

Central London Dental Study Group
Session 11

Management of the Developing Dentition

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Management of the Developing Dentition

1. Diagnose, assess and differentiate between malocclusions that can be treated in general practice and those that require specialised advice and / or management.
2. Assess occlusion and diagnose malocclusion for the purpose of carrying out interceptive treatment or onward referral at the appropriate developmental stage.
3. Recognise detrimental oral habits and occlusal trauma and where appropriate intercept correctly.
4. Recognise problems related to orthodontic treatment, relieve trauma and discomfort due to appliances and arrange emergency repairs to orthodontic appliances when required.
5. How to formulate and implement a plan to provide space maintenance when required.
6. How to design, insert, adjust and monitor simple removable appliances.
7. Facial growth and dental development (and the ability to monitor these) and recognise abnormalities as they appear.
8. The use of orthodontic indices.

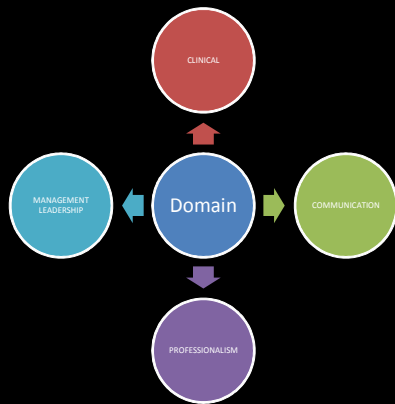
A Curriculum for UK Dental
Foundation Programme Training

A Curriculum for UK Dental Foundation Programme Training

http://www.fgdp.org.uk/pdf/gpt_curric.pdf

MJDF Part II

- Objective structured clinical examination (OSCE)
- Structured clinical reasoning (SCR)



MJDF

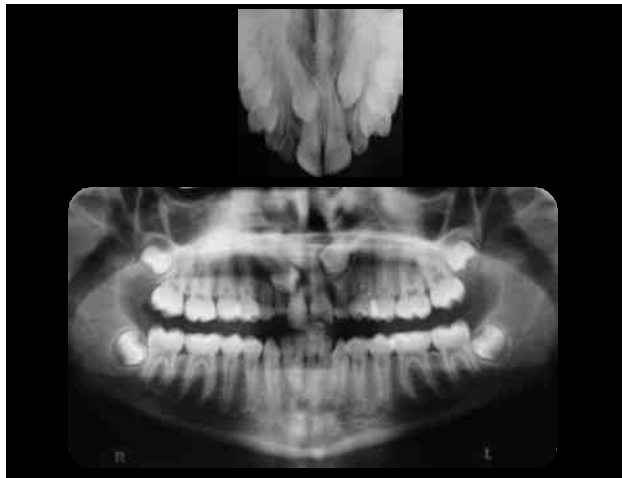
Lecture Outline

- SCR 1
- OSCE 1
- SCR 2
- OSCE 2

Management of the
Developing Dentition

SCR 1

A twelve year old female patient attends your dental practice, accompanied by her mother, for a routine examination. Upon clinical examination, you note that the upper lateral incisors and maxillary canines are unerupted.



SCR 1 Questions

1. What further information would you like ask the family?
2. What further clinical examinations would you undertake?
3. What information can be obtained from the radiographs?
4. What other radiographs could have been taken?
5. What is your diagnosis?
6. What are the treatment options?
7. How could this situation have been prevented?
8. What are the main risks in this clinical situation?



IMPACTED MAXILLARY CANINES

Impacted Maxillary Canines

- Prevalence 1-2%
- Female:Male 2:1
- 85% Palatal: 15% Buccal
- IOTN 5i



Clinical Features of Palatally impacted Canines

- Lack of buccal bulge by age 10yrs
- Palatal bulge
- Immobility of C's
- Lack of space for canine
- Increased mobility of U1 & U2
- Non-vitality central/ lateral incisors
- Abnormal position of adjacent teeth



Radiographic Features

- Palatal position demonstrated by parallax
- Canine overlapping incisor roots
- Long axis of canine >25 deg
- Root resorption
- Missing U2's



Vertical Parallax

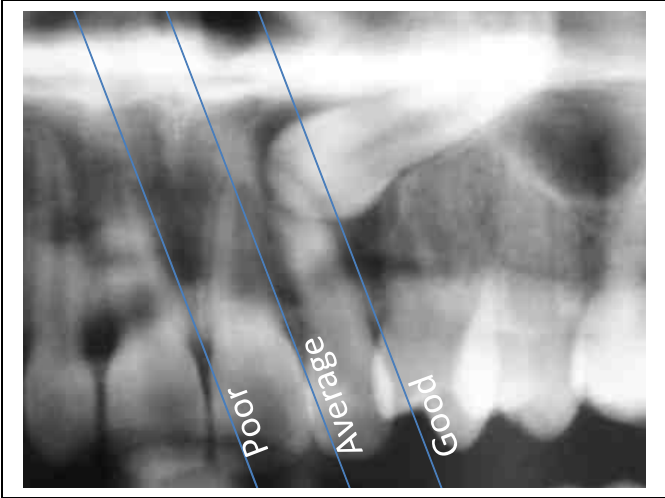


Poor

Average

Good

Rule of one-third



Horizontal Parallax



Lateral Cephalogram



Management of Palatally Impacted Canines

- Interceptive treatment
- No treatment
- Orthodontic alignment
- Surgical removal
- Autotransplantation

Interceptive
treatment



SCR 1 Questions

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OSCE 1

A nine year old patient presents with her mother complaining of generalised toothache. You clinically examine the patient and find caries. Following examination of a DPT radiograph, explain to the mother your main findings and the available treatment options.

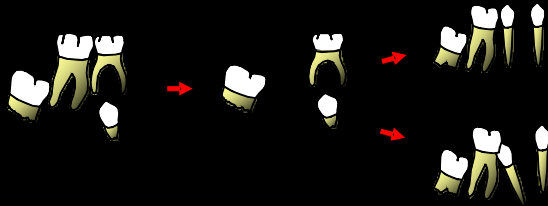


**POOR-
PROGNOSIS
FIRST
PERMANENT**

**Consequences
of loss of mandibular FPMs:
Ideal Timing**



**Consequences
of loss of mandibular FPMs:
Early Loss**



**Consequences
of loss of mandibular FPMs:
Late loss**



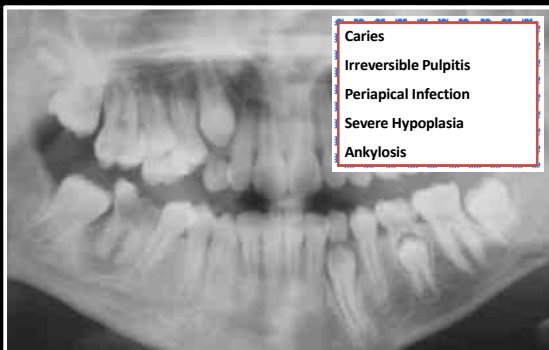
**Consequences of the Loss of Maxillary
FPM's**



Factors to Consider When Planning the Loss of FPM's

- The restorative state of the tooth
- The dental age of the patient
- Degree of crowding
- The incisor relationship

The Restorative State of the Tooth



The Dental Age of the Patient



The Degree of Crowding



The Incisor Relationship

■ Class I

■ Class II

■ Class III



Balancing and Compensating

Compensation involves extraction of an antagonistic molar to prevent its over-eruption



Compensating



Balancing and Compensating

Balancing involves removal of a contralateral tooth to help preserve the dental midline



Conclusions

- Always seek an orthodontic opinion before the extraction of FPM's. Decision for early loss is often considered when later orthodontic therapy is not required.
- Important to consider balancing and compensating extractions when planning the loss of a FPM.

OSCE 1

A nine year old patient presents with her mother complaining of generalised toothache. You clinically examine the patient and find caries. Following examination of a DPT radiograph, explain to the mother your main findings and the available treatment option.



General Approach

- Introduce yourself to the patient
- Establish rapport with the actor/ show empathy
- Do not use complex dental terminology
- Use props for explanation
- Invite questions/ check understanding
- Do not be put off by the difficult patient

Poor Prognosis FPM

- Explain diagnosis and cause of problem
- Broadly explain treatment options
 - Extraction (Early or late) or restoration
 - Balancing extractions
 - Compensating extractions
- Suggest referral to orthodontist for further advice
- Emergency care and preventative advice

SCR 2

A nine year old male patient attends your dental practice with his mother. The family are concerned about the appearance of the upper front teeth. Please examine the attached clinical photograph.

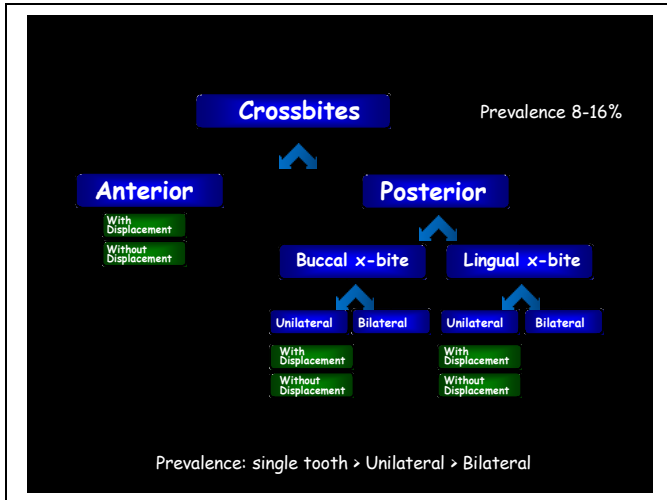


SCR 2 Questions

1. What further information would you like ask the family?
2. What further clinical examinations would you undertake?
3. What are the treatment options?
4. What are the benefits of undertaking treatment?
5. Design a suitable appliance?
6. What advice would you give on fitting the appliance?
7. What factors affect stability of the result?
8. What information would you provide regarding future care?



CROSSBITES



Aetiology of Crossbites

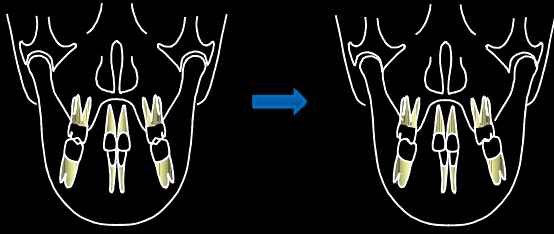
- **Skeletal Factors**
 - Narrow maxilla (posterior x-bite)
 - Skeletal III pattern (anterior x-bite)
- **Habits**
 - Digit sucking
- **Soft tissue**
 - Chronic nasal obstruction
- **Local factors**
 - Dental Crowding

Clinical Features

- Mandibular displacement
- Crowding
- Toothwear
- Recession
- Mobility
- IOTN 4d, 3d, 2d, 1d



Mandibular Displacement



Mandibular Displacement



Treatment – Anterior Crossbites

- URA
- Fixed appliances
- Fixed appliances and orthognathic surgery

Removable Appliance Design

- Active components
- Retention
- Anchorage
- Baseplate

Active Components



0.5mm



0.6mm



Retention



Removable Appliance Design

- Active components
- Retention
- Anchorage
- Baseplate



Instructions on fitting an appliance

- Demonstrate insertion and removal
- Remove for cleaning and sports
- Storage in hard case
- Do not eat hard foods
- Rinse after eating
- Speech, salivation, discomfort
- Cleaning
- What to do in event of breakage

Stability of Crossbite Correction

- Anterior
 - Overbite
 - Growth
- Posterior
 - Good intercuspation
 - Avoid excess tipping
 - Growth



SCR 2 Questions

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Questions?

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