



SUNNYMEDE TRUST
TEETH RELIEF

ORAL HEALTH MANUAL

by

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THIS IS CHAPTER 1 OF 7

ORAL ANATOMY

SEPARATE CHAPTERS MAY BE DOWNLOADED FOR TRAINING PURPOSES BUT PLEASE NOTE: EACH CHAPTER WAS WRITTEN & DESIGNED TO BE READ AS PART OF THE WHOLE MANUAL.

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CHAPTER 1:

ORAL ANATOMY

This section will outline the basics of Oral Anatomy and includes:

- ANATOMY OF THE JAW
- FUNCTION OF TEETH
- DEVELOPMENT OF TEETH
- TYPES OF TEETH
- HOW TEETH ARE FORMED

ANATOMY OF THE JAW

Any treatment of the mouth, teeth and gums must begin with a basic understanding of the framework that surrounds them.

The jaw is in two parts:

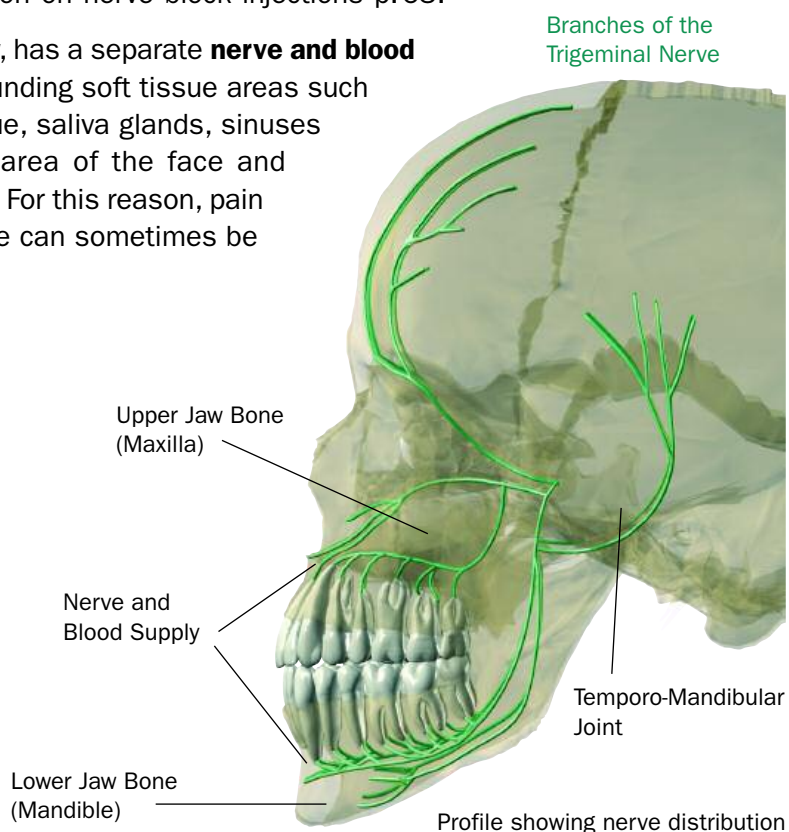
- The **upper jaw bone** (maxilla) is fixed to the skull and is not mobile.
- The **lower jaw bone** (mandible) is a mobile, floating extension, connected to the upper jaw by a hinge joint known as the Temporo-Mandibular Joint (TMJ).

The upper and lower jaws provide a root bed for the teeth. The lower jaw is only attached at one point on either side and so to increase its protection against trauma, it has a more dense structure.

The main nerve feed to the jaw bones comes from the 5th cranial, known as the **trigeminal nerve** – see section on nerve block injections p. 63.

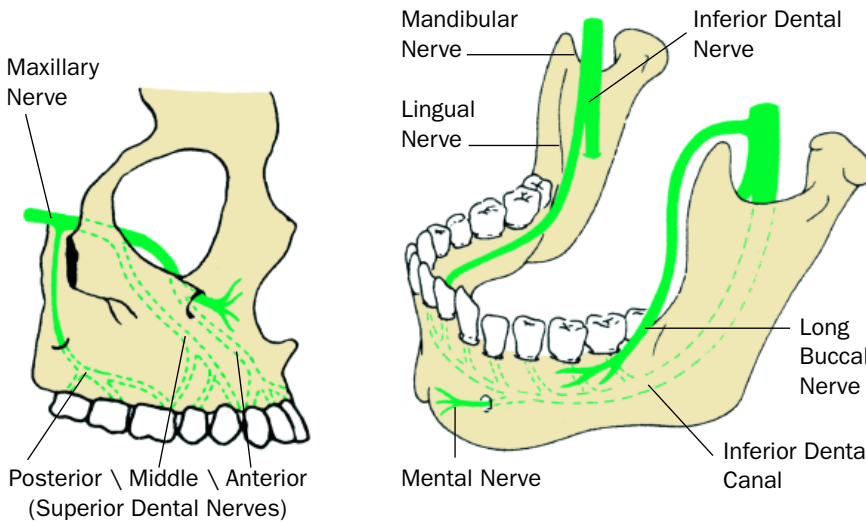
Each root, of each tooth, on each jaw, has a separate **nerve and blood supply**. When you include the surrounding soft tissue areas such as gums, palate, cheeks, lips, tongue, saliva glands, sinuses etc. it becomes obvious that the area of the face and mouth is literally loaded with feeling. For this reason, pain or discomfort in one area of the face can sometimes be difficult to locate.

Always be aware of the numerous inter-connecting systems, in and around the mouth, when patients present with apparent dental pain.



FUNCTION OF TEETH

The primary function of teeth is to enable us to eat and chew our food. If food is broken down in the mouth before being swallowed, this will aid the digestive process. Good digestion is essential for good nutrition and all the health benefits that flow from this.



Teeth are rooted into the **upper and lower jawbones**.

The root(s) of each tooth sits in a **socket** and is held in place by bone.

The bone is protected by a layer of tissue known as **gingiva** or the gum.

The gums act to protect and cushion the teeth and allow some movement.

If all our teeth were fixed rigidly, they would easily break when we bite against hard surfaces, but the natural degree of movement should be so small that it cannot be seen.

Humans have also developed social functions for teeth:

- Speech, how we shape and form words using our mouth and tongue try saying the word 'teeth' without closing them together.
- A smile is a universal symbol of greeting and happiness and when we think smile, we usually think teeth.

Most adults can expect most of their teeth to last for life – if they look after them and avoid accident or trauma. But if too many teeth are lost through neglect, poor diet or other causes, there will be inevitable problems.

So it is vital to maintain good teeth and this begins with good oral and general health care.

talking....
 eating....
 speaking....
 breathing....
 ...health.

DEVELOPMENT OF TEETH

The technical term for children's teeth is deciduous. This is because they naturally start being shed from approximately 6 years onwards to make way for permanent adult teeth. Children's teeth are more commonly known by one of the following terms – baby, milk, primary, first – we will refer to them as the 'primary' teeth.

Primary teeth are being formed in a baby while it is still in the mother's womb. They start to develop inside the jaw before breaking through the gums into the mouth – the process known as 'eruption'.

PRIMARY TEETH

Primary teeth erupt through the gums around the age of 6-7 months, the lower, front teeth usually showing first and they continue to grow through over the first two years of a baby's life. By the time they are aged around 30 months, a child should have a full set of teeth.

Under-nourished children may not develop teeth until later but this is not a reason to keep them on a milk or liquid diet. Children need to move on to soft food in order to grow and stay healthy.

Primary teeth serve the same function as adult teeth in helping a child to eat, talk and smile with confidence. Some people mistakenly believe that care of the primary teeth is somehow less important because they will eventually be replaced – this belief must be dispelled because primary teeth also serve another important purpose. They act as guides to steer the permanent teeth into place – therefore, good oral care must be started early if problems are to be avoided later on.

PERMANENT TEETH

Permanent teeth start to form underneath the primary teeth and between the ages of 6 - 12 years, they gradually begin to push against the primary roots. This process happens in stages usually one tooth at a time. Each primary tooth will become loose, then it will fall out – finally it gets replaced by the permanent one.

Sometimes the new tooth is immediately visible below the one that has been shed but sometimes there can be a delay of several months before the new tooth emerges and this is not necessarily a cause for concern.

20 permanent teeth will replace the 20 primary ones but now that the mouth and jaw have grown larger, there is room for 8 new ones to grow in at the back of the mouth, (2 on each side of the upper and lower jaw).

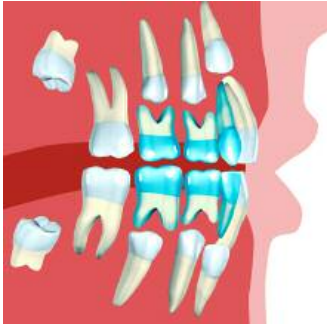


Adult permanent teeth are designed to last for a lifetime

TIMELINE FOR TOOTH DEVELOPMENT

TOOTH	ERUPTION OF PRIMARY TEETH	SHEDDING OF PRIMARY TEETH	
	Lower and Upper (Mandible and Maxilla) Age in months	Lower (Mandible) Age in years	Upper (Maxilla) Age in years
Central incisor	6-7	5-7	6-7
Lateral incisor	7-9	7-8	7-8
Canine	18-20	9-12	10-12
First primary molar	12-15	9-11	9-11
Second primary molar	24-36	10-12	10-12

for ERUPTION OF PERMANENT TEETH turn to next page



Permanent teeth forming to replace **primary teeth**

TOOTH	ERUPTION OF PERMANENT TEETH	
	Lower (Mandible) Age in years	Upper (Maxilla) Age in years
Central incisor	6-7	7-8
Lateral incisor	7-8	8-9
Canine	9-10	11-12
First premolar	10-12	10-12
Second premolar	11-12	11-12
First molar	6-7	6-7
Second molar	12-13	12-13
Third molar	18-25	18-25

WISDOM TEETH

4 new back molars, commonly known as the 'wisdom teeth' may grow through at any time after approximately 16 years to complete a full set. Wisdom teeth are programmed to erupt when the jaw is fully grown but sometimes they cannot find space behind the other teeth (impacted tooth see p.87). This can be painful and may lead to infection. Some people only get some wisdom teeth and some people never form any at all – neither is unusual.

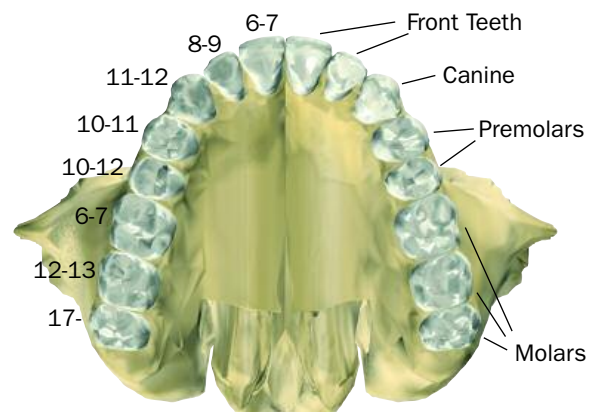
MISSING TEETH

20 primary or 32 permanent teeth make up the full sets but there will always be exceptions. Teeth can be missing for a variety of reasons but this should always be noted so that if any problems arise, they can then be tracked.

AGE CHECK

3 YEARS	8 YEARS	12 YEARS	14 YEARS	18 YEARS
By the age of 3 most children have all their primary teeth	An 8 year old usually has 24 teeth (or spaces for them)	The last primary teeth fall out at about 12 years of age	A 14 year old usually has 28 teeth (or spaces for them)	An adult usually has 32 permanent teeth with no spaces

Note: These tables and diagrams are only guides – just as children of the same age will differ in height and weight – so their teeth will develop at varying rates. Ask around your friends and family to see just how much difference there can be.

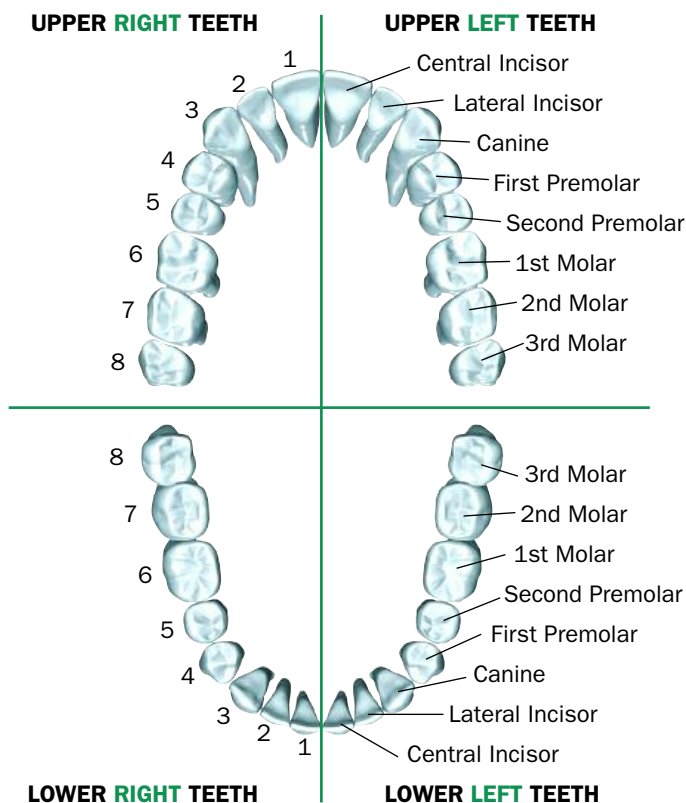


TYPES OF TEETH

In order to recognise and label each tooth, the mouth can be divided into four sections or **quadrants**. Teeth in each quadrant are numbered 1-8, always starting at the centre. We always talk of Right and Left in terms of the patient. If you are facing a patient, their right and left side will be opposite to yours as shown here.

Each quadrant houses 8 teeth:

2 incisors 1 canine
 2 premolars 3 molars
 to make a full set of
 32 permanent teeth.



TYPES OF TEETH



Incisor

Flat, sharp edged teeth at the front of the mouth.

Purpose: to cut and bite food.



Premolar

They sit behind the canines. They have 2 prominent points known as 'cusps' and 1 or 2 roots.

Purpose: partly to tear and partly to grind food.



Canine

Long, pointed teeth with deep roots. They sit beside the incisors.

Purpose: to tear food.



Molar

Back teeth, each with four or five cusps. Upper molars usually have 3 roots. Lower molars usually have 2 roots.

Purpose: to chew and grind food.

There is a section showing how to chart teeth and record their condition (see p. 44)

*Practise on yourself
 Can you identify your own types of teeth?*

HOW TEETH ARE FORMED

Different teeth may have slightly different shapes and edges to suit a specific purpose but they are all formed in the same way and made from the same things.

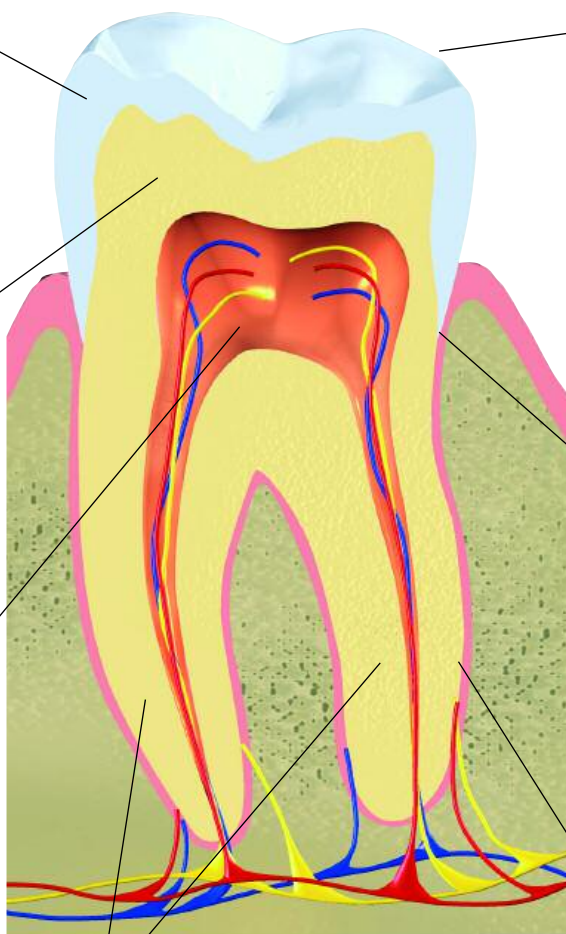
Teeth, like trees, essentially have a root system and a crown. Healthy teeth are alive and connect to the whole body in a two way process – the body sends food parcels and the teeth send back pain signals if they need attention.

The **crown** of the tooth is the white part we recognise because in a healthy mouth this is the only part of a healthy tooth that should be visible.

Dentine forms the main bulk of the tooth and extends down the length of the root.

It is a very sensitive substance, harder than bone but less solid than enamel.

Running along the length of each root is a **root canal**, carrying the nerve and blood vessels into a **pulp** chamber. Through this root system, the body can keep the tooth supplied with nutrients and oxygen to maintain health.



The outer cover of the crown is a coating of **enamel**. This is the hardest and strongest substance produced by the body.

Primary teeth have a thinner layer of enamel, giving them a slightly whiter appearance.

The outer cover of the root is a hard, rough coating of **cementum**, similar in structure to bone.

The cementum meets the enamel at the **neck** of the tooth.

Thousands of tiny fibres known as **periodontal ligaments** attach the root into the jaw to keep it firm and act as shock absorbers.

The **roots** of each tooth sit in the tooth socket and connect it to the jawbone.

Did you know.....?

Elephant tusks, commonly known as ivory, actually consist of dentine.

FACT OR FICTION?

	Answers to questions on p. 8	FACT (True)	FICTION (False)
1.	Red gums are healthy gums Pink gums with natural pigmentation are healthy gums. Redness is a sign of disease. See p.17		✓
2.	All healthy teeth have roots The root feeds the tooth crown. See p.14	✓	
3.	Women lose 1 tooth for each pregnancy This is a myth based on the belief that calcium is taken from the mother’s teeth and given to the child. See p.29		✓
4.	Toothpaste is not necessary to clean teeth Charcoal or salt are also effective. See p.31	✓	
5.	If you don’t have any teeth, you’ll never need a dentist Oral problems can still occur in mouths without teeth. Everyone should have a regular oral check if possible.		✓
6.	People ‘get longer in the tooth’ as they get older Not necessarily – a tooth will continue to erupt only if its opposing tooth is lost or a tooth may appear to get longer if the supporting bone is reduced through periodontal disease. See p.16. Healthy teeth in a healthy mouth do not get longer.		✓
7.	No toothache = No problem Not necessarily. Some stages of tooth decay are painless. Regular checks can identify these. See p.21		✓
8.	If a child has a tooth knocked out, it should not be put back into the socket Primary teeth should never be re-planted. Permanent teeth should be, when possible. See p.96	✓	
9.	Fizzy drinks help to keep teeth clean The high acid content acts to dissolve the enamel on teeth leading to problems of sensitivity and decay. See pp.20 & 30		✓
10.	The more wisdom teeth a person has, the more intelligent they are They are known as wisdom teeth because they come through when we are a little older – but age and intelligence don’t always go together.		✓

*How well did you do?
Test out your friends and family.*