



ORAL HEALTH IN COMPREHENSIVE CLEFT CARE

An educational manual for oral health professionals

DAY 2



Supported by



WELCOME



MISSING TEETH, EXTRA TEETH, IMPACTED TEETH, MICRODONTIA & MALFORMED ROOTS

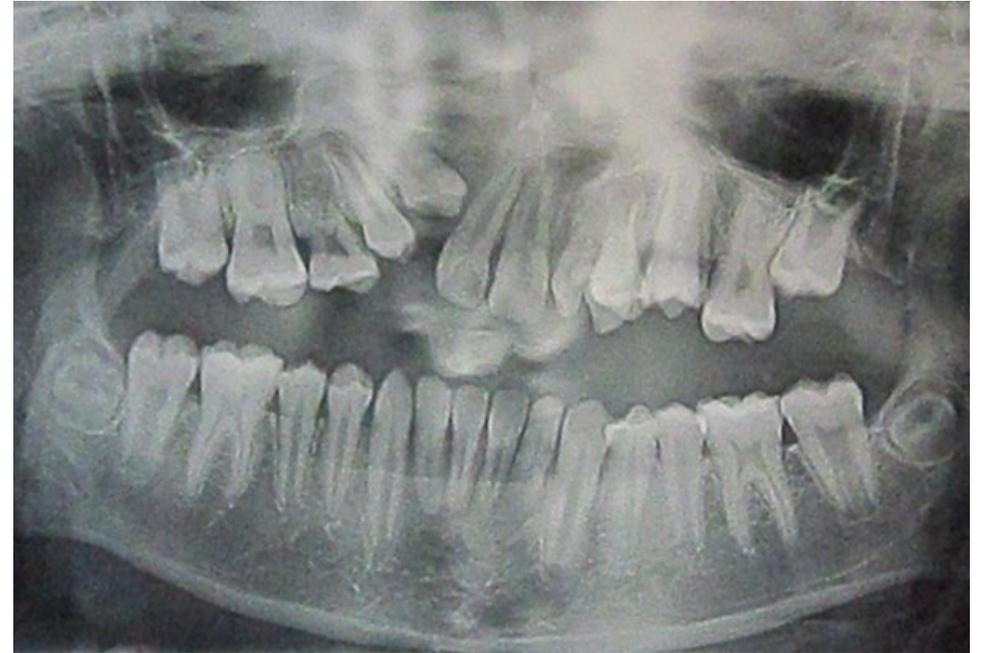
Learning objective:

To understand and identify missing teeth, extra teeth, impacted teeth, microdontia and malformed roots.

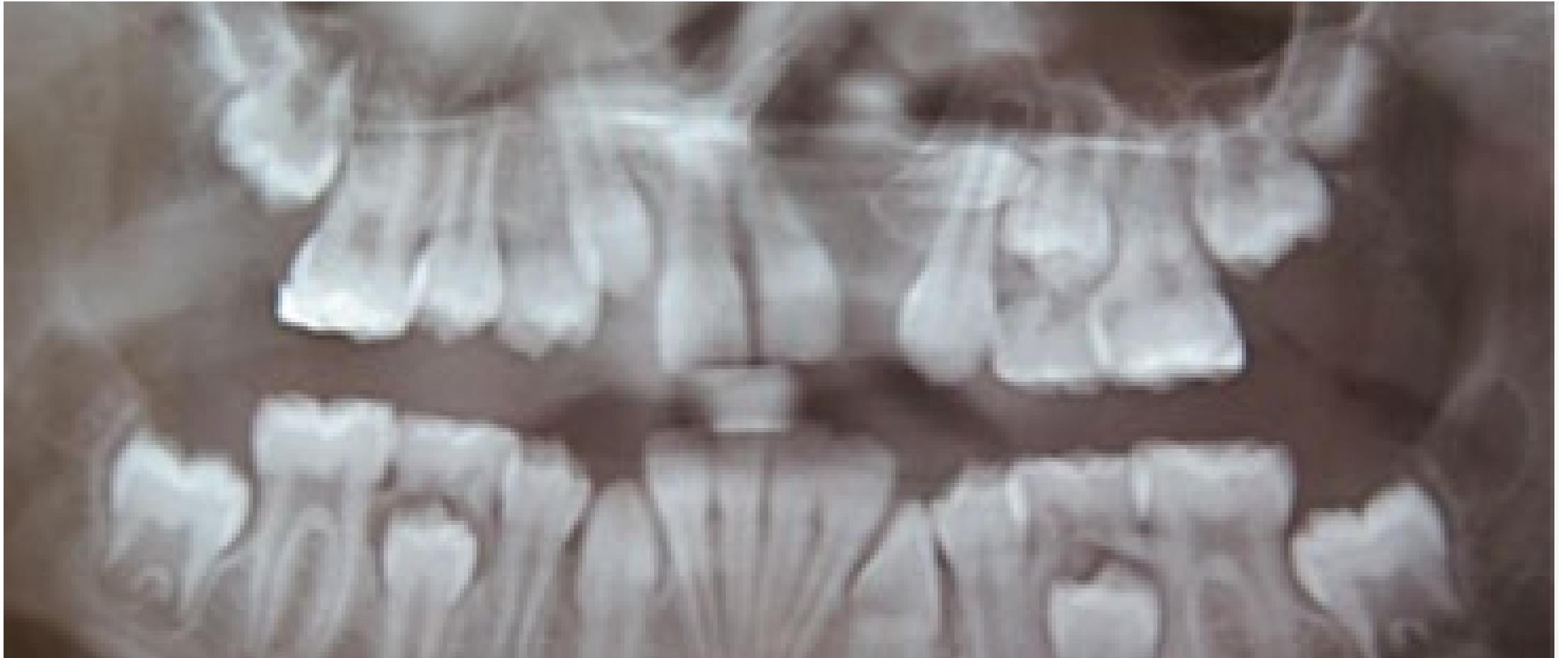
MISSING TEETH, EXTRA TEETH, IMPACTED TEETH, MICRODONTIA & MALFORMED ROOTS

Children with cleft often have missing, extra or malformed teeth, and this can be challenging for the oral health professional (OHP) to manage effectively. This can also have a negative impact on the psychological development of the children as they become more social and begin school.

Exercise: identify missing teeth on the radiograph



MALFORMED ROOTS



MICRODONTIA

Microdontia are smaller-sized teeth, commonly observed in and around the cleft region.



MISSING TEETH

As children can be self-conscious of missing teeth, especially as they begin school, it would be acceptable to provide a partial removable denture from the age of six upwards. This should be reviewed regularly as the child grows in order to monitor the fit.



PREMATURE LOSS OF PRIMARY TEETH - THE CAUSES, CONSEQUENCES AND CLINICAL MANAGEMENT

Learning objective:

The participant will understand the consequences of the premature loss of teeth and how to manage this clinically.

CAUSES OF PREMATURE LOSS OF PRIMARY TEETH

Primary teeth can be lost early as a result of:

- developmental anomalies;
- premature resorption of roots following trauma (most commonly anterior teeth);
- extractions due to dental caries.

Exercise:

Can you remember why the primary teeth are important for children?

When a primary tooth is lost prematurely:

- the teeth adjacent to the extracted tooth begin close the space, closing the gap required for the eruption of the permanent tooth;
- this leads to impaction or delayed eruption of the permanent tooth;
- there is a loss of the dental arch length, leaving less space for the eruption of the permanent dentition.

Loss of incisors due to early childhood caries can lead to:

- crowding, overjet or overbite issues;
- problems with speech;
- psychosocial issues.

Loss of canines can lead to:

- midline shift;
- buccally displaced permanent canines;
- crowding.



CONSEQUENCES OF PREMATURE LOSS OF PRIMARY TEETH

Primary first molars are commonly lost because of caries or infection

— both unilaterally and bilaterally.

- There tends to be space loss within the first four to six months after extraction, with migration of the primary canines and permanent incisors toward the edentulous space in both arches.
- This is exacerbated in crowded arches and not a concern when there is spacing.



Pedo Planet - Children Dental Centers, (Chennai, New Delhi),
India.

Centre for Early Childhood Caries Research (CECCRe), Sri
Ramachandra Institute of Higher Education and Research,
Chennai, India

CAUSES OF PREMATURE LOSS OF PRIMARY TEETH

Loss of primary second molars results in more severe space loss and greater in the maxilla than in the mandible.

- The effects are worse when tooth loss occurs prior to the eruption of the permanent first molar, and space maintenance should always be considered.
- If tooth loss occurs after the permanent molar erupts, a bilateral fixed appliance is the most appropriate.

MANAGEMENT OF EARLY LOSS OF PRIMARY TEETH

- Regular dental check-ups and early intervention.
- Healthy oral habits can be established at an early age and cavities can be either prevented or diagnosed promptly.
- Primary teeth maintenance is essential for establishing normal arch development and occlusion.
- Reduced arch length can lead to crowding, ectopic eruption, or impaction of permanent teeth.

Disrupted occlusal relationship between the molars and canines, over-eruption of opposing teeth, alteration in the overbite and overjet and midline shifts require treatment, either interceptive or with orthodontic appliances.

PROTOCOL FOR SPACE MAINTENANCE

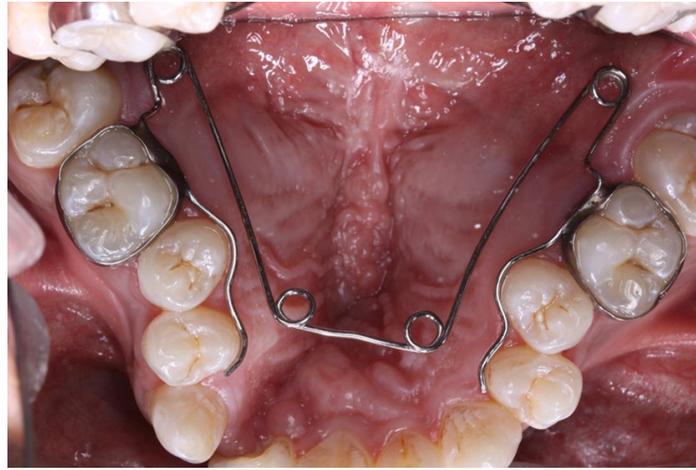
Space maintenance should be considered in patients who need extraction of primary teeth, or those whose second deciduous molars are about to shed and have anterior crowding.

Bilateral loss: a lingual arch in the lower and trans-palatal arch in the upper, both usually from the first permanent molars.

Unilateral loss: a band and loop appliance is the preferred option, also usually from the first permanent molars.



**BAND AND LOOP SPACE MAINTAINER
FOR UNLATERAL TOOTH LOSS**



**TRANS-PALATAL APPLIANCE FOR
BILATERAL TOOTH LOSS**



RAPID PALATAL EXPANDER



LINGUAL ARCH APPLIANCE



TRIHELIX APPLIANCE

APPLIANCE FOR BONE TRANSPLANT

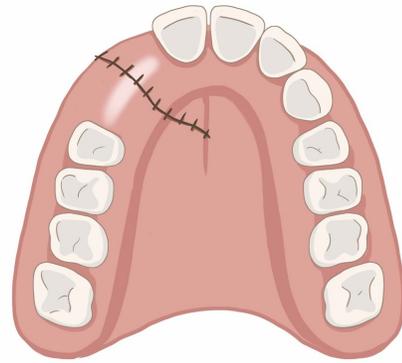


ALVEOLAR BONE GRAFTING

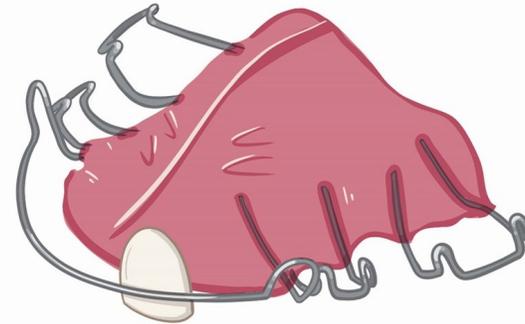
For a child with a complete cleft of the primary palate, an X-ray should be done between the ages of 6 – 7 years to determine the need for an alveolar bone graft.



**PRE-ALVEOLAR BONE
GRAFTING**



**POST-ALVEOLAR BONE
GRAFTING**



**ORTHODONTIC RETAINER
WITH A SPACE MAINTAINER
ATTACHMENT**

PRINCIPLES OF MINIMALLY INVASIVE DENTISTRY

Learning objective:

To ensure oral health professionals are trained to understand minimally invasive dentistry.

INTRODUCTION TO MINIMALLY INVASIVE DENTISTRY

- Minimally invasive dentistry is a philosophy that integrates prevention, remineralization and minimal intervention for the placement and replacement of restorations.
- Minimally invasive dentistry means treatment using the least invasive surgical approach, with the removal of the minimal amount of healthy tissue.
- When a lesion needs to be restored, removal of decay with maximum conservation of healthy tooth structure should be the priority.
- Since our “permanent” restorations seldom last forever, we need to minimize the size of any restoration.
- This will prevent or limit the restoration cycle that ultimately leads to tooth fracture, endodontic treatment and crown, and (occasionally) root fracture and extraction of the tooth.

SDF APPLICATION FOR ARRESTING EARLY CHILDHOOD CARIES



PRE-OPERATIVE



**IMMEDIATE POST-
OPERATIVE**



1 MONTH



3 MONTHS



9 MONTHS



15 MONTHS

Pedo Planet - Children Dental Centers, (Chennai, New Delhi), India.

Centre for Early Childhood Caries Research (CECCRe), Sri Ramachandra Institute of Higher Education and Research,
Chennai, India

SILVER DIAMINE FLUORIDE (SDF) APPLICATION



Video by Laura Timms on behalf of British Society of Paediatric Dentistry
(<https://www.youtube.com/watch?v=tELmH9jRvv8>)

A traumatic restorative technique (ART):

ART is a minimally invasive technique where caries are removed by hand using an excavator. An adhesive restoration such as glass ionomer cement, preferably containing slow-release fluoride, should be used.

Hall crowns:

The Hall crown technique is the placement of a pre-formed stainless-steel crown over a carious primary tooth using a glass ionomer cement. This technique requires no preparation, local anaesthesia or caries removal.



HALL CROWN

Pedo Planet - Children Dental Centers, (Chennai, New Delhi), India.

Centre for Early Childhood Caries Research (CECCRe), Sri Ramachandra Institute of Higher Education and Research, Chennai, India

MANAGING RESTORATIVE CARE FOR COSMETIC IMPROVEMENTS

Learning objective:

To understand the restorative techniques which can achieve cosmetic improvements.

- Almost 50% of parents of pre-adolescent children with orofacial cleft indicated that their children expressed concerns about their appearance.
- Aesthetics of anterior teeth are a crucial factor influencing a patient's psychological self-belief and social confidence.



WHAT ARE STRIP CROWNS AND ZIRCONIA CROWNS?

- Strip crowns are used to restore primary anterior teeth. The plastic crown containing composite resin is placed over the carious tooth and then removed once the resin has set.
- Zirconia crowns are suitable for primary anterior and posterior teeth. The plaque accumulation on these highly polished surfaces is minimal.

CASE STUDY 1



PREPARED TOOTH



FINAL RESULT

CASE STUDY 2



CARIOUS UPPER CENTRAL AND LATERAL INCISORS



PREPARED TEETH



FINAL RESULT

MONITORING AND MAINTAINING THE ORAL HEALTH OF PEOPLE WITH CLEFT

Learning objective:

Participants should understand how to follow the FDI/Smile Train Oral Health in Comprehensive Cleft Care Guidelines and maintain the oral health of patients at all ages.

Medications

Healthcare providers should try to prescribe sugar-free medications where possible.

Behavioural habits

Do not allow infants and children to go to sleep with a bottle with milk or sugary drink.

Thumb sucking and pacifier use should be discouraged.

Exercise:

In small groups discuss oral interventions per age group, using the Oral Health in Comprehensive Cleft Care guidelines

ORAL HEALTH IN COMPREHENSIVE CLEFT CARE

Guidelines for oral health professionals and the wider cleft care team



1



Remove the OA and wash in cooled boiled water.

2

The mouth should be inspected for any areas of ulceration, bleeding and tooth eruption. The OA may need to be adjusted by the dentist.



3

Using a moist swab stick clean under the flattened nostril.



4

Carefully insert the OA slightly sideward for a unilateral cleft and straight for a bilateral cleft.



5

Apply soft white paraffin to all lip areas and the pre maxilla as needed and at each feed time.



Care instructions for an appliance or obturator

DELIVERING ORAL HEALTH EDUCATION

Learning objective:

Participants should understand how to provide oral health education and use a motivational interviewing style.

FOLLOW THE FOUR STEPS TO IMPROVING ORAL HEALTH BEHAVIOURS

1. **Engaging:** the first step is to build trust with the patient. Ask permission to discuss their oral health and to ask questions and let them know what you will be discussing. This could include any concerns they may have with their oral health.
2. **Focusing:** this is a way to guide the patient toward the behaviour change. Help them focus on what they want to change. This could be discussing sugar in their diet or their toothbrushing technique. For example, after noticing white spot lesions around the cervical margins, discuss the findings with the patient and ask them, “Shall we discuss ways we can prevent further tooth decay?” This will bring attention to the fact that they, the patient, are making that decision.
3. **Evoking:** this promotes the patients’ own reasons to change. Ask them what they know about tooth decay. What is their perception of tooth decay? Offer them more information on what you see clinically. Let them come to the conclusion that a change needs to be made. Let them be the one to state that change is needed, and then plan to make that change with them.
4. **Planning:** finally, ask the patient what it is they can do to make that change and offer assistance in helping them make that change. Help them identify a time in their routine to implement a new toothbrushing behaviour or how to replace sweet snacks with healthy alternatives.

Exercise: In pairs or small groups practice through role play delivering oral health messages from the OH in CCC guidelines, following the four steps.

RECAP AND CLOSE

1. Why is it important to manage missing teeth in children with cleft?
2. Name three reasons why primary teeth are important in children.
3. What can happen if a primary incisor tooth is lost prematurely?
4. What kind of space maintainer can be used for a unilaterally lost first primary molar?
5. At what age should a radiograph be taken to assess the need for an alveolar bone graft?
6. What is minimally invasive dentistry?
7. Name two minimally invasive techniques.
8. Name two oral health interventions for 6-12 years.
9. How should an obturator be cleaned?
10. What are the four steps to improving oral health behaviours?

THANK YOU

Content developed by the Oral Health in Comprehensive Cleft Care Task Team:
P. Mossey, Muthu MS, S. Yan, M. Campodonico, L. Orenuga.

Managing editors: P. Sheeran and R. England

This educational resource was produced as part of a partnership between FDI World Dental Federation and Smile Train, with support from GlaxoSmithKline Consumer Healthcare (GSK CH). No editorial control, apart from ensuring compliance with legal and regulatory considerations/requirements, has been exercised by GSK CH. Funding for the development of this educational resource was provided by GSK CH.



Supported by

