Radiographic assessment of the child dental patient
Objectives of session

- Describe how to determine the appropriate radiographic survey required for children.
- Describe how to identify need and to complete a radiographic survey for children.
- Identify the types of films used and the specific dental survey recommended for different ages and caries risk levels.
Introduction

- Radiographs are only taken in children when there is an indication.
- They are taken to confirm or rule out a diagnosis.
- Can only be taken after taking an adequate history and conducting a clinical examination.
• Prior to making requests for new x-rays, always review old x-ray films.
• As much as possible avoid children been exposed to radiation.
• Efforts should be made to taken x-rays good for interpretation at the first attempt.
Reasons to avoid radiation exposure

• The tissues of children are still growing and are more sensitive to radiation.
• The child still has increased prospect of multiple dental visits and possible needs for multiple x-ray exposures. Effect of radiation is cumulative and so need to reduce the need to expose them
Reasons to avoid radiation exposure - 2

• Children are at higher risk for caries and thus would likely have multiple reasons to have x-rays taken.
• They have smaller stature and are therefore closer to the central x-ray beam.
Criteria of assessing x-rays needs in children

• Type of visit: new or recall
• Status of patient: high or low caries risk
• Disease status: gingiva, growth monitoring
Types of radiographs

Radiographs taken in routine paediatric dental care include the following:

• Posterior bitewings
• Periapical xrays
• Occlusal
• Panoramic
Indications for posterior bitewing

- Detect incipient inter-proximal caries
- Determine pulp chamber configuration
- Determine depth of carious lesion
- Identify crowns of premolars
- In ankylosis, used to determine relationship of tooth to occlusal plane
- Record width of space created by primary tooth loss
Recommendations for posterior bitewing

- All new patients with primary dentition and close proximal contacts.
- All new patients with mixed dentition and close proximal.
- In adolescents visiting the dental clinic for the first time.
Recommendations for posterior bitewing - 2

• As caries monitoring tool
  o In patients with high risk for caries, take radiograph every 6 months until patient is reclassified as low risk
  o In patients with primary or mixed dentition with low risk for caries, and close proximal contacts, take radiograph every 12 to 24 months
  o In adolescents with low caries risk, take radiograph every 18 to 36 months.
Indications for peri-apical radiographs

• Determine root-end and peri-apical pathologies
• Evaluation of pulp treatment
• Detect developmental anomalies eg missing tooth, supernumerary tooth
• Detect alteration in integrity of periodontal membrane
• Used for space analysis in mixed dentition
Recommendations for peri-apical radiographs

• In all new patients with mixed dentition and in adolescents as part of the need for a complete mouth examination.

• In primary and permanent dentition where root end and peri-apical pathologies are suspected eg internal root resorption, abscesses, cysts
Recommendations for peri-apical radiographs - 2

• In all patients with periodontal disease (exclusive of gingivitis).
• In adolescents when there is the need to assess third molar development.
Indication for panoramic view

- For handicap children where intra-oral x-rays may not be possible.
- As a substitute for complete peri-apical survey in patients visiting the clinic for the first time, or monitoring of generalised dental disease.
Recommendations for panoramic view

• All new patients in mixed dentition stage
• Adolescents visiting the clinic for the first time
• Used for growth and development assessment in children in mixed dentition or for adolescents
Things to remember

• Taking radiographs is part of a child’s first dental experience. It needs to be remembered as a pleasant experience.
• Use terminologies that child can understand to explain the procedure eg picture, camera.
• Allow the child to inspect the machine and the film pack before putting it in their mouth.
Things to remember - 2

• Let the cone make contact with your face or the child’s face before shooting.

• Dampen the film packet before inserting into the patient’s mouth. It takes away some unpleasant taste from the film packet

• Before inserting the film, curve it slightly so it does not impinge the lingual tissues.
Quiz 1

Indications for posterior bitewings are:

• Detect incipient occlusal caries
• Determine pulp chamber configuration
• Detect alteration in integrity of periodontal membrane
• Used for space analysis in mixed dentition
Quiz 2

Indications for peri-apical radiographs:

• Determine root-end and peri-apical pathologies
• Evaluation of pulp configuration
• Detect developmental anomalies eg missing tooth, supernumerary tooth
• Detection of incipient proximal caries
Acknowledgement

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