

Prediction of the need for bitewing radiography in detecting caries in the primary dentition.

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In recent literature some controversy has been reported regarding the prescription of bitewing radiography for caries diagnosis, particularly in children. While the low prevalence of caries justified the decision not to take radiographs, it has also been reported that the benefits of detecting slowly progressing, clinically undetectable lesions could outweigh the "costs" of radiography.

It was the aim of this study to investigate whether specific risk factors could predict the presence of additional dentinal lesions (ADL) in the primary dentition on radiographs which could not be detected by visual inspection. Bitewing radiographs were taken in 182 children aged 5 yr. Risk factors for ADL were identified and appropriate rating scales were designed. Sensitivities, specificities and relative risks expressing the relation between scale values and ADL were computed for each of the risk factors and direct and stepwise discriminant analyses were performed.

The results indicate that particularly the presence of lactobacilli and mutans streptococci in saliva and the detection of three or more discolored enamel lesions or dentinal lesions were good predictors of ADL. It is suggested that these risk factors be used in the timing of bitewing radiography in children with a primary dentition.