

## CPG Dental and oral care for Kids and Adolescents (0-18 yrs)

Version 1.1 - 28.10.2019

- X-rays for caries diagnostics and tooth eruption disorders
- Panoramic imaging in the dental and oral healthcare practice

### SUMMARY

#### 1. Introduction

This clinical practice guideline (CPG) concerns diagnostics using X-ray images and panoramic imaging in dental and oral care for adolescents (up to 18 years). Guidelines for the modules prevention and treatment will follow in due course.

#### 2. Accountability

This CPG has been developed under the auspices of the KIMO (Institute of Expertise for Oral Healthcare) by a Clinical Practice Guideline panel (CPG panel). This CPG panel was presided over by Em. prof. dr. C. van Loveren, endowed professor of preventative dentistry.

The guideline complies with the requirements for evidence-based guidelines development (in Dutch, EBRO). This means that the study has been carried out subject to the highest possible scientific standards.

#### 3. Comments and authorisation

The CPG has been commented upon and approved by all scientific and professional associations as well as by other organisations affiliated with dental and oral care for adolescents.

#### 4. Clinical questions

Three clinical questions have been formulated for this guideline. In summary, these questions and the ensuing recommendations can be formulated as follows:

1. *What is the added value of using specialised detection equipment following visual inspection for diagnostics in children aged 4-6 years?*

##### **Recommendations:**

- Visual inspection yields the greatest value during periodic dental check-ups. The findings of this inspection in part determine the necessity for supplementary diagnostic methods.
- Bitewings are useful in cases where an increased risk of proximal caries is suspected and where the approximal surfaces are not accessible for visual inspection.
- There is insufficient evidence available regarding the added value of specialised detection equipment such as FOTI, DIFOTI and laser fluorescence. Moreover, few practices possess this type of equipment. The use thereof is not recommended.
- If adequate caries diagnostics does not appear to be feasible during the periodic dental check-up, a subsequent check-up appointment should be made to follow at short notice.

2. *What is the optimal frequency for using bitewings for caries diagnostics per combination of age and caries risk category?*



**Recommendations:**

- The optimal interval to a second X-ray or imaging session depends on the dental condition, the prognosis for the caries lesions and the estimated caries risk.
- If these findings yield an unfavourable outcome, an interval of one year may be justified. If the outcome is favourable, an interval of three years or longer can be justified.
- During each periodic dental check-up, the care provider needs to assess whether the same or a modified interval should be maintained until the following check-up. Once the chosen interval is modified, the reason for this should be recorded in the patient file.

***3a. Does a panoramic dental X-ray (PAN) contribute to an effective treatment of anomalies in the eruption of permanent teeth identified through visual inspection?***

**Recommendations:**

- Generally speaking, it is true to say that some reticence is appropriate when making a panoramic dental X-ray (PAN), due amongst other things, to the radiation exposure. Anomalies in the eruption of permanent dental elements should first be studied on the available bitewings and solo images in the patient file. If this provides insufficient information, first consider a single or multiple inter-oral X-rays. If more than three X-rays are needed, consider a small angle panoramic dental X-ray.
- If extraction therapy of the first permanent molar is required in more than a single quadrant, then a small angle PAN may contribute to effective treatment.

***3b. For which risk groups is the making of a PAN most justified, relatively speaking?***

**Recommendations:**

A PAN is justified:

- In certain orthodontic and dental surgical treatments that have not been included in this CPG and which are covered by other CPG's;
- In patients with physical, intellectual or behavioural disabilities, extreme anxiety issues or severe gagging reflex;
- In cases of a dento-facial trauma (PAN to be made by the practitioner);
- if regular post-canine 3 X-rays are inadequate due to the size of the area requiring diagnosis;
- if there are multiple dental agenesis, clefts or a syndrome whereby craniofacial/oral defects are to be expected (PAN to be made by the practitioner);
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**5. Notes to the clinical questions:**

Clinical question 1 could be answered with the aid of systematic literature research. For clinical questions 2 and 3a/3b research selected on the basis of the expertise of the members of the CPG panel was chosen. Systematic literature research was not feasible here due to the lack of experimental research or due to the large number of possible outcome variables.

*The comprehensive clinical practice guideline can be found at*

<https://www.hetkimo.nl/richtlijnen/mondzorg-voor-jeugdigen/diagnostiek/>

*Please note that the comprehensive version of this guideline is in Dutch.*

