

UNIT NO. 2

QUICK ORAL HEALTH FACTS ABOUT THE YOUNG

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ABSTRACT

This article sheds light on the sequence of teeth eruption in the young and teething problems; highlights the importance and functions of the primary dentition and provides a quick overview of common developmental dental anomalies and other dental conditions in children.

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INTRODUCTION

The early years are always full of exciting moments as we observe our children grow and develop. One of the most noticeable aspects of their growth and development is the eruption of teeth. The first sign of a tooth in the mouth never fails to attract the attention of the parent and child. For the parent, it marks an important developmental milestone of the child but for the child, it can be a source of irritation brought on by the whole process of teething. This Unit offers insights into the developing dentition in children; the importance of the primary dentition and a quick overview of some of the common dental conditions in children.

BABY TEETH AND ADULT TEETH

There are 20 and 32 teeth in the primary (baby teeth) and adult (adult teeth) dentitions respectively.

The primary dentition generally starts to erupt from about six months of age and by 33 months (approximately 3 years old), the full set of primary dentition should have erupted. The adult teeth start to replace the primary teeth from about the age of six and by 12 years old, all the primary teeth should have exfoliated.

The sequence of eruption for the primary and adult dentitions is as shown in Tables 1 and 2.

Table 1. Eruption sequence of Primary Dentition

Primary Upper Teeth	Primary Lower Teeth
Central Incisors: 8-13 months	Central Incisors: 6-10 months
Lateral Incisors: 8-13 months	Lateral Incisors: 10-16 months
Canines: 16-23 months	Canines: 16-23 months
First Molars: 16-23 months	First Molars: 13-19 months
Second Molars: 25-33 months	Second Molars: 23-31 months

Table 2. Eruption sequence of Adult Dentition

Adult Upper Teeth	Adult Lower Teeth
Central Incisors: 7-8 years	Central Incisors: 6-7 years
Lateral Incisors: 8-9 years	Lateral Incisors: 7-8 years
Canines: 11-12 years	Canines: 9-10 years
First Premolars: 10-11 years	First Premolars: 10-11 years
Second Premolars: 11-12 years	Second Premolars: 11-12 years
First Molars: 6-7 years	First Molars: 6-7 years
Second Molars: 12-13 years	Second Molars: 11-13 years
Third Molars: 18-25 years	Third Molars: 18-25 years

The eruption sequence and timing may be influenced by various factors including gender, ethnicity and developmental defects. Therefore, the actual eruption of teeth may differ between individuals. While the above tables provide an estimated timeline for the eruption of the different teeth, it is reasonable to expect a difference of ± 6 months for the primary dentition and ± 2 years for the adult dentition.

TEETHING PROBLEMS

The common signs of teething are drooling; wakefulness; crankiness; crying; biting; chewing and tender gums. Some children may even refuse their milk and develop rashes around the mouth as a result of the increased drooling. Occasionally, the baby may also have mild fever and loose bowel movements. The gums may also appear swollen and red and even bleed gently. However, teething should not result in severe diarrhoea or high fever. If this is the case, it is important to ensure that the child is not suffering from some form of infection.

To ease such teething problems,

- advise cold food, chilled teething rings or frozen popsicles
- massage the gums with clean fingers or cold towels
- apply topical anaesthetics
- consider oral painkillers if teething affects sleep.

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IMPORTANCE OF PRIMARY DENTITION

The primary dentition is often regarded as being temporary and hence easily dismissed as being unimportant. This is a misconception because the primary dentition is extremely important for children as it helps them in

- chewing their food to prevent indigestion and facilitate better absorption of nutrients;
- developing accurate pronunciation especially when they are developing their speech;
- maintaining space for the adult dentition to erupt. This will prevent malocclusion in the adult dentition. Premature loss of the primary dentition can result in the adjacent primary teeth drifting into the space thus obstructing the eruption of the permanent teeth (Figure 1);
- maintaining aesthetics which is important for the self-esteem of a child.



Figure 1. Early loss of the primary dentition may cause the adjacent teeth to tilt into the space. This makes it difficult for the permanent tooth to erupt.

Also, the adult teeth are developing in close proximity to the roots of the primary teeth. Infection from the primary teeth can therefore affect the forming adult teeth resulting in mal-formation of the permanent dentition (also known as Turner's tooth).



Figure 2. Hypoplasia of the upper central incisors due to untreated infection in the primary incisors



Figure 3. Ectopic eruption of the first permanent premolar due to chronic infection from the retained primary molar

Dental caries (tooth decay) is a common dental problem which afflicts the young (details on the aetiology of dental caries will be covered in Unit 3). If left unchecked, dental caries can progress into the dental pulp (where the nerves and blood vessels are) of the tooth and this can result in great pain and discomfort (toothache) for the child. The decayed tooth also becomes a source of infection in the mouth and dental abscesses may be seen on the gums.



Figure 4. Patient with rampant caries, abscess (circled) related to the roots of the upper front teeth

It is therefore important to take good care of the primary dentition despite its transient passage in the mouth. This can be done by

- regular toothbrushing – at least twice a day once in the morning and once at night before sleeping;
- limiting the consumption of sweetened food and beverages to main meals;
- regular dental visits to detect first signs of dental problems. Early detection and management of dental problems is also much less traumatic for the child.

COMMON DEVELOPMENTAL ANOMALIES

The following highlights developmental anomalies commonly seen in the young.

Partial Ankyloglossia (Tongue-Tie)

The child usually presents with a short and thick lingual frenum or attachment to the tip of the tongue. It is more common among males and rarely causes speech or swallowing problems. Sometimes, this condition may self correct and if it does not, a frenectomy may be indicated.



Figure 5. Patient with tongue-tie

Torus Palatinus/Mandibularis

This is a bony hard mass that varies in size and shape. It is usually asymptomatic unless traumatised. The Torus Palatinus is more commonly noted among females while the Torus Mandibularis is more often seen in males. These bony aberrations usually do not require treatment and may persist into adulthood. One consequence of these Tori is difficulty in fabricating upper full dentures, if required later on in life.



Figure 6. Patient with torus palatinus

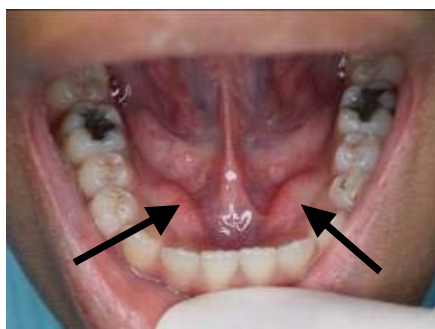


Figure 7. Patient with torus mandibularis (arrowed)

Erythema Migrans (Benign Migratory Glossitis)

Multiple oval or circular red patches with white scalloped border are noted on the dorsum and lateral border of the tongue. There is also a loss of filiform papillae and the pattern of patches may change. Females are more likely to have this condition which may cause a burning sensation in the mouth. Generally, no treatment is required, however, hot and spicy food should be avoided. In symptomatic cases, topical steroid may be indicated.



Figure 8. Patient presenting with erythema migrans

Hypodontia

This refers to a congenital absence of teeth resulting in less than the usual number of teeth in the mouth. This condition seems to stem from familial traits and the most commonly missing teeth are the third molars, second premolars and maxillary incisors. Hypodontia is also often associated with microdontia where the tooth size is smaller than normal. In general, treatment is mainly to enhance aesthetics or enhance function in severe cases of hypodontia.



Figure 9. Patient with one missing lower incisor and microdontia of the upper central incisors



Figure 10. Patients with ectodermal dysplasia presenting with severe hypodontia and microdontia



Figure 11. Patient with retained primary central incisors due to missing adult incisors

Hyperdontia (Supernumerary Teeth)

With this condition, there are extra teeth in the mouth. More commonly noted in males, hyperdontia is most commonly found in the maxilla and adult dentition. The management of the extra teeth usually involves extraction, especially if they are causing discomfort or affecting the normal eruption of teeth.



Figure 12. Patient presenting with a supernumerary palatal to the upper right central incisor

Fusion

This condition refers to the dentinal union of two embryologically developing teeth and often no treatment is needed.



Figure 13. Patient with fused lower central and lateral incisors



Figure 14. Patient presented with fused upper left primary central and lateral incisors (left) and fused lower left primary lateral incisors and canine microdont lower right primary lateral incisor (right)

Dens Evaginatus (Leong's Premolars)

Dens evaginatus is a developmental anomaly that presents with a tubercle protruding from the biting (occlusal) surface of posterior teeth and lingual surface of anterior teeth. It occurs most commonly on the premolars. The prevalence of dens evaginatus is between 1 to 4% and occurs most commonly in Mongoloids. Early identification and management of such teeth is important because fractured or worn down tubercles can lead to pulpal necrosis and dental infections.



Figure 15. Intact tubercle on lower left second premolar

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LEARNING POINTS

- There are 20 and 32 teeth in the primary (baby teeth) and adult (adult teeth) dentitions respectively. The eruption sequence and timing may be influenced by various factors including gender, ethnicity and developmental defects. Therefore, the actual eruption of teeth may differ between individuals.
- Teething is often associated with drooling, wakefulness, crankiness, crying, biting, chewing and tender gums. Teething should not result in severe diarrhoea and high fever. If so, the baby may be suffering from some form of infection.
- The primary dentition is important as it serves many important functions including chewing, speech, appearance and foundations to guide the eruption of the adult dentition.
- It is important to take care of the primary dentition by
 - ♦ regular toothbrushing – at least twice a day once in the morning and once at night before sleeping;
 - ♦ limiting the consumption of sweetened food and beverages to main meals;
 - ♦ regular dental visits to detect first signs of dental problems early.