent dentition. A child with a combination of deciduous and permanent teeth is said to have a mixed dentition. By the age of 13, most children will have all their permanent teeth, except for the third molars (wisdom teeth).

Eruption of deciduous teeth

Eruption of the deciduous teeth is usually complete by 3.5 years of age.

It is expected that by the time a child starts school, they will have their full set of deciduous teeth.

Eruption of permanent teeth

At around 6 years, eruption of the permanent teeth begins:

- the first permanent molars begin to erupt at the back of the mouth, *behind* the deciduous molars. They take up a new position in the arch (i.e., they do not replace a deciduous tooth that has fallen out)
- the lower permanent incisors begin to erupt, taking the place of the lower deciduous incisors which have exfoliated.

As deciduous teeth are being lost and permanent teeth are coming through:

- a child may find that chewing is more difficult when teeth are loose or missing
- a child should maintain their tooth-brushing routine. Extra care should be taken near loose teeth or sensitive areas
- children should be encouraged to wobble their loose teeth as this supports the exfoliation process, however, loose teeth should be allowed to fall out on their own
- sometimes a permanent tooth will start to erupt through the gum before the deciduous tooth has fallen out. If the deciduous tooth still hasn't fallen out within two or three months, the child should see a dental practitioner (Department of Social Services, 2021).

Permanent teeth are guided by their predecessor deciduous teeth into position. If those deciduous teeth are lost or extracted early (through trauma or tooth decay), the space may close due to movement of the nearby teeth and block the eruption path of the permanent tooth. This may necessitate orthodontic treatment later on.

Tooth eruption guidance tables are provided for reference, if required.

Usual eruption sequence for permanent teeth

Tooth	Year (approximately)	Eruption sequence
Lower first molars	6-7	
Upper first molars	6-7	
Lower central incisor	6-7	
Lower lateral incisor	7-8	
Upper central incisor	7-8	
Upper lateral incisor	8-9	
Lower canines	9-10	
Upper first premolars	10-11	
Lower first premolars	10-12	
Upper second premolars	10-12	
Lower second premolars	11-12	
Upper canines	11-12	
Lower second molars	11-13	
Upper second molars	12-13	
Third molars (wisdom teeth)	17-21	



5.7.1 Summary timeline: exfoliation and eruption of teeth

Deciduous teeth	Age		Permanent teeth
Formation begins in the jaws. Different tooth types begin to calcify at different times, ranging from 14 – 19 weeks <i>I.U.</i>	<i>In utero</i>		Formation begins in the jaws. Different tooth types begin to calcify at different times, ranging from birth – 10 years.
Eruption into the mouth begins	6 months		<i>Tooth formation continues until each tooth type is ready to erupt.</i>
Eruption is complete	3.5 years		
<i>All deciduous teeth are now present in the mouth</i>	4 - 5 years		
Loosening & exfoliation begins (in the following order)	6 years		Eruption into the mouth begins (in the following order)
• Central incisors	6 - 7 years		• Central incisors (lower) • First molars (lower, upper)
• Lateral incisors	7 - 8 years		• Lateral incisors (lower) • Central incisors (upper)
	8 - 9 years		• Lateral incisors (upper)
	9 -	10 years	• Canines (lower)
		11 years	
		12 years	
• First molars	10 -	11 years	• First premolars (upper) • Second premolars (upper)
• Canines (lower)		12 years	• First premolars (lower)
• Second molars	11 -	12 years	• Canines (upper) • Second premolars (lower)
• Canines (upper) • Second molars		13 years	• Second molars (lower)
Exfoliation should be complete	12 years		
	12 – 13 years		• Second molars (upper)
	13 years		Almost all permanent teeth have erupted (28 out of 32), except for the third molars (wisdom teeth)
	17-24 years		• Third molars (wisdom teeth) erupt

5.7.2 Over-retained deciduous teeth

Sometimes a deciduous tooth does not fall out according to expected exfoliation timeframes. This can occur with any tooth type. The reason for over-retained teeth is usually either because their permanent replacement tooth is missing, or its permanent replacement tooth is ectopic (i.e., not following its expected eruption path).

This is commonly seen with lower front teeth, where a permanent incisor tooth erupts before the deciduous tooth it is due to replace has fallen out. Most often the problem resolves by itself - the deciduous tooth eventually falls out on its own, and the tongue pushes the permanent tooth forward into the correct alignment.


Image 20: Normal exfoliation of upper incisor		<ul style="list-style-type: none">• “The upper incisor is very mobile and is going to fall out very soon. It is only attached to gum at the back of the tooth.”• Most children love to “play” with their loose teeth, which helps the teeth come out.
Image 21: Over-retained lower deciduous incisors, with ectopic eruption of permanent incisors		<ul style="list-style-type: none">• “Two permanent lower incisors have erupted in the wrong position (ectopically) behind the deciduous lower incisors.”• Recommend the child see a dental practitioner for assessment and monitoring.• In some cases, the dental practitioner will extract the over-retained tooth to assist eruption of the permanent tooth.

5.7.3 Extra or missing teeth

It is possible to have extra or missing teeth in both the deciduous and permanent dentitions.

Extra teeth are also known as *supernumerary* teeth. These can occur anywhere in the mouth.

Children should see a dental practitioner for assessment and management, which is likely to involve removal of the extra tooth.


Image 22: Supernumerary tooth: mesiodens		<ul style="list-style-type: none">• An extra tooth (usually cone-shaped) located between the upper incisor teeth is called a <i>mesiodens</i> (tooth in the middle).• A mesiodens can interrupt the eruption and alignment of neighbouring teeth, and usually requires removal.
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Missing teeth may be attributed to:

- natural reasons (i.e., failing to form)
- genetic influences (e.g., familial traits, recognised genetic conditions)
- trauma resulting in their loss
- extraction (removal) by a dental practitioner.

If a deciduous tooth fails to form, the corresponding permanent tooth will also fail to form (Letra A, et al 2021).




Children with missing teeth should see a dental practitioner for further investigation and management.

<p>Image 23:</p> <p>Missing upper lateral incisors</p>		<ul style="list-style-type: none">• There are gaps between the upper central incisors are canines because the lateral incisors are missing.• Radiographs (x-rays) would be taken to confirm that the teeth have failed to form.
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6. Common dental diseases and conditions

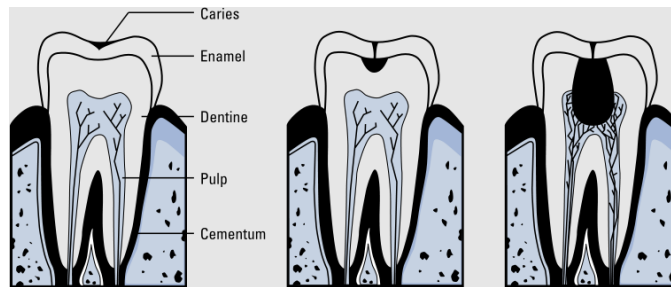
6.1 Dental caries (tooth decay)

Dental caries, commonly known as tooth or dental decay, is a diet-related transmissible infectious disease of the tooth structure, where bacterial by-products dissolve tooth structure.

If detected during a mouth check	Recommend child see a dental practitioner First stage caries (white spot lesions) can be reversed. Early and advanced caries (cavitated lesions) can be stopped from progressing further and damage repaired.	
Prevalence	More than 90% of Victorian adults have had or currently have dental caries, with one in three (32%) experiencing untreated dental caries (ARCPOH 2019). Dental caries is one of the most prevalent diseases in Victorian children. Almost half of all children (43%) have signs of dental caries (Do and Spencer 2016).	
Signs and symptoms		
Image 24: First stage of caries: White spot lesions		<ul style="list-style-type: none">• Dull white band/area on the tooth near to the gum line, indicating loss of mineral from tooth surface.• Difficult to see when teeth are wet; often covered by a layer of plaque.• Usually not noticed by family.• Able to be reversed.
Image 25: Mixed caries: white spot lesions and advanced caries		<ul style="list-style-type: none">• Photo shows a mixture of white spot lesions and advanced caries.• White spot lesions have progressed; tooth structure has weakened sufficiently resulting in yellow/caramel brown holes/cavities.• No longer reversible; can be stopped from progressing further.
Image 26: Advanced, extensive caries		<ul style="list-style-type: none">• Caries affecting most teeth; cavities covering larger portion of tooth surface.• Extensive brown areas on the teeth or stumps.• Can be stopped from progressing further, however considerable damage will require fillings and/or extractions.

**Signs and symptoms
(continued)**

The caries process starts on the surface of the tooth. Left untreated, it will progress towards the pulp (area containing nerves and blood vessels) in the centre of the tooth.



Process of caries invading a molar tooth (cross section)

Radiographs help detect dental caries that may not yet be visible to the naked eye.

The nature of the sensitivity or pain is related to how much tooth structure has been damaged, how close the cavity is to the pulp, and how inflamed the pulp tissue is.

A child may complain of:

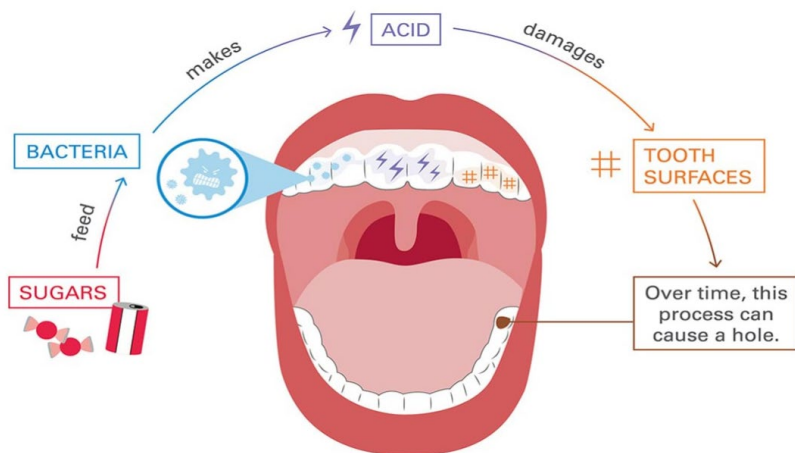
- short-lasting sensitivity to sweet or cold
- longer-lasting sensitivity to cold or heat
- toothache or mouth pain, OR
- no pain at all.

Causes

For dental caries to develop, the following are required:

1. bacterial dental plaque
2. fermentable carbohydrates (sugars)
3. a susceptible tooth
4. time.

In the total absence of any one of these factors, caries cannot develop. Practically speaking this is almost impossible to achieve – so we aim to reduce each factor as much as we can.



1. Bacterial dental plaque	<p>Immediately after cleaning teeth, a thin organic film forms on the teeth. This is soon colonised by bacteria found in the mouth and becomes known as dental plaque.</p> <p>The plaque bacteria feed on fermentable carbohydrates left on the tooth surface, producing an acid which then attacks the tooth enamel resulting in a loss of mineral (demineralisation).</p> <p>These minerals are stored in the saliva and can be resorbed back into the tooth enamel (remineralisation). The remineralisation process is enhanced by the presence of fluoride.</p> <p>In a healthy mouth, teeth are continually undergoing a cycle of demineralisation-remineralisation.</p> <p>Caries starts and progresses when the rate of demineralisation exceeds the rate of remineralisation. As minerals continue to be lost, early “white spot lesions” can be seen on the tooth surface. At this stage, the caries is totally reversible by supersaturating the area with minerals and fluoride.</p> <p>If mineral continues to be lost, the tooth structure weakens further and the enamel surface breaks down, forming a cavity (hole). Once a cavity forms, caries can still be stopped, but not reversed.</p>
2. Diet - Fermentable carbohydrates	<p>Fermentable carbohydrates are metabolised by plaque bacteria. They are generally simple sugars and starches such as glucose, sucrose, fructose, maltose and lactose.</p> <p>The following factors need to be considered:</p> <ul style="list-style-type: none"> • increasing the frequency of fermentable carbohydrate consumption increases the frequency of acid production in the mouth, which in turn increases caries risk. This is the factor that has the greatest potential for damaging teeth • foods that are cleared less rapidly from the mouth (e.g., sticky foods) are more likely to be consumed by plaque bacteria, and therefore more likely to cause caries.
3. Susceptible tooth	<p>The enamel is the protective coating of the tooth. Because the enamel layer on deciduous teeth is thinner than on permanent teeth, deciduous teeth more susceptible to dental caries. Any tooth with poorly formed enamel is also more susceptible.</p> <p>Parts of the tooth that are harder to clean (e.g., deep grooves on the biting surface, or contact areas between teeth) are also more susceptible to decay.</p> <p>Teeth that have been strengthened with fluoride are less susceptible to dental caries.</p>
4. Time	<p>Whilst the caries process only starts in the presence of the four causative factors, the time taken for caries to progress enough for white spot lesions or cavities to form is influenced by the other causative and modifying factors.</p>

	Because caries is a relatively slow process that is reversible in the early stages, assessment for dental caries should be undertaken regularly by an oral health professional.
Modifying factors	A number of factors can modify caries progression: <ul style="list-style-type: none"> • the presence of natural protective factors such as saliva • exposure to fluoride.
1. Saliva	Saliva protects the teeth from caries because it: <ul style="list-style-type: none"> • acts as a buffer to neutralise acids • provides and stores the minerals involved in the remineralisation process, and • lubricates the mouth to wash away food from the teeth. <p>Dehydration and certain medications/medical conditions can reduce salivary levels significantly, therefore increasing the risk of dental caries.</p> <p>Saliva flow decreases naturally during sleep, so teeth should always be cleaned thoroughly prior to going to sleep.</p>
2. Fluoride	Fluoride acts as a repair kit for teeth. Following acid attack, the fluoride in saliva helps to drive/encourage remineralisation. A constant supply of a low level of fluoride within the saliva is beneficial. <p>When fluoride is incorporated into the developing tooth structure (such as drinking fluoridated tap water during early childhood and primary school years), the tooth structure is more stable and less likely to undergo demineralisation. It can be likened to placing steel reinforcement into concrete structures.</p>
Age	Dental caries is found in people of all ages who have natural teeth.
Prevention	The prevention of dental caries requires a holistic approach, taking in the many factors involved in the causation of the disease, such as: <ul style="list-style-type: none"> • therapeutic levels of fluoride in the environment • preventive measures, including tooth brushing • reduced exposure to fermentable carbohydrates and sugars • early detection and management of the disease • social influences and medical conditions.
Early intervention and treatment	Once teeth are damaged, teeth cannot repair themselves without intervention. Early intervention may involve measures such as dietary and oral hygiene advice or topical fluoride application. Advanced caries will require clinical treatment such as restorations (fillings) or possibly extractions.

For more information, visit: [Tooth decay | teeth.org.au](https://teeth.org.au)

6.1.1 Early childhood caries

Early childhood caries (ECC) is a particularly severe form of dental caries affecting the primary dentition of infants and young children (Berkowitz, 2003). Several terms have been given to this condition including nursing caries, infant feeding caries, baby bottle caries and nursing bottle syndrome.

ECC is usually seen in preschool children, however primary school aged children may present with untreated ECC, or evidence of previous therapeutic dental interventions used to treat ECC.

If detected during a mouth check	Recommend child see a dental practitioner First stage caries (white spot lesions) can be reversed. Early and advanced caries (cavitated lesions) can be stopped from progressing further and damage repaired.	
Prevalence	Dental caries is one of the most prevalent diseases in Victorian children. Almost half of all children (43%) have signs of dental caries (Do and Spencer 2016). The prevalence and severity of ECC in low socio-economic, immigrant and indigenous communities is higher (Department of Health 2020).	
Signs and symptoms	As per Section 6.1 Dental caries: Signs and symptoms <ul style="list-style-type: none"> Initially, the upper incisors develop a dull white band (demineralisation) along the gum line; this usually goes undetected by the parents/carers. As the condition progresses, these white areas develop into cavities along the gum line (like a collar). The cavities may be yellow or brown in colour. In advanced cases, the crowns of the four upper incisors may be destroyed completely, leaving decayed darker black root stumps. The four lower incisors generally remain unaffected. This condition is often painless until the advanced stages. However, a child may complain of tooth sensitivity or pain. Infection/swelling and irritability may also occur. 	
Early childhood caries	Please refer to page 41 for images of early childhood caries.	Whilst any tooth can be affected by caries, typically in EEC: <ul style="list-style-type: none"> the upper incisors will be the most severely affected because of their early eruption the lower incisors, protected by the tongue and washed by saliva from the mandibular salivary glands, usually remain unaffected.
Cause/s	For caries to develop, the process and causative factors are essentially the same across all ages. 1. Bacteria Babies are not born with caries-causing bacteria (<i>Streptococcus mutans</i>) in their mouths. It is transmitted from the mother (or primary carer/s) to the infant through saliva when: <ul style="list-style-type: none"> they use their eating utensils to feed the infant they taste the food or test the temperature in their mouth prior to feeding 	

	<ul style="list-style-type: none"> the dummy/pacifier is “washed” in their mouth and then given to the infant the infant places their fingers into their mother (or carer’s) mouth and then into their own. <p>Babies should begin to have their teeth cleaned as soon as the first teeth erupt into their mouths (at around 6 months).</p> <p>2. Diet – fermentable carbohydrates Research into breastfeeding and oral health is still evolving. Studies have shown that breastfeeding up to 12 month protects teeth against dental caries; whilst there are mixed results regarding the effect of breastfeeding longer than 12 months on caries (Australian Breastfeeding Association 2022).</p> <p>Babies should not be put to bed with a bottle, and after a formula-feed should have their teeth wiped with a cloth. As babies are introduced to other foods and drinks (many containing sugars) from around 6 months, the likelihood of dental caries increases.</p> <p>3. Susceptible tooth Newly erupted teeth and immature enamel are more at risk of dental caries, due to limited exposure of the enamel to fluoride.</p> <p>4. Time The time taken for caries to progress enough for white spot lesions or cavities to form is influenced by the other causative and modifying factors.</p>
Age/s	<p>Whilst the age distinction between <i>early childhood caries</i> and <i>caries</i> is mainly academic, EEC is said to affect children up to 5 years of age.</p> <p>ECC can begin as soon as the first tooth erupts but is not often noticed by parents until the child is about 20 months of age.</p> <p>Primary school aged children will still show symptoms of this disease, even though the disease may have been most progressive in the past.</p>
Prevention	<p>Preventing ECC requires a holistic approach to the many biological and social factors involved in the causation of the disease, including:</p> <ul style="list-style-type: none"> the importance of maternal (or primary carer) oral health the appropriate use of the feeding bottle (e.g., remove bottle from baby when they are finished feeding, not putting baby to bed with a bottle) the appropriate use of a dummy or pacifier (e.g., avoid dipping dummy into sweet substances such as honey or jam) limitation of sugary foods and drinks use of sugar-free medications (where appropriate) cleaning teeth as soon as they erupt into the mouth (i.e., wiping with cloth after breast/bottle feeding) early detection and management of the disease (such as parents looking in their child’s mouth regularly for signs of decay) regular dental visits.

Early intervention and treatment	<p>ECC detected for the first time in a primary school aged child is not early detection. However, a valuable opportunity exists to educate parents/carers, and interventions (such as diet and oral hygiene advice or topical fluoride application) now can slow down or stop caries progression and prevent new caries forming.</p> <p>If caries is more advanced, treatment may include restorations (fillings) or possibly extractions.</p>
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For more information, visit:

- [Tooth decay - young children - Better Health Channel](#)
- <https://www.dhsv.org.au/oral-health-advice/Professionals/maternal-and-child-health-nurses>

6.2 Gum conditions

Gingivitis and periodontitis are diseases of the periodontal tissues that support the teeth (the gums and underlying structures including alveolar bone).

Note: *gingiva* or *gingivae* = gums; *periodontium* = the supporting structures of a tooth.

6.2.1 Gingivitis

Gingivitis (meaning *inflammation of the gingiva*) is usually a mild, localised condition affecting only the gums. It is easily reversible with good oral hygiene.



If detected during a mouth check	Mild gingivitis can often be managed without professional intervention. However, in more severe presentations, a dental practitioner will confirm diagnosis, ensure that children and families understand the condition and receive proper oral hygiene instruction. Professional cleaning may also be required.	
Prevalence	Very common amongst all ages.	
Signs and symptoms	<p>Red, swollen or puffy gums, gums bleed easily when brushing (blood is often noticed on the toothbrush during brushing, or when spitting).</p> <p>Accompanied by plaque or calculus (along the gumline). Not painful.</p>	
<p>Image 27:</p> <p>Mild gingivitis</p>		<ul style="list-style-type: none"> • “There is some mild inflammation of the gums, where the gums are in contact with plaque on the tooth surface.” • “There is slight redness and swelling, and the gum contours are more rounded.” • This person may report that the gums bleed when they brush.

Image 28: Moderate gingivitis		<ul style="list-style-type: none"> • “The gums have lost their sharp edges and appear very rounded.” • “The gums are red and inflamed, and bleed easily when touched.” • It is more difficult to clean these teeth well as they are crowded and overlapping.
Cause/s	The gums produce a localised inflammatory response due to contact with bacteria (in dental plaque) that is present on the surfaces of teeth, or dental implants (where present).	
Age/s	Any person who has natural teeth (or dental implants).	
Prevention	Gingivitis can be prevented by excellent oral hygiene involving regular and thorough removal of plaque or calculus.	
Early intervention and treatment	<p>Gingivitis is easily reversed by removing the plaque or calculus that is in contact with the gums. This is possible through improved oral hygiene (toothbrushing), interproximal cleaning (e.g., flossing) and/or professional cleaning (e.g., removal of calculus, where required).</p> <p>Most people with gingivitis avoid brushing near their gums due to the bleeding, however, gums only bleed due to the presence of plaque. Children should be encouraged to brush gently along the gumline and to expect increased bleeding at first.</p> <p>Inflammation can be reduced (sometimes even resolved) in as little as 1-2 days. Optimal oral hygiene must be maintained, otherwise gingivitis will return.</p>	

6.2.2 Periodontitis

Periodontitis (meaning *inflammation of the tissues surrounding the teeth*) is a more severe form of gum disease affecting the deeper tissues supporting the teeth, including loss of alveolar bone.

Periodontitis in children and young people is complex and different to that seen in adults.

If detected during a mouth check	<p>Non-dental practitioners are unlikely to see periodontitis in young children, as it is very rare, and sometimes mimics other normal processes taking place in the mouth at this age.</p> <p>In line with general advice regarding presentations that vary from “normal”, recommend the child see a dental practitioner.</p>
Prevalence	<p>Mainly seen in adults.</p> <p>Two forms of “early onset” periodontitis can be seen in children (prepubertal) and adolescents (juvenile) but these are extremely rare.</p>

Signs and symptoms	Prepubertal periodontitis: severe gingival inflammation, rapid bone loss, early exfoliation of deciduous teeth, usually associated with systemic illness such as Papillon-Lefevre Syndrome. Juvenile periodontitis: severe destruction of the periodontal tissues, limited to the first permanent molars and/or incisors. Clinically, the gums may appear completely normal with very little plaque present (Dental Practice Education Research Unit 2022).
Cause/s	Primarily bacterial plaque, however other local and systemic factors (e.g., impaired immune function, genetic conditions) are involved.

For more information, visit: [Gum disease - Better Health Channel](#)

6.3 Oral habits

A primary school aged child may have one or more oral habits, including non-nutritive sucking (using their thumb, finger or dummy), lip sucking, or tongue thrusting. While families are likely to be aware of these habits, children are less likely to display these habits during school because of peer pressure, and as a nurse you may only become aware of them due to clues in or around the mouth.

Nurses can explain to the child about why habits such as thumb sucking should stop. Sometimes an encouraging conversation with an adult outside of the family can be influential.

A recommendation to see a dental practitioner provides an opportunity for families to discuss the short and long-term impacts of the habit. Interceptive treatments may be available.

6.3.1 Non-nutritive sucking – thumb, finger or dummy (pacifier), lip

Thumb, finger, or dummy (pacifier) sucking

Thumb, finger or dummy (pacifier) sucking are common childhood habits, and usually stop between the ages of 2 and 4 years, however, can persist beyond this. Studies of thumb-suckers show they have a greater problem in breaking their habit than do dummy-suckers (Gupta GB, *et al* 2012).

The dental effects of these are usually totally reversible up until the age of 6 or 7, when the permanent teeth start to erupt. If thumb or finger sucking occurs beyond the age of 6 or 7 years, dental problems may arise. These include:

- **protruding front teeth (“buck” teeth)** – where excessive sucking pushes the front teeth out of alignment, causing them to protrude. This may alter the shape of the face and lead to an open bite
- **anterior open bite** – where a large gap exists between upper and lower incisors
- **a lisp** – when front teeth are pushed out of alignment, this interferes with the correct formation of s and z speech sounds, resulting in a lisp.

All three issues may occur at the same time.



Image 29: Protruding front teeth (“buck” teeth)		<ul style="list-style-type: none"> • “The upper incisors protrude and sit past (forward of) the lower lip.”
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Image 30: Anterior open bite		<ul style="list-style-type: none"> • “There is a large gap between the upper and lower front teeth when the back teeth are biting together.”
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Lip sucking

Sucking of the lower lip may occur in isolation or it may occur with thumb sucking. When the lower lip is repeatedly held beneath the upper front teeth, the area around the lips can become chapped, red and irritated, and an open bite may result.

Image 31: Lip sucking		<ul style="list-style-type: none"> • “The lips are chapped, and the redness extends to the area surrounding the lips.”
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Strategies to break oral habits

Parents appreciate support to help their children stop sucking their thumb, fingers, lip or dummy to minimise the long-term impacts of these oral habits.

Parents may approach nurses or other health professionals for advice on how best to do this. The following strategies might assist.

- Prepare the child.
 - Non-nutritive sucking is more likely to take place when a child is tired, stressed or hungry. Awareness and avoidance of these triggers can help manage these habits.
 - Involve the child in the decision to stop. Make sure they understand why they need to stop the habit, and that they want to stop.
 - When a dummy is used, involve the child in planning and hosting a special ceremony where the child can say thank you and good-bye to their dummy.
- Reward the child.
 - Use praise or a hug to reinforce their decision to stop the habit.
 - Use ticks or stars on a calendar for each period the child does not suck their thumb or fingers. After a successful period, reward the child with a treat such as a surprise outing, a toy or a special privilege.
 - The younger the child, the more frequently the reward may be required. A five to six-year-old may need some special reward after the first difficult night. Reward periods can gradually be stretched out. Some children may not lose the impulse to suck until they have collected as many as three to four rewards, which may take as long as three to four months.
- Offer encouragement.

- Parents and other family members must show patience and offer encouragement during this difficult time, especially the first few days. Multiple attempts to break the habit may be required.
- Parents may choose to encourage a child to bond with their favourite toy instead.
- Limit nagging.
 - The frequent repetition by parents to take the child's thumb or fingers out of their mouth can be counterproductive. It is the child, not the parents, who must learn to control the habit. If children feel they are being nagged, they will become defensive.
 - Occasional good-humoured comments that bring the sucking activity to the child's notice can be helpful.
- Physical reminders.
 - Give the child a mitten to wear as a reminder not to suck, or use unpleasant tasting nail paint, which is available from pharmacies, on the fingers or thumb.
 - Place a band-aid over the thumb or finger at bedtime.
- Offer distractions.
 - While a child is watching TV, have toys available for them to play with, or sit with them for a cuddle (or other form of comfort).
 - Keep hands occupied whenever possible. This might include asking them to carry something for you, playing with toys or books, or handling sensory or fidget toys.

Children can easily drift back to their old habit, and it may take several attempts before the habit is completely broken. Remember that patience is the key, and that a child's first days without sucking are usually the most difficult. Like all habits, the yearning slowly diminishes, and it eventually becomes easier to control. Effective methods will vary according to each child and their situation.

For more information, visit:

- [Thumb sucking - Better Health Channel](#)
- [Kids' teeth-grinding, mouth guards & more | Raising Children Network](#)

6.3.2 Tongue thrusting (infantile swallow)

During a normal swallow, the tongue is pushed *upward* against the roof of the mouth to stabilise the lower jaw. In comparison, tongue thrusters push their tongue *forward* against the upper front teeth (or between the upper and lower front teeth), to seal the mouth when swallowing.

Nearly all infants are born tongue thrusters. Most children outgrow it and develop a normal swallowing pattern by the time they are 6 years old. A small percentage of children will continue with tongue thrusting by the age of 12 years and into adulthood.

Because tongue thrusters exert pressure on the front teeth, continued tongue thrusting increases the likelihood that the front teeth will be pushed forward, causing an anterior open bite. Tongue thrusting can also cause speech problems, particularly with articulation of 's' and 'z' sounds.

<p>Image 32:</p> <p>Tongue thrust (child)</p>		<ul style="list-style-type: none"> ● "When the child swallows, the tongue moves forward past the lower front teeth."
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<p>Image 33:</p> <p>Tongue thrust (teenager/ adult)</p>		<ul style="list-style-type: none"> • “The tongue moves into the gap between the upper and lower front teeth during swallowing. There is an anterior open bite.”
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Tongue-thrusting signs include:

- when swallowing:
 - the tongue moves between or past the front teeth
 - there is a facial grimace and/or pursing of the lips
- when at rest:
 - the mouth hangs open and the tongue is pushed forward
- lisping: difficulty pronouncing ‘s’ and ‘z’ sounds
- breathing with an open mouth
- messy eating (as the tongue pushes food out when swallowing)
- anterior open bite.

If there is a concern, an assessment by a speech pathologist or dental practitioner is advised.

6.3.3 Tooth wear

Teeth are expected to wear down over time due to their role in biting, chewing and grinding food. Increased or unusual patterns of tooth wear alert us that something out of the ordinary is going on.

6.3.3.1 Teeth grinding (bruxism)

Bruxism is the technical term for the involuntary grinding or clenching of teeth, which often occurs during sleep, but can also happen whilst awake. The prevalence of reported sleep bruxism in children ranges from 3.5% to 40.6% (DPERU 2023)

Generally speaking, bruxism does not hurt the child’s teeth and in most circumstances the child will grow out of it with no ill effects. In extreme cases, night-time grinding and clenching can wear down tooth enamel and cause orthodontic problems and temporomandibular joint (TMJ) disease.

It is not known exactly why children grind their teeth, but risk factors include:

- their mouths and jaws are growing and changing (i.e., their bite is adjusting, discomfort of teeth erupting)
- they have pain somewhere
- they have emotional stress or anxiety
- certain medications (e.g., antidepressants, anti-psychotics)
- certain medical conditions (e.g., cerebral palsy, ADHD) (Department of Health 2020a).



There also seems to be a correlation between bruxism and sleep-disordered breathing (e.g., upper airway obstruction due to tonsillar and adenoid hypertrophy) (Di Francesco RC *et al* 2004).

Indications that children may be grinding their teeth include:

- shortened teeth associated with very flat biting surfaces
- uneven, or chipped enamel edges of the front teeth
- the sound of grinding - it can be very loud

- complaints of a sore jaw or face in the morning
- jaw joints that make a “popping” sound when opening or closing the mouth
- tired jaws making it difficult to chew breakfast
- complaints that teeth or jaws “feel strange” in the morning.

Any concerns are best addressed by a dental practitioner. Mild tooth wear in the deciduous dentition is usually not of concern and will require no further dental intervention. In more severe cases, a custom nightguard (a little like a mouthguard) can be made to protect the teeth.


Image 34: Bruxism (child)		<ul style="list-style-type: none"> • “There is severe wear of the biting surfaces of all teeth. The bite plane is very flat.” • “The crowns of the upper and lower front teeth are much shorter than expected due to wear.”
Image 35: Incisal chipping (teenager/ adult)		<ul style="list-style-type: none"> • “The permanent front teeth have slightly chipped enamel edges.” • “The incisal (biting) edges of the upper front teeth are uneven.”


6.3.3.2 Tooth erosion and abrasion

Tooth erosion describes the irreversible loss of tooth structure, caused by contact with an acid *without* the involvement of bacteria.

The sources of acid can come from within the body or from outside the body. Frequent acid contact for long periods of time increases the risk and wear of teeth.

- **Internal acid sources** – such as stomach acid from reflux or vomiting - tend to wear away the back surface of the upper front teeth.
- **External acid sources** – such as foods and drinks (e.g., fruit juice, carbonated drinks) - tend to wear away the front surface of the upper front teeth.

Image 36: Tooth erosion		<ul style="list-style-type: none"> • This damage is caused by an external acid source (e.g., lemon juice). • The acid smooths out any surface characteristics of enamel, making it glossy and causing it to reflect light differently. • Teeth affected by erosion are often sensitive to temperature and sweet.
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<p>Image 37:</p> <p>Tooth erosion (transparent incisal edge)</p>		<ul style="list-style-type: none"> • The enamel on these front teeth is so thin that it has become transparent (see-through) at the incisal edge. This is prone to chipping now. • As the enamel thins, the colour from the underlying yellow dentine layer also becomes more apparent. • Erosion softens the outer layer of the tooth, making it more susceptible to other types of tooth wear and dental caries.
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Tooth abrasion describes the irreversible loss of tooth structure caused by an external mechanical force over time, such as that caused by forceful toothbrushing (e.g., “scrubbing”) or habits such as biting on oral piercings. Toothbrush abrasion is regularly seen in adults, but not likely to be seen in primary school children.

6.4 Tooth alignment and occlusion

During a child’s mixed dentition phase (between 6-12 years of age), the mouth is in a constant state of change. Jaws are growing, deciduous teeth are being lost (exfoliated) and permanent teeth are erupting. For some children, these processes are beautifully synchronised, whilst for others there can be a complete mismatch between jaw growth, space availability and tooth sizes, or the timing of eruption and exfoliation of teeth.

In addition, there can be much variation in the way that teeth are positioned in the mouth, with a range of what is considered “normal” or “acceptable”.

- **Tooth alignment** refers to the way that teeth sit next to each other in the same arch. Most people think of this as how straight (or crooked) the teeth are.
- **Dental occlusion** refers to the way that upper and lower teeth come together when the mouth is closed (i.e., your “bite”). This can be influenced by the position of the teeth themselves, or the size and/or alignment of the upper and lower jaws.

Significant issues with these can interfere with speaking and eating, make it more difficult to keep the mouth clean, or result in jaw pain or increased traumatic injury or tooth wear. In some cases, these issues can impact on self-confidence and self-esteem.

Keeping in mind that some conditions are self-correcting and that not all problems need to be “fixed”, early detection and referral to a dental practitioner can be very beneficial and may increase the options available for treatment.

Conditions to look for:

- obviously **crooked teeth** (e.g., teeth that overlap, protrude “stick out”, are retroclined “lean backwards”, or are rotated)
- obviously **crooked bite** (e.g., mismatched jaw size or jaw shape, asymmetrical dental arches)
- **large gaps between upper and lower teeth** when biting.

6.4.2 Misaligned teeth (malocclusion)

A mismatch between the size (or developmental growth stage) of a child's jaw and the size of the child's teeth can result in misaligned teeth. Gaps between deciduous teeth are normal (and even considered desirable) – as this extra space provides some leeway for the permanent teeth which are larger than the deciduous teeth they replace. Space deficiency can result in crooked or overcrowded teeth.

Most parents will notice misaligned teeth, especially if they are easily visible at the front of the mouth. Unfortunately, this can also attract unkind attention from school peers.

Misaligned teeth should always be referred to a dental practitioner for review and management. Many early intervention options exist, that may remove the need for more involved (and costly) orthodontic care later.

6.4.2.1 Crooked and overcrowded teeth

Mildly crooked or crowded teeth may present a mild aesthetic issue or may not even be noticed. However, moderate to severe cases of crooked or crowded teeth have the potential to affect a person's self-confidence and self-esteem, as well as impact on their ability to speak, eat or clean their teeth properly.

For example:


- protruding upper front teeth (buck teeth) are more susceptible to trauma
- difficulty cleaning around crowded teeth can increase risk of dental caries and gum disease
- abnormal bite relationships can result in unusual tooth wear patterns.

Temporary changes in appearance during the mixed dentition stage

From 7-12 years of age (usually around 8-9 years), some children go through temporary changes in appearance due to patterns of eruption of the adult teeth. This often known colloquially among dental practitioners as the “*Ugly Duckling Stage*”.

This stage is characterised by splayed (fanned out) permanent upper incisors and a gap between the upper permanent central incisors. This is due to the changing position of the unerupted permanent upper permanent canines.

This stage is usually self-correcting. Once the upper canines erupt, the incisors usually revert to their correct position. Review by a dental practitioner allows for confirmation of diagnosis and monitoring.





<p>Image 38:</p> <p>Splayed upper front teeth</p>		<ul style="list-style-type: none">• “The upper permanent incisors are splayed.”• “The upper permanent front teeth fan out.”• The splaying is most likely due to the position of the unerupted upper canines; and will resolve on its own as the upper canines erupt.
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6.4.2.2 Bite irregularities (abnormal bite relationship)

When teeth bite together (in a resting position), the upper teeth usually sit slightly in front of (outside) the lower teeth. Deviations from this can occur when there are discrepancies in jaw sizes

or shapes, or when teeth are not in the correct position in the arch (either due to crowding, rotation or oral habits). One or more teeth may be affected.


Children with bite irregularities should be seen by a dental practitioner for review and management.

Image 39: Regular (normal) bite relationship	 A clinical photograph showing a normal bite relationship where the upper teeth slightly overlap the lower teeth.	<ul style="list-style-type: none"> • “When biting, the upper teeth sit slightly outside of the lower teeth. This is normal.”
Image 40: Anterior crossbite	 A clinical photograph showing anterior crossbite. A blue arrow points to the upper right central incisor, which is positioned behind the lower right central incisor.	<ul style="list-style-type: none"> • “When biting, the upper right central incisor sits behind the lower right central incisor.” • “The upper right central incisor is in a cross-bite with the lower right central incisor.” • The upper lateral incisors are also in cross-bite.”
Image 41: Posterior crossbite (multiple teeth)	 A clinical photograph showing posterior crossbite. A blue arrow points to the upper left side teeth, which are positioned inside the lower left side teeth.	<ul style="list-style-type: none"> • “When biting, the back teeth on the upper left side sit inside of the teeth on the lower left side.” • “The left-side teeth from the lateral incisor to the molars are in cross-bite with the corresponding lower left teeth.”
Image 42: Restricted (narrow) upper jaw	 A clinical photograph showing a restricted (narrow) upper jaw. The upper teeth are crowded and the jaw is v-shaped.	<ul style="list-style-type: none"> • “The upper jaw is v-shaped.” • “The upper jaw is significantly restricted (narrower) at the front.”

6.5 Tooth discolouration

Discolouration may be either extrinsic (external cause) or intrinsic (internal cause) and can affect both deciduous and permanent teeth.




Extrinsic (external) discolouration is superficial and occurs after tooth eruption. This includes stains caused by tea/coffee, red wine, smoking, and chromogenic bacteria, which all can be removed from the surface of the tooth with professional cleaning.

<p>Image 43:</p> <p>Extrinsic black stains (chromogenic bacteria)</p>		<ul style="list-style-type: none"> • “There are patches of black staining on almost all the teeth.” • “The teeth are covered in areas of black discolouration.” • “The gums appear healthy. There are no obvious signs of redness or inflammation.”
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Intrinsic (internal) discolouration may result from a developmental defect or internal staining of the tooth. Causes include:

- extensive use of antibiotics during tooth formation (e.g., Tetracyclines)
- congenital conditions
- trauma
- developmental defects (e.g. hypoplasia)
- fluorosis.

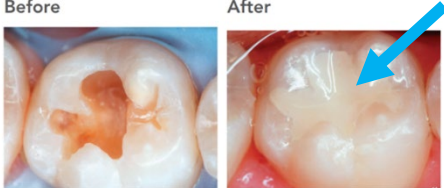


Because discolorations can mimic dental caries, further assessment by a dental practitioner is advised.

<p>Image 44:</p> <p>Discoloured tooth due to previous trauma</p>		<ul style="list-style-type: none"> • “The upper incisor has a darkened crown due to previous trauma (knock to the tooth).” • Exact colour/shade can vary – often a more bluish/grey colour. • The change in colour means the nerve inside the tooth has died. • This dead nerve may become infected in future. • If the tooth remains without pain or infection, the tooth would be left to exfoliate on its own.
<p>Image 45:</p> <p>Mottled enamel</p>		<ul style="list-style-type: none"> • “There are extensive light brown patchy areas visible on the enamel of the front teeth.” • “The enamel has a mottled appearance.”
<p>Image 46:</p> <p>Hypomineralised enamel on first permanent molar</p>		<ul style="list-style-type: none"> • “The enamel on the upper first molars (6-year-old molars) are yellow and have a mottled appearance.” • “The upper first molars seem to be hypomineralised.” • The enamel is weakened and more prone to caries, so needs to be assessed by a dental practitioner ASAP for management options. • Other teeth in this photo do not appear to be affected. • Check for a similar appearance on the other permanent teeth.

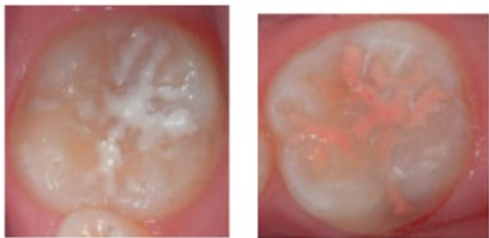
6.6 Previous dental treatments


Nurses might see evidence of previous dental interventions during mouth checks.

Dental treatments include:

<p>Image 47:</p> <p>Restorations (fillings)</p>	<div> <div>Before</div> <div>After</div>  </div>	<ul style="list-style-type: none"> • Restorations (fillings) replace tooth structure lost due to decay or fracture. • Most restorations placed in children are tooth-coloured, so may be difficult to see. • Amalgam restorations are rarely used now.
<p>Image 48:</p> <p>Stainless steel crown (SSC)</p>		<ul style="list-style-type: none"> • These are hollow, pre-made crowns that are cemented over the top of a back tooth severely affected by decay or weakened by a developmental abnormality. • The crown provides protection to the remaining tooth structure until the tooth exfoliates. • SSCs can usually be recemented if they come off.
<p>Image 49:</p> <p>Missing teeth due to early extractions</p>		<ul style="list-style-type: none"> • Removing deciduous teeth before they are due to exfoliate can result in drifting of adjacent teeth into their space. • In this photo the arrows show where the second deciduous molars were removed early. The 6-year-old molars have drifted forwards into the space. • This loss of space will cause complications later when the permanent premolar teeth are ready to erupt.

Preventive treatments include:

<p>Image 50:</p> <p>Fissure sealants</p>		<ul style="list-style-type: none"> • Fissure sealants are placed in the pits and grooves of molar teeth to protect them from decay. • Fissure sealants will eventually wear away. • Fissure sealant material can be tooth-coloured or pink/orange.
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<p>Image 51:</p> <p>Concentrated fluoride therapies:</p> <ul style="list-style-type: none"> • fluoride varnish • silver diamine fluoride 		<ul style="list-style-type: none"> • Both of these fluoride products can remineralise (stop) tooth decay from progressing. • Arrested (scarred) caries changes colour from brown to black.
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6.7 Introduction to oral medicine

Pathological conditions of the mouth can affect the teeth, gums, or other soft tissues of the mouth.

Ideally, nurses and other health professionals will be able to recognise when something they see in a child's mouth differs from the norm. **They are not expected to provide a diagnosis.**

When in doubt, a dental recommendation or referral can, at the very least, provide a diagnosis or peace of mind. Early detection also may result in a wider choice of interventions that provide best outcomes for the patient.

Dental diseases (See Section 6.1)

- dental caries
- periodontal disease

Oral diseases or conditions

- tongue-tie, lip-tie
- cleft lip and palate
- eruption cyst
- mucocele
- ulcers
- primary oral *herpes simplex* infection
- recurrent *herpes simplex* and *herpes labialis*
- *oral candidiasis* (oral thrush)
- dental abscess
- cellulitis (facial)
- geographic tongue

Oral manifestations of systemic diseases or conditions

- hand, foot and mouth disease (HMF)
- chicken pox
- measles
- leukemia

Oral complications associated with systemic diseases or conditions

- asthma
- diabetes
- epilepsy

More information can be found in [Appendix 11.4: Brief Guide to Oral Medicine](#)

7. Dental emergencies

7.1 Dental trauma

A student may require first aid following an accident involving one or more of their front teeth. There are many different types of traumatic injuries affecting teeth, which all require emergency dental attention. These may include:

- fractures to the crown and/or root
- loosening of the tooth in the socket
- knocking the tooth further up into the socket
- fractures to the alveolar bone surrounding the tooth
- knocking the tooth out of the socket completely.

In all instances, students should be seen by a dental practitioner as soon as possible, as timing is critical in ensuring the best possible long-term outcome for the teeth involved.

What to do if a tooth is knocked out?

One of the most serious dental accidents is when a permanent tooth is completely knocked out of the socket (avulsed).

Deciduous (baby) teeth

If a deciduous tooth is knocked out:

1. do **not** re-implant the tooth back in the socket
2. retrieve and place the tooth (or fragments) in a jar containing normal saline, the patients' saliva or plain milk, or wrap in plastic cling wrap. **Do not rinse or store in water.** Do not touch the root of the tooth
3. apply pressure to gum to stop any bleeding (have child bite on pad of sterile gauze)
4. urgent referral to dental practitioner (child to take tooth/ fragment with them).

The dental practitioner will examine the knocked-out tooth, confirm that the tooth is deciduous and therefore cannot be replaced.

Replanting a deciduous tooth may cause damage to the underlying permanent tooth or result in complications later when it is time for the deciduous tooth to fall out.

Permanent teeth

What to do if a permanent tooth is knocked out.

1. Keep the student calm.
2. Locate and retrieve the tooth.
3. Handle the tooth by the crown (white part) only, avoid handling the root.
4. If root has debris on it, gently rinse the tooth in normal saline or milk for a few seconds only.
5. Do not attempt to clean the tooth by scrubbing or using cleaning agents.
6. Do not let the tooth become dry.
7. If the student is conscious: replace the tooth in the socket immediately. You do not need to rinse the socket out. Make sure to put the root into the socket and facing the right way around - look at the other teeth for reference.
8. Hold the tooth in place using a small piece of aluminium foil extending across the tooth and its neighbours. The student can also gently hold the tooth with their fingers or bite on a handkerchief.

9. Seek emergency dental treatment immediately.
10. Consideration should be given to a tetanus injection – student should seek medical advice *following* dental visit.

If you cannot replace a permanent tooth in its socket (e.g., student is unconscious) do the following.

1. Store the tooth in normal saline, the patients' saliva or plain milk or wrap the tooth gently in plastic cling wrap to prevent it from drying out. Do not store in water.
2. Seek emergency dental treatment immediately as it is important that the tooth be replaced as quickly as possible. The first 30 minutes is critical.
3. If an ambulance is called to manage other serious injuries, the package containing the tooth should be well-labelled and accompany the child to the hospital.

If a permanent tooth is knocked out and is promptly replaced in the socket (ideally within 30 minutes), it has a good chance of survival. Every minute the tooth is out of the socket decreases the chance of the tooth surviving.

Some helpful hints:

- If you cannot tell if a front tooth is deciduous or permanent, consider:
 - age of child:
 - 4 years – almost certainly deciduous
 - 5 years – most likely deciduous but could be permanent in an early developer
 - 6-7 years – could be either as permanent incisors erupt around 6yrs of age
 - 8+ years – most likely permanent
 - size of tooth (if recovered) – the crown and root of adult teeth are considerably larger than deciduous teeth
 - appearance of the site where tooth knocked from – a larger, deeper socket is more likely to indicate the loss of a permanent tooth.
- When retrieving a lost tooth, check the tooth isn't "hiding" anywhere in the mouth, or caught in clothing. If a tooth is knocked out on a sports field, you may need to coordinate other students to carefully assist in finding the tooth. Ask them to take special care where they put their feet, especially if it is a muddy or soft field. It is worth spending some time locating the tooth, as replanting a person's own tooth back into the mouth is preferred over having a prosthetic (false) tooth for life.
- If more than one front tooth is knocked out at the same time, it can be difficult to know where each tooth belongs for reimplantation. Visually, it can be helpful to line the teeth up next to each other, in the correct order prior to reimplanting them. Teeth replanted incorrectly can be remedied by a dentist. However, if in doubt, store the teeth in saline/milk and seek immediate dental care.
- Create and label a dental trauma pack for your first aid cabinet/sick bay. Include a small specimen jar, sterile saline, sterile gauze and gloves. Generic alternatives include plastic cling wrap or plain milk. A student's own saliva can also be used as a storage medium. Include a copy of first aid instructions, and contact details for your nearest dental clinic/s.
- If you cannot get in contact with a parent/guardian to take the student to a dental clinic immediately, follow school protocol for medical emergencies. This may mean contacting the nearest dental clinic and accompanying the student to their appointment. The first 30 minutes is the most critical, especially if the tooth has not been reimplanted.

- When contacting a dental clinic, it is important to tell the dental receptionist taking the call that a tooth has been knocked out, to ensure that the clinic is aware of the critical nature. If one clinic is not able to assist, contact another.

If your school (or the location where the injury occurs) does not have a dental service close by, or if the trauma occurs outside of usual business hours, the hospital emergency department may also be able to assist.

7.1.1 Quick guide: When a tooth is knocked out



7.2 Other emergency presentations – swelling and bleeding

There are several dental conditions that warrant emergency attention.

In addition to dental trauma (see previous section), these include:

- severe swelling of the face or mouth
- uncontrollable bleeding from the mouth.

If a student presents with any of these, nurses should contact the student's parent/guardian and provide instruction to contact their local dental service immediately for assessment. If a parent/carer is not able to be contacted, nurses should follow their school's protocol for medical/dental emergencies, which may include contacting the local dental clinic directly for advice or accompanying the student to the dental clinic for clinical assessment.

When contacting the local dental service, it is important to explain the situation to ensure the student receives timely and appropriate care. Community dental clinics will complete an emergency triage over the phone.

If your school (or the location where the urgent condition arises) does not have a dental service close by, the local hospital emergency department should be contacted for assistance.

Severe swelling of the face or mouth

Swelling of the face (e.g., facial cellulitis) or mouth or around the jaw, regardless of its cause, should be referred for emergency dental or medical care.

Swelling that is accompanied by other symptoms - such as fever, lethargy, difficulty breathing, swallowing or speaking - requires immediate medical attention.

- Swelling may indicate the presence of a spreading dental infection, which can obstruct the airway or close the eye.
- Ludwig's angina is a significant swelling in the floor of the mouth (either one or both sides). The tongue may be raised and pushed forward. **The child is at serious risk of airway obstruction.**
- The swollen area may or may not be painful and tender; and may be associated with lack of function (e.g., can't open mouth properly).

Uncontrolled bleeding from the mouth

Any bleeding in or from the mouth that cannot be controlled using local measures, regardless of its cause, should be referred for immediate dental or medical care.

Unless a student has a bleeding disorder, significant bleeding from the mouth is usually associated with:

- injury to the soft tissues of the mouth (e.g., bitten inside of cheek or tongue), or
- reactive bleed following oral surgery (such as a recent dental extraction).

Bleeding may also originate from the respiratory or digestive tracts.

The mouth is highly vascular, which means that even small injuries can result in bleeding. In addition, saliva will mix with the blood, often giving the impression that the bleeding is greater than it really is.

A mouth that fills with blood repeatedly requires urgent dental/medical care.

What to do if a student presents with bleeding from the mouth.

1. Wear appropriate PPE – including gloves, facemask and protective eyewear.
2. Sit the student upright in a chair or elevate their head if lying down.
3. Obtain a brief history to determine possible cause.
4. Using a torch for lighting, try to locate the source of the blood. A piece of gauze will be helpful to soak up blood. If needed, ask someone to hold the torch, so that you can use both hands.

In the case of a mouth injury or recent oral surgery

1. Apply pressure to the area for at least 5 minutes, using a sterile gauze pad. Then review.
 - a. For recent dental extractions, roll up some gauze to fit into the space left by the tooth (make sure there is good contact with the gum), ask the student to bite hard (not chew).
 - b. Tissues are not recommended as they can easily disintegrate in the mouth.
2. If bleeding stops, continue to monitor the area. The student should not rinse their mouth or consume hot food or drinks and should avoid vigorous activity for the rest of the day. Sipping gently on a cool drink is fine.
3. If bleeding continues:
 - a. Apply pressure for another 5 minutes using a fresh gauze. Ensure good contact with the area that is bleeding. Review.
4. If bleeding persists but is slowing down, repeat step 3.
5. If there is no change to bleeding, prepare to send the student for dental review.

Bleeding from the respiratory or digestive tracts

1. Apply first aid management principles and seek medical care.

Students with known bleeding disorders

1. Attempt to stop the bleeding by applying pressure locally.
2. Seek urgent medical care.

8. Recommendations and referrals

Nurses and other health professionals in schools have a duty of care to communicate any concerns they have about a student's oral health with the student's family. Communication methods and processes may vary, depending on relevant workforce policies or protocols.

The following information is written from the oral health professional perspective, to provide context to any referral source about how their referral or recommendation will be viewed or received in an oral health setting.

8.1 Recommendation or referral?

A **recommendation** is where a nurse advises the family of a student to visit a dental practitioner. This can be done verbally or in writing.

A **referral letter** is written to a dental practitioner, introducing the child and any outlining concerns or relevant findings. The letter does not need to be addressed to a specific clinician and can be given to the student to take to their dental visit.

In the school setting, for most students in most cases, a recommendation to see a dental practitioner will suffice; however professional judgement should be used.

8.2 General care referrals

General dental care does not require immediate action; however, families should seek care in a timely manner.

From a dental perspective, there are a few situations where a written referral for general care is recommended:

- when a significant or complex dental issue is identified
- where there are concerns about communication and understanding (i.e., student's family may not fully understand the nurses concern or may have difficulty conveying this to a dental practitioner)
- in situations where the importance of seeking dental care is a view not shared by the family, and a written referral might have some influence.

A general referral letter can be presented to either a private dental practitioner or community dental service at the first appointment. If feedback from the treating practitioner is required, referees should ensure that their contact details are provided.

If a student requires referral to a dental practitioner, the following will be given to a parent:

- referral letter to be given to the dental practitioner
- Smile Squad information brochure
 - [Smile Squad oral health resources | health.vic.gov.au](https://www.health.vic.gov.au/smile-squad)
- information on how to find their closest local community dental agency.
 - <https://www.dhsv.org.au/our-services/find-dental-clinics/clinic-search>

8.3 Emergency care referrals

The incidents listed below warrant emergency (immediate) attention.

Emergency incident	Emergency referral letter should include
Dental trauma (e.g., tooth knocked out or loosened due to trauma)	<ul style="list-style-type: none">• Time of incident.• Details of first aid provided.• Significant medical history e.g. allergies, bleeding disorder.
Facial swelling (or facial cellulitis)	
Significant swelling inside the mouth (e.g., Ludwig's angina)	
Uncontrolled bleeding from the mouth (e.g., after trauma or dental extraction)	

When contacting a dental service, the parent or carer will need to clearly explain the nature of the emergency. Clinics will complete a triage over the phone (for private clinics this might be quite informal, however community dental agencies use a standardised triage process). Nurses may be asked to contact the dental service on behalf of the family.

Anyone experiencing any of these emergency incidents should not wait until an appointment is available later in the day (or the next day) for clinical review. If a timely dental appointment is not available, emergency care should be sought at another dental clinic or a hospital emergency department.

A written referral ensures that important background information, which may be critical in the management of the student, is shared with subsequent dental or medical personnel.

If parents or carers are unable to be contacted in these situations, nurses should refer to their school's medical emergency protocols.

8.4 Urgent care referrals

Urgent care differs from emergency care.

Dental presentations warranting urgent care include severe pain such as a toothache, pain disrupting sleep, or difficulty eating. Access to prompt clinical care is important for the comfort and wellbeing of the student, but these are not considered dental emergencies.

When contacting a dental service, parents/carers are encouraged to clearly explain their concerns, or any problems their child is experiencing. Clinics will complete a triage over the phone (for private clinics this might be quite informal, however community dental agencies use a standardised triage process) to determine how soon a child should be seen. In general, this will be the next available appointment.

A written referral may help a student access urgent care in cases where their family might struggle to advocate for them, however, is not essential. Nurses may be asked to contact the dental service on behalf of the family.

Examples of simple referral letters to dental practitioners can be found in the [Appendix 11.6 Suggested content for correspondence](#).

8.5 Quick guide: Recommendation of referral?

Recommendation	<ul style="list-style-type: none"> • Verbal or written, advising the family to visit a dental practitioner. • Provide Smile Squad brochure OR • Details on how to find the closest community dental agency. • Suitable for most students in most general cases.
Referral	<ul style="list-style-type: none"> • A written letter to a dental practitioner outlining concerns or relevant findings. • Use professional judgment and/or workplace protocols to determine the need for a written referral.
General care referrals	
When to use a written referral	<ul style="list-style-type: none"> • Significant or complex dental issues. • Concerns about communication or understanding. • When emphasising the importance of dental care to the family.
What to provide	<ul style="list-style-type: none"> • A referral letter to a dental practitioner. • Smile Squad brochure OR • Details on how to find the closest community dental agency.
Emergency care referrals	
When immediate attention is needed	<ol style="list-style-type: none"> 1. Dental trauma (e.g., tooth knocked out or loosened). 2. Facial swelling or cellulitis. 3. Significant swelling inside the mouth (e.g., Ludwig's angina). 4. Uncontrolled bleeding from the mouth.
Referral should include	<ul style="list-style-type: none"> • Time of incident. • Details of first aid provided. • Significant medical history (e.g., allergies, bleeding disorders).
Important notes	<ul style="list-style-type: none"> • Emergency care should not be delayed. If a dental appointment is unavailable, seek care at another clinic or a hospital emergency department. • If parents or carers are unavailable, follow the school's medical emergency protocols.
Urgent care referrals	
Urgent care situations	<ul style="list-style-type: none"> • Severe pain (e.g., toothache, pain disrupting sleep, difficulty eating).
Action steps	<ul style="list-style-type: none"> • Encourage parents to clearly explain concerns to the dental service. • Clinics will triage the situation to determine urgency. • A written referral may be helpful with advocacy, but not essential.

9. Dental services and websites

All nurses working in schools should be aware of the location of their local dental services, as well as any relevant eligibility criteria.

9.1 School dental program - Smile Squad

All students who attend a Victorian government primary, secondary or specialist school are eligible for free dental care through the free school dental program – Smile Squad.

Students may be seen at their school or by visiting their local community dental clinic.

All students enrolled in a government school are eligible for Smile Squad, even if they do not have a Centrelink card, Medicare card or are ineligible for the Child Dental Benefits Schedule (CDBS).

All Smile Squad services are free. There are no out-of-pocket costs for students or families for examination and any necessary follow-up treatment.

For more information, visit: [Smile Squad | health.vic.gov.au](https://health.vic.gov.au/smilesquad)

9.2 Access for children and young people to the public dental system

Even if students do not attend a government primary, secondary or specialist school, children and young people are still eligible for public dental services if they:

- live in Victoria **and**
- are aged 0-12 years of age, irrespective of family income or
- are aged between 0–17 and are eligible for the Child Dental Benefits Schedule or
- are aged between 13-17 with a Health Care card or Pension Card or whose parents hold a Health Care card or Pension Card or
- are a youth justice client in custodial care, regardless of age, or
- are aged up to 18 years of age and are in out-of-home care, provided by the Department of Families, Fairness and Housing (DFFH) (including kinship and foster care).

Public dental services can be accessed either at the Royal Dental Hospital of Melbourne or a community dental agency.

For more information, visit: [Access to Victoria's public dental care services | health.vic.gov.au](https://health.vic.gov.au/publicdental)

9.3 The Royal Dental Hospital of Melbourne (RDHM)

The Royal Dental Hospital of Melbourne (RDHM) provides general dental, specialist dental care and urgent/emergency dental care for people of all ages.

The Royal Dental Hospital of Melbourne is located close to the Melbourne CBD, in Carlton.

For more information, visit: [The Royal Dental Hospital of Melbourne | rdhm.org.au](https://rdhm.org.au)

9.4 Community dental agencies

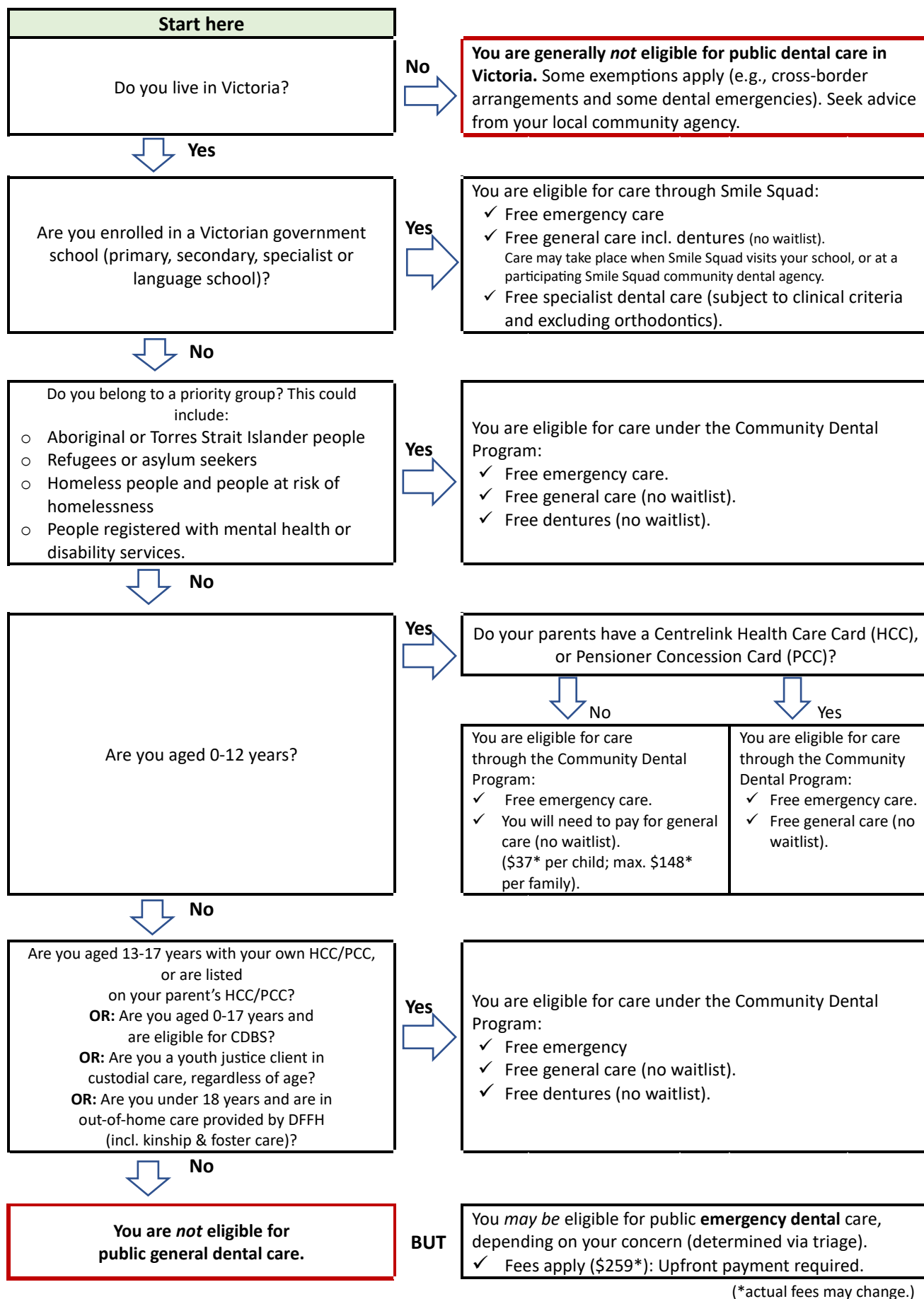
There are more than 45 community dental agencies throughout metropolitan and regional Victoria that provide general and emergency dental care to eligible people.

All students who attend a Victorian government primary, secondary or specialist school are eligible for free dental care through Smile Squad, provided by local community dental agencies.

Eligibility criteria apply to young people who are not eligible for the school dental program (see [Section 9.2 Access for children to the public dental system](#)).

The DHSV website [Find a public dental clinic | dhsv.org.au](https://dhsv.org.au) provides a listing of local dental services linked to Victorian postcodes.

9.5 Quick guide: Public dental services for children and young people (aged 0-17 years)



9.6 Private dental services

The details of private dental services (general and specialist) in your area can be found online at:

- Yellow Pages telephone directory: www.yellowpages.com.au
- Australian Dental Association's (Victorian Branch) "Find a dentist" service <https://findadentist.adavb.org>

Word of mouth from friends and family can also be helpful.

9.7 Specialist dental services

A dentist can undertake further training (3+ years) to become a specialist dentist in a specific discipline, such as:

- Paediatric dentistry
- Special Needs dentistry
- Oral medicine
- Oral and maxillofacial surgery
- Orthodontics
- Periodontics
- Endodontics
- Prosthodontics
- (Forensic odontology – this clinical specialty does not provide treatment)

Dental specialists practice in both the private and public sector. Their scope of practice is limited to their area of specialty. Children may require specialist dental care when their behavioural management or clinical needs go beyond what a general dental practitioner can provide.

Some examples include:

- a **paediatric dentist** (paedodontist) may be required when a child will not allow treatment to be completed in the dental chair. Depending on the child, desensitisation techniques and nitrous oxide sedation may be offered initially, with general anaesthetic considered as a last resort. Paediatric dentists are also able to manage children who are medically compromised, or who require complex restorative work or follow-up management of complex traumatic injuries
- **oral and maxillofacial surgeons** may be the most appropriate choice for complex surgical procedures.

Public dental specialists

To access public dental specialists, a written referral must be completed by one of the following:

- dental practitioner
- medical practitioner (for oral medicine only)
- specialist dentist at Royal Dental Hospital of Melbourne
- dental student with the approval of a clinical supervisor.

Medical, nursing and allied health professionals will need to refer patients to a local community dental clinic initially for a full dental examination and relevant diagnostic tests. The local community dental clinic can then refer to a dental specialist, where required.

Eligibility

- Normal public dental service eligibility **PLUS** specialty-specific, clinical criteria applies.
- Students eligible for Smile Squad can access all specialist dental services, excluding orthodontics. Referrals must be generated from Smile Squad providers.

- The Royal Children's Hospital Melbourne Department of Dentistry provides clinical care for children and adolescents with complex medical and dental problems. Given the highly specialised nature of the department, special eligibility criteria must be met before patients are accepted for care. For more information: [Dentistry : About the Department of Dentistry \(rch.org.au\)](http://rch.org.au)

Private dental specialists

Access to private dental specialists is only through referral from another dental practitioner. There are a few exceptions:

- private orthodontists generally accept self-referred clients
- private oral medicine specialists and oral and maxillofacial surgeons will accept referrals relating to oral pathology from medical practitioners.

Medical, nursing and allied health professionals will need to refer patients to a general dental practitioner initially, who can then refer to a dental specialist, where appropriate.

Eligibility

- Everyone is eligible to attend a private dental specialist, via referral. Costs can be discussed with the specialist practice prior to making an appointment.
- Public dental clients who do not meet the clinical criteria for public dental specialist services, or who simply wish to, may elect to see a private dental specialist.

9.8 Useful websites

Dental Health Services Victoria (DHSV)

- [Home | dhsv.org.au](https://dhsv.org.au)
- For information and resources, select **Oral Health Advice** on the home page
- Email: info@dhsv.org.au

Smile Squad

- [Smile Squad | health.vic.gov.au](https://health.vic.gov.au)
- [Smile Squad | dhsv.org.au](https://dhsv.org.au)
- Email: smilesquad@dhsv.org.au

Australian Dental Association (Federal Branch)

- [Welcome to Teeth.org.au | teeth.org.au](https://teeth.org.au)
- Or www.teeth.org.au

Better Health Channel

- [Better Health Channel - Better Health Channel](#)
- Or www.betterhealth.vic.gov.au
- Select: **Conditions and treatments – Body parts - Mouth and teeth**

Health Translations Directory

- [Health Translations | Health Translations](#)
- Or www.healthtranslations.vic.gov.au
- Search **all resources**: Enter **dental** under keyword

Raising Children Network

- [Raising Children Network](https://raisingchildren.net.au)
- Or www.raisingchildren.net.au
- Search the site: Try **dental**, **teeth**, **mouth**, etc
- Also explore **school age** and **pre-teens**

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10.1 Image resources

We gratefully acknowledge the rightful owners of images included in *The mouth*. Any ownership errors or omissions are unintentional.

Image No.	Description	Source
1	Comparing mouths: primary (deciduous) teeth and secondary (permanent) teeth	Sissons B (2023). <i>Teeth: Names, types and functions</i> . Medical News Today website. https://www.medicalnewstoday.com/articles/326754#types-of-teeth
2	Healthy mouth with deciduous teeth	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne
3	Recently exfoliated lower incisor	Masters M (2023). <i>When Do Kids Start Losing Teeth?</i> What to expect website. https://www.whattoexpect.com/toddler/grooming/when-baby-teeth-fall-out.aspx
4	Newly erupted lower incisors	Mohlin B, Westerlund A, Ronsjö, Kuroi J (2017). Chapter 21. Occlusal Development, Malocclusions, and Preventive and Interceptive Orthodontics. In Koch G, Poulsen S, Espelid I, Haubek D (Eds) <i>Pediatric Dentistry – a Clinical Approach</i> (3 rd ed). John Wiley & sons, Ltd. West Sussex. https://doctorlib.info/pediatric/pediatric-dentistry-clinical-approach/21.html
5	Newly erupted lower incisors	© Timothy W.Stone/Shutterstock
6	Melanin (racial) pigmentation of gums	Kauzman A, Pavone M, Blanas N, Bradley G (2004). Pigmented lesions of the oral cavity: review, differential diagnosis, and case presentations. <i>J Can Dent Assoc.</i> 70(10):682-3. PMID: 15530266.
7	Upper dental arch	Growing smiles (2020). <i>Oh baby, my teeth!</i> Growing smiles website. https://growing smiles.co.uk/oh-baby-my-teeth
8	Uvula	© Supersmario/Canva.com
9	Palatal torus	Oliván-Gonzalvo G (2021). Torus palatinus in a 13-year-old Spanish girl. <i>Iberoam J Med.</i> 3(4):356-358. https://doi:10.53986/ibjm.2021.0051
10	Lower dental arch	Growing smiles (2020). <i>Oh baby, my teeth!</i> Growing smiles website. https://growing smiles.co.uk/oh-baby-my-teeth
11	Erupting lower molar	Sourav AR (2014). <i>Eruption gingivitis and pericoronitis in children</i> . Slideshare.net website. https://www.slideshare.net/porag25/eruption-gingivitis-and-pericoronitis-in-children#7
12	Permanent incisors erupting behind deciduous incisors	Children's Hospital Colorado (2024). <i>Shark teeth!</i> Colorado Children's Dental Centre website. http://ccdcsmiles.com/blog/19386/Shark-Teeth-
13	Tongue	© Deyan Georgiev/Canva
14	Teeth before cleaning	Northwest Paediatric Dentistry (2024) <i>Helping children brush better: Use of disclosing solution</i> . Northwest Paediatric Dentistry website. https://nwpd.com.au/helping-children-brush-better
15	Plaque is stained	Northwest Paediatric Dentistry (2024) <i>Helping children brush better: Use of disclosing solution</i> . Northwest Paediatric Dentistry website. https://nwpd.com.au/helping-children-brush-better
16	Teeth after cleaning	Northwest Paediatric Dentistry (2024) <i>Helping children brush better: Use of disclosing solution</i> . Northwest Paediatric Dentistry website. https://nwpd.com.au/helping-children-brush-better
17	Calculus	© Lighthunter/ Shutterstock
18	Tooth types	Australian Dental Association (2024). <i>Tooth anatomy</i> . Teeth.org.au website. https://www.teeth.org.au/tooth-anatomy
19	OPG radiograph	© bdsnp/ Getty Images
20	Normal exfoliation of lower incisors	© Aleksandr Pykhteev/ Getty Images

21	Over-retained lower deciduous incisors with ectopic eruption of permanent incisors	Zou J, Meng M, Law C. Rao Y, Zhou X (2018). Common dental diseases in children and malocclusion. <i>Int J Oral Sci</i> 10, 7. https://doi.org/10.1038/s41368-018-0012-3
22	Supernumerary tooth: mesiodens.	Kids Dentist (2024) <i>Extra Teeth Growing in Gums</i> . Pure Dentistry website. https://www.kids-dentist.com.au/extra-teeth-in-gums
23	Missing upper lateral incisors	Kazemi Oral Surgery and Dental Implants (2024). <i>Missing upper lateral incisors</i> . Facial art website. https://www.facialart.com/portfolio/dental-implants-stories/smile-zone-bethesda-dentist/dental-implants-missing-upper-lateral-incisors
24	First stage caries: white spot lesions	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne
25	Mixed caries: white spot lesions and advanced caries	© Tam MJ (2010), personal collection.
26	Advanced, extensive caries	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne
27	Mild gingivitis	© sviatlanalazarenka/ Canva
28	Moderate gingivitis	© Viktoriia M1/ Canva
29	Protruding front teeth ("buck" teeth)	Bis, A (2024) <i>TMJ Disorder Starts In Early Childhood</i> . Smiles By Bis website. https://smilesbybis.com/tmj-disorder-starts-in-early-childhood
30	Anterior open bite	https://www.kids-dentist.com.au/open-bite
31	Lip sucking	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne
32	Tongue thrust (child)	Coulson & Associates (2024) <i>Tongue Thrust</i> . Coulson & Associates. https://www.sandracoulson.com/tongue-thrust
33	Tongue thrust (teenager/ adult)	O'Connor Dental Health (2023). <i>Reverse swallow & Tongue thrusting</i> . O'Connor Dental Health website. https://oconnordentalhealth.ie/health-problems/tongue-thrusting
34	Bruxism (child)	Kotsanos N, Birkhed D. (2022). Tooth Wear in Children and Adolescents. In: Kotsanos N, Sarnat H, Park K (eds) <i>Pediatric Dentistry. Textbook in Contemporary Dentistry</i> . Springer, Cham. https://doi.org/10.1007/978-3-030-78003-6_18
35	Incisal edge chipping (teenager/ adult)	The Smile Center (2024). <i>Bruxism Treatment</i> . The Smile Center website. https://www.thesmilecenter.info/procedures/bruxism
36	Tooth erosion	Kotsanos N, Birkhed D. (2022). Tooth Wear in Children and Adolescents. In: Kotsanos N, Sarnat H, Park K (eds) <i>Pediatric Dentistry. Textbooks in Contemporary Dentistry</i> . Springer, Cham. https://doi.org/10.1007/978-3-030-78003-6_18
37	Tooth erosion (transparent incisal edge)	Kotsanos N, Birkhed D. (2022). Tooth Wear in Children and Adolescents. In: Kotsanos N, Sarnat H, Park K (eds) <i>Pediatric Dentistry. Textbook in Contemporary Dentistry</i> . Springer, Cham. https://doi.org/10.1007/978-3-030-78003-6_18
38	Splayed upper front teeth	Osmólska-Bogucka A, Siemińska-Piekarczyk B (2015). Diastema pośrodkowa szczęki - przegląd literatury. <i>Dental and Medical Problems</i> 3. https://www.researchgate.net/figure/Bite-development-ugly-duckling-stage-Fan-arranged-upper-incisoras-and-maxillary_fig1_281118571
39	Regular bite relationship	Pocket Dentistry (2015). <i>Ch 1 Orthodontic Diagnosis and Treatment Planning</i> . Pocket Dentistry website. https://pocketdentistry.com/1-orthodontic-diagnosis-and-treatment-planning
40	Anterior crossbite	Zou J, Meng M, Law C. Rao Y, Zhou X (2018). Common dental diseases in children and malocclusion. <i>Int J Oral Sci</i> 10, 7. https://doi.org/10.1038/s41368-018-0012-3
41	Posterior crossbite (multiple teeth)	Walt Orthodontics (2024). <i>Results Gallery</i> . Walt Ortho website. https://www.waltortho.com/results/page/3/#before-after-98

42	Restricted (narrow) upper jaw	Mostafiz W (2019). <i>Fundamental of Interceptive Orthodontics: Optimizing Dentofacial Growth and Development</i> (course notes). CDE World website. https://cdeworld.com/courses/5182-fundamentals-of-interceptive-orthodontics-optimizing-dentofacial-growth-and-development
43	Extrinsic black stains (chromogenic bacteria)	Janjua U, Bahia G, Barry S (2022). Black staining: an overview for the general dental practitioner. <i>Br Dent J</i> 232, 857–860. https://doi.org/10.1038/s41415-022-4345-0
44	Discoloured tooth due to previous trauma	© Gajus/ Canva
45	Mottled enamel	Dentistry and Medicine (2015). <i>Dental Fluorosis</i> . Dentistry and Medicine blog. https://dentistryandmedicine.blogspot.com/2015/08/dental-fluorosis.html
46	Hypomineralised enamel on first permanent molar	Pocket Dentistry (2015). <i>Ch 25 Molar Incisor Hypomineralisation</i> . Pocket Dentistry website. https://pocketdentistry.com/25-molar-incisor-hypomineralisation
47	Restorations (fillings)	Dr Hien Ngo/ GC Australasia Dental (2024). <i>Glass Ionomer Restorative Cement (GIC) Usage Guide</i> . GC Dental website. usage-guide-fuji-2.pdf (gc.dental)
48	Stainless Steel Crown (SSC)	© Pornpak Khunatorn/Getty Images
49	Missing teeth due to early extractions	Bücco (2024) <i>Tooth eruption</i> . Bücco Orthodontiste en ligne website. https://www.orthodontisteenligne.com/eruption-dentaire
50	Fissure sealants	Dr Geoff Knight/ SDI (2024) <i>Riva Protect</i> . SDI website. riva protect - SDI
51	Concentrated fluoride therapies – FV, SDF	Dr Julia Barros, Dr Leticia Vieira/ SDI (2024). <i>SDF Innovation: Riva Star</i> . SDI website. riva star - SDI
52	Cleft lip (unilateral)	Australian Dental Association (2024). <i>Cleft Lip and Palate Scheme</i> . Teeth.org.au website. https://www.teeth.org.au/cleft-lip-and-palate-scheme
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54	Cleft palate	Children's Minnesota (2024). <i>Cleft & Craniofacial Program</i> . Children's Minnesota website. https://www.childrensmn.org/services/care-specialties-departments/cleft-craniofacial-program/conditions-and-services/cleft-palate
55	Eruption cyst	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne.
56	Mucocoele	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne.
57	Traumatic ulcer (lower lip)	healthdirect (2024) <i>Mouth sores and ulcers (canker sores)</i> . Healthdirect website. https://www.healthdirect.gov.au/mouth-sores-and-ulcers
58	Aphthous ulcers (lower lip)	© frank600/Getty Images.com.au
59	Primary herpetic gingivostomatitis	Nair RG, Salajegheh A, Itthagarun A, Paknesha S, Brenna MT, Samaranayake P (2014). Orofacial viral infections – an update for clinicians. <i>Dental Update</i> . Vol 41 (6) pp 518-524. https://www.dental-update.co.uk/content/oral-medicine/orofacial-viral-infections-an-update-for-clinicians
60	Recurrent oral herpes (upper lip)	DiFoggio W (2023). How to Get Rid of a Cold Sore. TeethTalkGirl.com website. https://www.teethtalkgirl.com/dental-health/cold-sores
61	Oral candidiasis	National Health Service (NHS) (2023). <i>Oral thrush (mouth thrush)</i> NHS website. https://www.nhs.uk/conditions/oral-thrush-mouth-thrush
62	Dental abscess	Dental Health Services Victoria (2005). <i>The Mouth: Oral health information for Primary School Nurses</i> . DHSV, Melbourne.
63	Facial cellulitis (with periorbital swelling)	Oral Health Division, Ministry of Health Malaysia (2017) <i>Clinical Practice Guidelines: Management of Acute Orofacial Infection of Odontogenic Origin in Children</i> (1 st ed). Ministry of Health Malaysia, Putrajaya.

64	Geographic tongue	theAsianparent (2024). <i>What parents need to know about 'geographic tongue'</i> . The Asianparent website. https://sg.theasianparent.com/geographic-tongue-in-toddlers
65	Hand, foot and mouth disease	© Dr P. Marazzi/Science Photo In Tesini BL (2023). Hand-Foot-and-Mouth Disease. In MSD Manual Consumer Version. https://www.msdmanuals.com/en-in/home/infections/enteroviruses/hand-foot-and-mouth-disease
66	Chicken pox in the mouth (palate)	Todorov I, Bliznakova D, Madjova C, Tonchev T, Gospodinova M (2015). Oral cavity changes in the course of infectious diseases, during childhood. <i>Scripta Scientifica Medicinae Dentalis</i> . 1(2):7. https://DOI:10.14748/ssmd.v1i2.1411
67	Koplik spots (measles) on the inside cheek	Todorov I, Bliznakova D, Madjova C, Tonchev T, Gospodinova M (2015). Oral cavity changes in the course of infectious diseases, during childhood. <i>Scripta Scientifica Medicinae Dentalis</i> . 1(2):7. https://DOI:10.14748/ssmd.v1i2.1411
68	Leukaemia	Michalak E, Dudzik A, Sreba J, Kesek B, Darczuk D (2022). Oral manifestations of leukaemia: cooperation between dentist and haematologist. <i>Hematology in Clinical Practice</i> ; 13, 2: 55–61. http://dx.doi.org/10.5603/HCP.a2022.0009

11. Appendices

11.1 Understanding population oral health – Fluoride

11.1.1 Role of fluoride in oral health

Fluoride plays a key role in the prevention of dental caries. Fluoride protects both developing and erupted teeth, and therefore benefits individuals of all ages.

Fluoride has two mechanisms of action: systemic and topical.

Systemic: When fluoride is consumed during the period when a person's teeth are developing (e.g., by drinking fluoridated tap water during childhood), it becomes incorporated into the developing tooth structure, making teeth more resistant to acid attack in future. This benefit will last for the entire life of the tooth.

Topical: Once tooth development is complete and the tooth has erupted into the mouth, the fluoride (e.g., in toothpaste or fluoridated tap water) has a topical effect on the surface of the tooth. Topical fluoride can:

1. promote remineralisation of the enamel (i.e., help drive the minerals – calcium, phosphates, carbonates - which were released from the tooth during demineralisation *back* into the tooth structure). The fluoride interacts with the minerals at the tooth surface to repair early caries and can even stop established caries from progressing further. When fluoride is present during remineralisation, it is incorporated back into the surface tooth enamel, making it more resistant to acid attack and demineralisation in future
2. inhibit the conversion of sugars into acids by bacteria
3. kill decay-causing bacteria when used in high concentrations (such as topical application by a dental professional).

After topical application, fluoride is stored in saliva. A constant supply of a low level of fluoride in the saliva is most beneficial for replacement of lost minerals and prevention of dental caries.

Also see [Section 6.1 Dental caries](#).

11.1.2 Fluoride sources

Fluoride is found in the following forms:

- naturally occurring in water, plants, rocks, soil and air
- naturally occurring in foods and drinks
- added to community water supplies
- present in food and drinks manufactured in fluoridated areas
- present in fluoride toothpaste, gels and mouth rinses
- present in fluoride gel or varnish painted on by an oral health professional.

Fluoride supplements are no longer recommended or available in Australia.

11.1.4 Water fluoridation

“Water fluoridation is the most effective way to give everybody access to the benefits of fluoride regardless of age, income or education level”, and because community water fluoridation reduces the prevalence of dental caries in both children and adults, it has been recognised as an important public health achievement (Department of Health 2023a).

Some water supplies already contain natural levels of fluoride. Water fluoridation is the adjustment of the natural amount of fluoride in the community water supply to a level recommended for optimal dental health benefits. Fluoride does not alter the taste or smell of water.

Fluoride was first introduced in Australia nearly 70 years ago in 1953 in Beaconsfield, Tasmania.

- Today, approximately 90% of Australians can access fluoridated drinking water, including residents of all capital cities.
- More than 97% of Victorians drink water with either naturally occurring or added fluoride.
- Melbourne and some regional areas have enjoyed the benefits of fluoridated drinking water for nearly 50 years.
- To see which Victorian towns are fluoridated: [Is my water fluoridated? \(health.vic.gov.au\)](https://www.health.vic.gov.au/is-my-water-fluoridated/)

Since the introduction of community water fluoridation to Melbourne in 1977, the caries prevalence within Victoria has markedly decreased, including in children.

- Children of 5 and 6 years of age who have lived more than half their lives in fluoridated areas have 50 per cent less tooth decay in their baby teeth, compared to children who have not lived in fluoridated areas.
- Children who are 12 and 13 years old who have lived more than half their lives in fluoridated areas have 38 per cent less tooth decay in their adult teeth, compared to children who have not lived in fluoridated areas (Department of Health 2023b).

Australian research also shows that access to fluoridated water from an early age is also associated with less tooth decay in adults (ACPOH 2018).

11.1.5 Water filters

Some water filters are capable of removing fluoride, although this is mostly limited to those filters with reverse osmosis, distillation or ion exchange. Normal membrane filters will not remove a small ion such as fluoride (Cameron and Widmer, 2022).

11.1.6 Fluoride safety

Studies have confirmed that fluoride effectively prevents and reduces tooth decay without causing harmful effects on your health, when used in the modalities and quantities recommended.

11.1.7 Dental fluorosis

Dental fluorosis is the defective formation of tooth enamel or dentine resulting from excessive fluoride ingestion during the period of tooth development, such as when young children swallow excessive amounts of toothpaste. It has been reported that the risk of fluorosis in Melbourne has not increased since the introduction of community water fluoridation in 1977, and that the degree of fluorosis in Melbourne is mild and within expected limits of an optimally fluoridated community.

In its mildest (and most common) form, fluorosis may manifest as barely noticeable whitish striations, while more severe forms involve confluent pitting and staining of the dental enamel. Determining the exact level of fluorosis within the community is difficult, as there are numerous other causes of enamel defects that may resemble fluorosis. Whilst mild fluorosis may have a slight effect on tooth appearance, it comes with the added bonus of protecting those same teeth against decay.

The risk of fluorosis occurring can be minimised through measures such as:

- discouraging ingestion of toothpaste by children

- brushing teeth only using water until the age of eighteen months, unless otherwise recommended by a dental professional
- using only a pea – size amount of low fluoride toothpaste smeared onto a child’s toothbrush until six years of age.

Nurses and other health professionals are not expected to engage in deep or detailed (or potentially heated) discussions with families about fluoride. Rather, encourage them to seek information from an oral health professional directly.

11.2 Understanding preventive clinical interventions

11.2.1 Fluoride varnish

Fluoride varnish is a high concentration fluoride product available for dental professional application only. Certification training is available for Aboriginal health practitioners and Certificate 4 dental assistants to apply fluoride varnish as well.

Fluoride varnish can prevent tooth decay from starting. It can also slow or stop the progression of established decay.

Painting fluoride varnish onto teeth is very easy and only takes a few minutes. The varnish is applied to all surfaces of both deciduous and permanent teeth with a small brush or cotton bud. The varnish can stick to the teeth for hours. You can see the fluoride varnish on the teeth, until it dissolves away.

Fluoride varnish works best if applied at least twice a year. Individuals at the highest risk of dental caries benefit the most from fluoride varnish applications.

For more general information on fluoride see [Section 11.1 Understanding population oral health – fluoride](#).

11.2.2 Fissure sealants

Fissure sealants can play a significant role in protecting teeth against decay. A dental practitioner is best placed to give personal advice about sealants, however a good time to apply dental sealants is shortly after the first permanent molars appear at the age of six or seven years and the second molars around the age of 11 or 12 years.

A fissure sealant is a plastic coating professionally applied to the pits and fissures of the back teeth. Pits and fissures can be difficult to clean effectively because toothbrush bristles are too thick to fit, resulting in plaque and food getting trapped and causing caries. Sealants prevent access of plaque and plaque acids to these areas.

Placement of sealants is not time consuming. It is a painless procedure and there is no need for injection or drilling. Sealants do eventually break down or wear away, however can be easily replaced. Fissure sealants are available as required/recommended through the school dental program and private dental providers.

For more information, visit: [Dental sealants - Better Health Channel](#)

11.2.3 Mouthguards

Falls which occur during play account for most dental injuries to young permanent teeth.

Dental injuries commonly occur in contact sports such as football, hockey and basketball. Dental trauma can include both soft and hard tissue damage such as injury to the gum, tooth fractures, loss of whole teeth and jaw fractures. See [Section 7.1: Dental trauma](#).

Skateboarding, cycling, diving in swimming pools and falls of various types can also contribute to dental injury. The most common teeth to suffer are the upper front teeth.

The use of mouthguards in the prevention of trauma is well accepted. Mouthguards absorb and spread the impact of a knock to the mouth and protect against mouth or dental injuries which can be difficult to treat and have lifetime repercussions.

A mouthguard should:

- be comfortable to wear
- fit well
- have good retention and
- cause little interference with speaking and breathing.

These features are more likely to be present if the mouthguard is custom-made and professionally fitted by a dental practitioner. A dental impression is taken of the jaws to create plaster models. The upper model is used to mould the mouthguard plastic accurately to the shape of the upper jaw.

The Australian Dental Association's *Policy Statement 2.2.5 – Prevention and Management of Oral Injuries* (Australian Dental Association 2024b) acknowledges that:

“Oral injury can occur anywhere. **Young children and teenagers** have been identified as high-risk groups, particularly when new and/or high-risk activities are involved.”

“Sports during which the use of mouthguards is **strongly recommended**, include off-road bike riding, skateboarding, rock climbing, white-water rafting, trampolining, combat sports, football, basketball, squash, and field hockey.”

“Sports during which protective equipment for the head is worn, may obviate the need for mouthguards, including full-face helmets in ice hockey and goalkeepers in field hockey cricket, rollerblading, and cycling.”

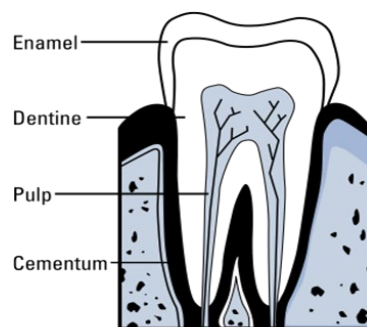
“The most effective protection against oral damage is a custom fitted mouthguard, where precision fit and quality materials offer maximum comfort and injury prevention. Over-the-counter mouthguards provide better protection than no mouthguard, however their protection varies depending on the design, comfort, adaptation and thickness of the final product. Quality control of at-home custom adaptation is not achievable.”

A dental prosthetist or private dentist should be consulted for the production of a professionally fitted mouthguard. Mouthguards which can be purchased at pharmacies will aid in preventing injury to the mouth, although those fitted professionally provide superior protection.

For more information, visit: [Mouthguards - Better Health Channel](#)

11.3 Tooth structure

Regardless of tooth type, all teeth share the same structural features.






Molar structure

Crown	The crown is the part of the tooth that sits above the gum line (i.e., the visible portion of the tooth).
Enamel	<p>The crown is covered by enamel, the hardest calcified tissue in the human body. As the outermost protective layer of the tooth, it provides a strong surface for crushing, grinding and chewing food. Despite this, enamel can wear away due to:</p> <ul style="list-style-type: none"> • attrition – wear of the tooth resulting from tooth-to-tooth contact • abrasion – wear of the tooth produced by something other than tooth-to-tooth contact (e.g., brushing with a hard toothbrush. • erosion – wear of the tooth due to dissolution by acid • fracture – due to stress or trauma • dental caries. <p>Enamel is translucent and can range in colour from yellow to greyish white. The enamel has no nerve supply.</p>
Dentine	<p>The layer beneath enamel is called dentine. Dentine makes up the main portion of the tooth.</p> <p>In deciduous teeth, dentine is a very light-yellow colour, while in permanent teeth it is a light-yellow and a little transparent.</p> <p>Dentine, while highly calcified, is softer than enamel and carries sensations such as temperature and pain to the pulp, via its tubular/rod structure.</p>
Pulp	<p>The pulp is the innermost portion of the tooth and is the only soft tissue of the tooth.</p> <p>It is made up of blood vessels, nerves and cellular substance. It supplies nutrients to the tooth and its nerve endings transmit sensations such as pain and temperature.</p>
Cementum	<p>Cementum is a bone-like connective tissue that covers the root of the tooth.</p> <p>It is light-yellow in colour and able to carry sensations such as temperature and pain to the pulp.</p> <p>If the gum recedes from the tooth and the cementum is exposed, there may be a short, sharp sensation when brushing teeth, with cold or sweet drinks, or eating food.</p>

11.4 Brief guide to oral medicine


11.4.1 Cleft lip and/or palate

<i>If detected during a mouth check</i>	Children born with a cleft lip and/or palate in Australia should already be supported through the <i>Cleft Lip and Cleft Palate Scheme</i> , and therefore receiving ongoing care from a specialised medical and dental team.		
<i>Prevalence</i>	About 1 in 800 babies born in Australia.		
<i>Signs and symptoms</i>			
Image 52: Cleft lip (unilateral)			<ul style="list-style-type: none">• Appearance of the mouth and teeth will depend somewhat on the location of the cleft/s, and the surgical or dental interventions already completed.• Cleft lip <i>only</i> and cleft palate <i>only</i> will likely have fewer associated dental anomalies.• Cleft lip <i>and</i> palate varies significantly, and may include:<ul style="list-style-type: none">• missing teeth, particularly in the line of the cleft• extra teeth, mis-shaped or malformed teeth• teeth can be crowded, tilted or rotated.
Image 53: Cleft lip and palate			
Image 54: Cleft palate			
<i>Cause/s</i>	Abnormal foetal development where the tissues of the lip, upper jaw or the roof of the mouth fail to fuse properly.		
<i>Age/s</i>	Congenital condition.		
<i>Treatment</i>	<p>Children born with cleft lip and/or palate require one or more surgeries and other therapies throughout their childhood. By the time a child reaches primary school, initial surgical repair will have been completed.</p> <p>It is likely that they will have braces and/or other dental treatments in the future to improve their appearance, and healthy teeth are essential for this.</p>		


For more information, visit:

- [Kids Health Information: Cleft lip and cleft palate \(rch.org.au\)](https://www.rch.org.au/kids_health_information/cleft_lip_and_cleft_palate)
- [Cleft palate and cleft lip - Better Health Channel](#)

11.4.2 Eruption cysts


<i>If detected during a mouth check</i>	Eruption cysts usually resolve on their own without intervention. Recommend child see a dental practitioner to confirm diagnosis, if painful, or if family concerned.	
<i>Prevalence</i>	Not common.	
<i>Signs and symptoms</i>		
Image 55: Eruption cyst		<ul style="list-style-type: none">• An eruption cyst can develop over an erupting tooth.• It appears as a smooth, localised dome-shaped, fluid-filled swelling. It is painless and often bluish in colour.• The cyst drains on its own once the tooth erupts; the length of time varies from individual to individual.
<i>Cause/s</i>	Follicular enlargement just before eruption. Trauma leads to bleeding within the follicle, producing the purple/brown appearance.	
<i>Age/s</i>	Children aged between 6 months – 12 years.	
<i>Treatment</i>	Generally, no treatment is required. If the cyst becomes infected, surgical drainage may be required.	

11.4.3 Mucoceles


<i>If detected during a mouth check</i>	Mucoceles usually resolve on their own without intervention. Recommend child see a dental practitioner to confirm diagnosis, if painful or if family concerned.	
<i>Prevalence</i>	A mucocele is the most common nodular swelling of the lower lip.	
<i>Signs and symptoms</i>		
Image 56: Mucocele		<ul style="list-style-type: none">• Asymptomatic, soft, fluctuant, bluish-grey colour (although long-standing lesions may have a whitish appearance).• Usually less than 1 cm in diameter.• The most common location is the lower lip.• Duration 3-6 weeks.
<i>Cause/s</i>	A mucocele develops when one of the minor salivary glands in the lip or cheek is damaged, usually when a person accidentally bites their lip or cheek. Injury causes the salivary gland duct to become blocked, thereby preventing the release of saliva into the mouth. The salivary gland fills with saliva forming a mucocele.	
<i>Age/s</i>	Can occur at any age. Children and young adults are mostly affected.	
<i>Treatment</i>	Superficial mucoceles usually burst and heal spontaneously without intervention. Persistent mucoceles are treated by surgical excision.	

11.4.4 Mouth ulcers

Traumatic ulcers

<i>If detected during a mouth check</i>	Traumatic ulcers will heal without intervention in 7-14 days. Recommend child see a dental practitioner if ulcer has not healed in this timeframe.	
<i>Prevalence</i>	Traumatic ulcers are the most common type of ulcer.	
<i>Signs and symptoms</i>		
Image 57: Traumatic ulcer (lower lip)		<ul style="list-style-type: none">• Localised, well-defined erosion - greyish central area with inflamed periphery.• Usually painful and solitary.• Child will often remember the traumatic incident that caused the ulcer (e.g., bit their lip).
<i>Cause/s</i>	Damage to mucosal lining of the mouth due to trauma caused by sharp object (e.g., pencil in mouth, rough toothbrushing), cheek biting or eating overheated foods or drinks.	
<i>Age/s</i>	All ages.	
<i>Treatment</i>	<p>Symptomatic relief only.</p> <p>Mouth lesions may be uncomfortable or painful and interfere with eating and drinking.</p> <ul style="list-style-type: none">• Maintain good oral hygiene – extra care may be required around ulcerated area. Use soft cloth to wipe teeth, if unable to brush.• Rinse mouth with salt water (1 tsp salt into 1 cup warm water) a few times/day.• Avoid mouthwashes that contain alcohol. <p>Avoid foods and drinks that will aggravate the lesion.</p> <ul style="list-style-type: none">• Acidic or spicy (e.g., orange juice, vinegar).• Salty (e.g., Vegemite) or very hot.• Choose soft/er foods (e.g., jelly, custard) and cool drinks (a straw may help). <p>Allow the ulcer to heal – do not touch it.</p> <ul style="list-style-type: none">• Keep hydrated with water and other fluids.• Paracetamol can ease pain and fever.• Over the counter preparations may be suitable for temporary relief, particularly before eating.	

Aphthous ulcer (recurrent aphthous stomatitis)


If detected during a mouth check	Aphthous ulcers will heal without intervention within 2-4 weeks. Recommend child see a dental practitioner if they have not consulted anyone about these type of ulcers before, or if ulcer has not healed in this timeframe.	
Prevalence	Approx 20% of the population.	
Signs and symptoms		
Image 58: Aphthous ulcers (lower lip)		<ul style="list-style-type: none">• Painful, recurrent, solitary or multiple lesions or ulcerations.• They are usually no larger than 5mm in size.• Can occur in any site in the mouth, especially on the cheeks, lips and tongue.• Usually heal spontaneously in two to four weeks.
Cause/s	Complex; predisposing factors may include genetics, trauma, tobacco, certain medications, iron/ Vit B12/ folic acid deficiencies, Coeliac disease/ inflammatory bowel disease, sodium lauryl sulphate in toothpaste, hormonal changes, stress (Preeti L <i>et al</i> 2011).	
Age/s	No preference for age, sex or race.	
Treatment	<p>No definitive curative treatment. Identify and address any systemic associations. Various topical and systemic agents available. Otherwise provide symptomatic relief.</p> <p>Mouth lesions may be uncomfortable or painful and interfere with eating and drinking.</p> <ul style="list-style-type: none">• Allow the ulcer to heal – do not touch it.• Maintain good oral hygiene – extra care may be required around ulcerated areas. Use soft cloth to wipe teeth, if unable to brush.• Rinse mouth with salt water (1 tsp salt into 1 cup warm water) a few times/day.• Avoid mouthwashes that contain alcohol. <p>Avoid foods and drinks that will aggravate the lesion.</p> <ul style="list-style-type: none">• Acidic or spicy (e.g., orange juice, vinegar).• Salty (e.g., Vegemite) or very hot.• Choose soft/er foods (e.g., jelly, custard) and cool drinks. Drinking through a straw may help. <p>Keep hydrated with water and other fluids.</p> <ul style="list-style-type: none">• Paracetamol can ease pain and fever.	

For more information, visit:

- <https://www.healthdirect.gov.au/mouth-sores-and-ulcers>
- <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/mouth-ulcers>


11.4.5 Oral herpes simplex – primary infection

Also known as **primary herpetic gingivo-stomatitis**.

If detected during a mouth check	Primary oral herpes simplex infection is self-limiting without intervention. Recommend child see a medical practitioner for symptomatic support, as child will be feeling unwell.	
Prevalence	Common viral infection.	
Signs and symptoms		
Image 59: Primary herpetic gingivostomatitis		<ul style="list-style-type: none">• Extensive oral inflammation and ulceration involving most of the oral soft tissues.• Small clusters of vesicles rapidly erupt in the mouth and the gums are very red and swollen and bleed if they are touched.• When the vesicles burst, they form yellowish ulcers surrounded by a red halo.• Adjacent lesions may join to form large ulcers in the mouth, including the lips and tongue.• Children generally feel unwell or irritable, may have a fever, and are not interested in eating (due to mouth discomfort).• Usually heals within 10-14 days.
Cause/s	<p>The initial contact of the herpes simplex viruses (Types 1 and 2) within the oral cavity.</p> <p>Following this primary infection, the child generally develops immunity, and future infections appear as local lesions (e.g., a discreet cold sore).</p> <p>Usually transmitted to the child by a parent, relative or friend who has active cold sores when kissing the child.</p>	
Age/s	Before five years of age.	
Treatment	<p>Symptomatic relief only; analgesia as required. Maintain hydration.</p> <p>Restrict/avoid foods that aggravate the open lesion (i.e., acidic or spicy foods and drinks (such as orange juice, vinegar, chilli) and salty items (e.g., Vegemite).</p>	

11.4.6 Oral herpes simplex and herpes labialis – recurrent infection


Lip lesions are commonly referred to as **cold sores**.

If detected during a mouth check	Recurrent herpes simplex and herpes labialis infections are self-limiting without intervention. Recommend child see a medical practitioner if child is feeling unwell.	
Prevalence	Occur in 40% percent of people who have the initial herpes virus.	
Signs and symptoms		
Image 60: Recurrent <i>herpes simplex</i> (upper lip)		<ul style="list-style-type: none">• The herpes simplex virus causes cold sores on the lips, within the mouth, nose and eyes.• Clusters of many vesicles break down to form painful ulcers, which are slightly depressed, yellow-brown and have distinct red halos.• Most people report symptoms such as tingling, throbbing and burning 24 hours before the eruption of the lesions.• Lasts 7-14 days.• Following the original infection, people may suffer from recurrent bouts.
Cause/s	<i>Herpes-simplex virus.</i> Virus may become active as a result of trauma to the skin and lips (strong sunlight, cold or wind); or being run-down/ stressed/ tired/ unwell.	
Age/s	Any age, following initial infection.	
Treatment	Taking a Lysine supplement orally when the prodromal symptoms appear can prevent the cold sore from developing. Applying antiviral creams or anaesthetic ointments directly to the affected areas can help.	

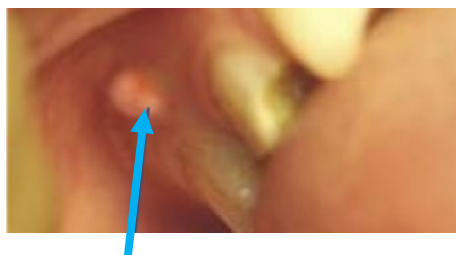
For more information, visit:

- <https://www.healthdirect.gov.au/cold-sores>


11.4.7 Oral candidiasis (oral thrush)

If detected during a mouth check	Recommend child see a dental or medical practitioner.	
Prevalence	Relatively common; often seen in babies or infants, or individuals on long-term antibiotics or immuno-suppressive drugs.	
Signs and symptoms		
Image 61: Oral candidiasis		<ul style="list-style-type: none">• Thrush usually affects the superficial layers of mouth tissues.• Milky white patches can be easily wiped off the oral mucosa, revealing an inflamed area underneath.• Very rarely is more generalised, with fever and gastrointestinal irritation.• Can persist for days or weeks.
Cause/s	Fungal infection (<i>candida albicans</i>)	
Age/s	Commonly occurs in young babies and infants, or others who are immuno-compromised.	
Treatment	Topical anti-fungal agents applied directly to the affected areas.	

11.4.8 Dental abscess (periapical abscess)


<i>If detected during a mouth check</i>	Recommend child see a dental practitioner. An abscess on a deciduous tooth can affect the development of the underlying permanent tooth.	
<i>Prevalence</i>	Relatively common.	
<i>Signs and symptoms</i>		
Image 62: Dental abscess		<ul style="list-style-type: none">• Pimple-like appearance on the gum close to the affected tooth.• Pus may be visible inside the abscess or draining.• May be painful (dull throb) due to build-up of pressure. If abscess bursts and pressure is released, pain will resolve. This cycle can repeat.• Duration varies. If asymptomatic, may go undetected.
<i>Cause/s</i>	A bacterial infection around the root of a tooth, resulting from an infection in the pulp of the tooth (due to extensive dental caries, trauma).	
<i>Age/s</i>	All ages of people with teeth.	
<i>Treatment</i>	<p>Definitive treatment involves removing the cause of the infection.</p> <p>Treatment depends on a number of factors (e.g., tooth involved, cause of pulpal infection, time until deciduous tooth is exfoliated, size of abscess).</p> <p>Tooth may require extraction, pulp therapy or root canal treatment. Abscess may be lanced and debrided.</p> <p>Oral antibiotics are generally not required.</p>	

11.4.9 Facial cellulitis

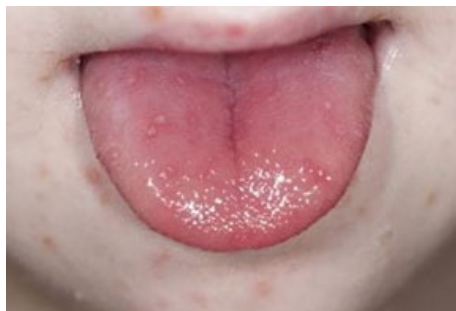
<p>If detected during a mouth check</p>	<p>Emergency referral to see dental or medical practitioner for <i>immediate</i> care.</p> <p>Swelling that is accompanied by other symptoms – such as fever, lethargy, difficulty breathing, swallowing or speaking – requires immediate medical attention, preferably at a hospital.</p> <p>See also: Section 7.2 Other emergency presentations- swelling and bleeding Section 8.3 Emergency care referrals</p>
<p>Prevalence</p>	<p>-</p>
<p>Signs and symptoms</p>	
<p>Image 63:</p> <p>Facial cellulitis (with periorbital swelling)</p>	<div data-bbox="459 824 922 1305">  </div> <ul style="list-style-type: none"> • The infection spreads from the tooth through the connective tissue. • Resulting in gross inflammation, exudate and oedema, and often fever. • If it occurs in the facial planes of the lower jaw, it can spread to the floor of the mouth and down to the pharynx and larynx. This extremely serious condition known as Ludwig's angina, can cause obstruction of the patient's airway. • If it occurs in the facial planes of the upper jaw, it can result in infra-orbital swelling. In rare cases, the infection can track to the brain.
<p>Cause/s</p>	<p>A spreading bacterial infection resulting from an infection in the pulp of the tooth (due to extensive dental caries, trauma) or gum infection.</p>
<p>Age/s</p>	<p>All ages of people with teeth.</p>
<p>Treatment</p>	<p>Management depends on location and extent of swelling and ability to adequately remove the source of infection.</p> <p>Severe cases may require hospitalisation, I.V. antibiotics, fluid replacement and/or airway protection - in addition to removal of the cause (e.g., dental extraction, root canal treatment).</p>

11.4.10 Geographic tongue

Also known as *benign migratory glossitis* or *wandering rash of the tongue*.

<i>If detected during a mouth check</i>	Recommend child see a dental practitioner to confirm diagnosis, and for reassurance.	
<i>Prevalence</i>	Affects approximately 1-2% of the population.	
<i>Signs and symptoms</i>		
Image 64: Geographic tongue		<ul style="list-style-type: none">• Irregular-shaped patches on the top surface of tongue.• Pink to red, smooth surface due to loss of taste buds in these areas.• The areas continually change position and migrate from site to site.• The patches may become tender, especially to spicy and acidic foods.• May appear suddenly and persist for months or years.
<i>Cause/s</i>	Unknown. Emotional stress, nutritional deficiencies and hereditary factors have been suggested.	
<i>Age/s</i>	Young children to middle-aged adults.	
<i>Treatment</i>	It is a benign condition and generally does not require any treatment.	


11.4.11 Hand, foot and mouth disease (HFMD) – oral manifestations

If detected during a mouth check	Recommend child see a medical practitioner.	
Prevalence	Common viral illness.	
Signs and symptoms		
Image 65: Hand, foot and mouth disease		<ul style="list-style-type: none">• Numerous shallow ulcers are seen in the anterior mouth and on the hands and feet.• Most children complain of a sore throat or mouth and may refuse to eat.• Low-grade fever lasts 1-2 days accompanied by a distinctive pattern of oral vesicles, mainly on the tongue and buccal mucosa (also lesions on the hands and feet, and occasionally buttocks).• Ulceration lasts 7-10 days.
Cause/s	Coxsackie virus – very contagious.	
Age/s	Occurs mainly in children under 10 years and in young adults.	
Treatment	<p>Symptomatic relief only.</p> <p>Mouth lesions may be uncomfortable or painful and interfere with eating and drinking.</p> <ul style="list-style-type: none">• Maintain good oral hygiene – extra care may be required around ulcerated area. Use soft cloth to wipe teeth, if unable to brush.• Rinse mouth with salt water (1 tsp salt into 1 cup warm water) a few times/day.• Avoid mouthwashes that contain alcohol. <p>Avoid foods and drinks that will aggravate the lesion.</p> <ul style="list-style-type: none">• Acidic or spicy (e.g., orange juice, vinegar).• Salty (e.g., Vegemite) or very hot.• Choose soft/er foods (e.g., jelly, custard) and cool drinks (a straw may help). <p>Allow ulcer/s to heal – do not touch.</p> <ul style="list-style-type: none">• Keep hydrated with water and other fluids.• Paracetamol can ease pain and fever.	

For more information, visit:

- <https://www.healthdirect.gov.au/hand-foot-and-mouth-disease>


11.4.12 Chicken pox – oral manifestations

<p>If detected during a mouth check</p>	<p>Recommend child (and family) isolate. Medical clinic should be contacted prior to visiting the doctor to obtain guidance on the safest way to see them for medical care.</p> <p>A referral letter outlining your concerns would be warranted in this situation.</p> <p><i>Nurses will already be aware that chicken pox is a nationally notifiable disease that must be reported to the Department of Health.</i></p>
<p>Signs and symptoms</p>	
<p>Image 66:</p> <p>Chicken pox in the mouth (palate)</p>	 <ul style="list-style-type: none"> • Oral manifestations may precede the skin rash. • Multiple vesicles may appear throughout the mouth, breaking down into small ulcers, that become covered in white exudate. • The mucosa surrounding the ulcers is quite red.
<p>Cause/s</p>	<p><i>Varicella zoster virus</i> – very contagious. Preventable via vaccine.</p>
<p>Age/s</p>	<p>Anyone at any age if not immune. Adults usually have a more severe illness and can take longer to get better.</p>
<p>Treatment</p>	<p>Symptomatic relief only.</p> <p>Mouth lesions may be uncomfortable or painful and interfere with eating and drinking.</p> <ul style="list-style-type: none"> • Maintain good oral hygiene – extra care may be required around ulcerated area. Use soft cloth to wipe teeth, if unable to brush. • Rinse mouth with salt water (1 tsp salt into 1 cup warm water) a few times/day. • Avoid mouthwashes that contain alcohol. <p>Avoid foods and drinks that will aggravate the lesion.</p> <ul style="list-style-type: none"> • Acidic or spicy (e.g., orange juice, vinegar). • Salty (e.g., Vegemite) or very hot. • Choose soft/er foods (e.g., jelly, custard) and cool drinks (a straw may help). <p>Allow ulcer/s to heal – do not touch.</p> <ul style="list-style-type: none"> • Keep hydrated with water and other fluids. • Paracetamol can ease pain and fever.

For more information, visit:


- <https://www.healthdirect.gov.au/chickenpox>

11.4.13 Measles – oral manifestations

<p><i>If detected during a mouth check</i></p>	<p>Recommend child (and family) isolate. Medical clinic should be contacted prior to visiting the doctor to obtain guidance on the safest way to see them for medical care.</p> <p>A referral letter outlining your concerns would be warranted in this situation.</p> <p><i>Nurses will already be aware that measles is a nationally notifiable disease that must be reported to the Department of Health.</i></p>
<p><i>Prevalence</i></p>	<p>Not endemic in Australia; cases still occur due to importation by overseas travellers.</p>
<p><i>Signs and symptoms</i></p>	
<p>Image 67:</p> <p>Koplik's spots (measles) on the inside cheek</p>	<div data-bbox="472 884 928 1142">  </div> <p>Characteristic mouth lesions (Koplik's spots):</p> <ul style="list-style-type: none"> • small white spots (like grains of salt) surrounded by a zone of inflammation • often numerous on the inside of the cheeks or around the upper salivary duct in the upper cheek area • appear 2-3 days before the body rash, coinciding with the most infectious period • then disappear with the development of the general skin rash.
<p><i>Cause/s</i></p>	<p><i>Paramyxovirus</i> – very contagious. Preventable via vaccine.</p>
<p><i>Age/s</i></p>	<p>Anyone at any age can be affected if not immune.</p>
<p><i>Treatment</i></p>	<p>Symptomatic relief only.</p> <p>Mouth lesions may be uncomfortable or painful and interfere with eating and drinking.</p> <ul style="list-style-type: none"> • Maintain good oral hygiene – extra care may be required around ulcerated area. Use soft cloth to wipe teeth, if unable to brush. • Rinse mouth with salt water (1 tsp salt into 1 cup warm water) a few times/day. • Avoid mouthwashes that contain alcohol. <p>Avoid foods and drinks that will aggravate the lesion.</p> <ul style="list-style-type: none"> • Acidic or spicy (e.g., orange juice, vinegar). • Salty (e.g., Vegemite) or very hot. • Choose soft/er foods (e.g., jelly, custard) and cool drinks (a straw may help). <p>Keep hydrated with water and other fluids.</p> <ul style="list-style-type: none"> • Paracetamol can ease pain and fever.

For more information, visit: <https://www.healthdirect.gov.au/measles>

11.4.14 Leukaemia – oral manifestations

<i>If detected during a mouth check</i>	Recommend child seek urgent medical care at a hospital. A referral letter outlining your concerns would be warranted in this situation.	
<i>Prevalence</i>	Leukemia is the most common childhood cancer in Australia.	
<i>Signs and symptoms</i>		
Image 68: Leukaemia		65% of leukemia patients have oral lesions, with the most common being: <ul style="list-style-type: none">• gingival hypertrophy (overgrown gums)• mucosal ulceration• spontaneous bleeding gums• ecchymosis (bruising)• <i>Herpes</i> virus infections (Michalak E et al. 2022).

11.4.15 Asthma – oral considerations

<i>If detected during a mouth check</i>	Recommend child see a dental practitioner. Medical follow-up may also be required.
<i>Signs and symptoms</i>	<ul style="list-style-type: none">• People with asthma may be at higher risk of tooth decay, tooth erosion, and gum disease.• Beta-2 agonist inhalers (e.g., salbutamol) reduce saliva production, resulting in dry mouth.• For people using corticosteroids, there is also increased risk of oral candidiasis (thrush).
<i>Prevent oral complications by</i>	<ul style="list-style-type: none">• After using an asthma inhaler, rinse mouth with water or a mouthwash containing fluoride. Do not brush teeth for at least 30 minutes.• Use a spacer device.• Stay hydrated by drinking water.• Chew sugar-free chewing gum to help stimulate saliva flow (ADA 2024).

For more information, visit: <https://www.teeth.org.au/asthma>

11.5 Children with additional needs

Every child is unique and may require a different approach, so it is helpful to understand a range of behaviour support techniques that can be used when completing a mouth check.

- **Preparing for the visit is key.** Where possible, speak to the parent/family beforehand to prepare for the visit. Know what support the student may need and bring this along to the mouth check (e.g. carer, sibling, parent, headphones, mobile phone, toy, fidgets etc).
- **Desensitisation.** The student's family can assist by explaining what is going to happen during the mouth check visit. The student may like to visit the room where the mouth check will take place beforehand, or watch another child have their teeth checked.
- **Flexibility.** The ultimate goal is to look in the mouth, so being flexible about location and technique is important. For example, it's okay if the mouth check takes place in a beanbag or sandpit!
- **Focus on the wins.** There is no need to be disheartened if only a brief look is able to be provided. Focus on what has been achieved instead.
- **Special equipment.** For children with physical or severe cognitive limitations, it may not be possible to see inside the mouth without the use of special equipment like mouth props. This is most likely out of scope for nurses or other health professionals in the primary school setting.
- **Prevention is important,** regardless of whether a mouth check is completed. Reinforce oral hygiene instruction, provide dietary advice and recommend student see a dental practitioner for further support.

See also:

[Section 3.2.3: Visiting a dental practitioner](#)

[Section 4.2.1: Preparing a child for a mouth check – Tell, Show, Do](#)

Specialist dental services (such as paediatric or special needs dentistry) are available for children with additional needs, if required. A referral can be made by a general dental practitioner to the most appropriate service.

See also:

[Section 9.7: Specialist dental services](#)

11.6 Suggested content for correspondence

For parents/carers

Example:

Dear [Parent/Carer],

[Student] has had an oral health check and some oral health problems were noted.

It is recommended that all school age children visit an oral health professional every year, even if you don't have any specific concerns.

As your child is enrolled in a Victorian Government school, they are eligible to receive free dental services through Smile Squad.

If Smile Squad has not seen your child at school, you can still make a free Smile Squad appointment at your local community dental clinic.

To find your closest clinic visit: <https://www.dhsv.org.au/our-services/find-dental-clinics/clinic-search>

Kind regards, [Nurse name, contact details]

For dental practitioners

Example 1:

Dear Dental Practitioner,

Re: [Student name, DOB, address]

Today's mouth check revealed poor oral hygiene, very inflamed gums, discoloured teeth and signs of decay. [Student] says they often forget to brush their teeth and like to drink fruit juice every day. Reports no pain or difficulty eating. Brief discussion with [Student] and their mother about importance of good oral hygiene and reducing sugar in diet.

I refer them to you for examination and ongoing management.

Medical history: Nil of note, NKA.

Kind regards, [Nurse name, contact details]

Example 2:

Dear Dental Practitioner,

Re: [Student name, DOB, address]

[Student] was involved in a playground incident today at approximately 1pm, where they collided with another child. Their mouth contacted the other child's elbow, resulting in their upper left central incisor being knocked out. Another child found the tooth in the tan bark, with minimum debris attached.

First aid was provided, including: socket wiped with sterile gauze, tooth rinsed in milk and re-implanted, foil splint applied. The tooth was out of the mouth for approx. 15 minutes.

I refer [Student] to you for emergency care.

Medical history: Asthma, Penicillin allergy (hives), most recent Tetanus [date]

I haven't had to deal with a dental trauma before and would be keen to receive some feedback on this case.

Kind regards, [Nurse name, contact details]