

Diagnostic quality and acceptance of school-aged children between two different bitewing film holders

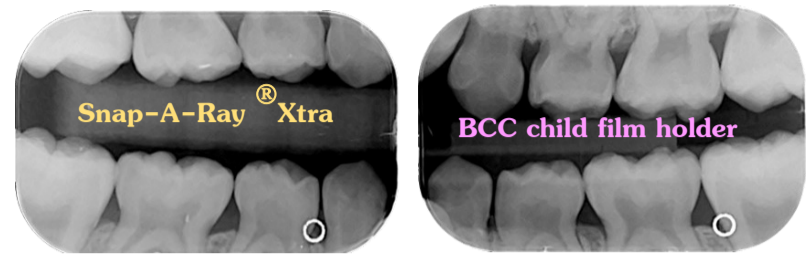


Background

Early detection of dental caries in children can promote the child's good quality of life in way of early diagnosis and early treatment. Radiographs are one of the essential diagnostic tools that enable dentists to make adequate decisions and treatment plans.

Bitewing radiographs are considered the most efficient, accurate and common tool for diagnosis of proximal caries. Optimal bitewing radiographs are in fact rarely achieved, due to technical errors such as incorrect placement of the film or incorrect angulation of the central beam and cone-cutting of the radiograph.

The Bitewing clear contact (BCC) child film holder (RSU innovation, College of Dental Medicine, Rangsit University), is the new film holder which aims to achieve a more precise position for bitewing radiograph and contribute to a better diagnostic quality for pediatric dental patients.

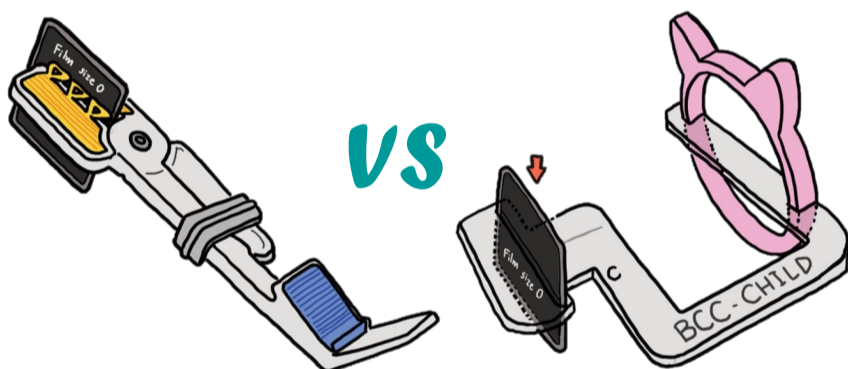


Method

Twenty six, age 6 to 9-year-old children were randomly divided into two groups. A total of 104 bitewing radiographs were taken on two occasions, 6 months apart. At the first visit, each subject was randomly be assigned a pair of bitewings using Snap-A-Ray[®] Xtra on one side and Bitewing clear contact (BCC) child film holder on the other. Six months later, the method used for each side was reversed. All of the radiographs were taken by the same radiographer. Diagnostic quality was assessed according to the interproximal overlapping. Acceptance was evaluated according to the 3 schematic faces scale.

Objectives

- Evaluate the **diagnostic quality** between the Snap-A-Ray[®] Xtra film holder and the BCC child film holder.
- Evaluate the **acceptance** of school-aged children between these two bitewing film holders.



Data analysis

The **Cohen's Kappa test** was used for the inter- and intra-examiner reliability. The patient's acceptance and overlapping scores from the Snap-A-Ray[®] Xtra and BCC child film holder were compared by **Wilcoxon Signed Rank test**. All analyses were performed by using **SPSS program, v.24**.

Conclusion

- There was **no statistically significant** ($p > 0.05$) difference of radiographic diagnostic quality and patient's acceptance between the two film holders.
- BCC child film holder can be used as an alternative to bitewing film holder.

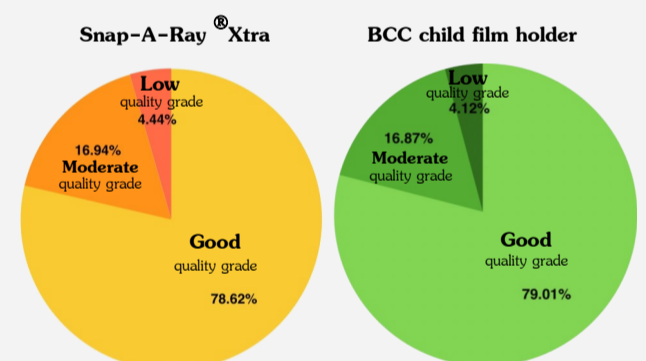
Keywords

Bitewing clear contact (BCC) child film holder, Bitewing radiograph, Film holder, Overlap, Snap-A-Ray[®] Xtra

Results

Diagnostic quality

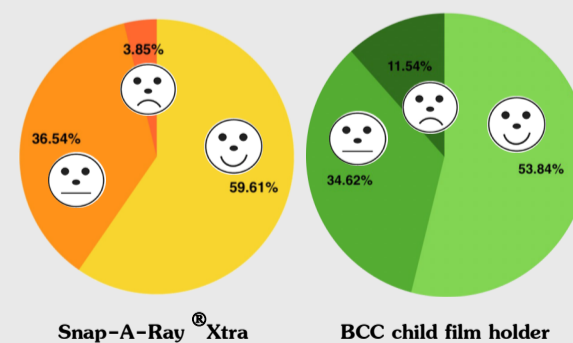
- Radiographic diagnostic quality between the Snap-A-Ray[®] Xtra and BCC child film holder had only one **statistically**



- **significant** difference at the contact site between right mandibular primary second molar and permanent first molar ($p < 0.05$).

- All other contact sites had **no statistically significant** difference ($p > 0.05$).

Acceptance



There was **no statistically significant** of patient's acceptance between the two film holders ($p > 0.05$).



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