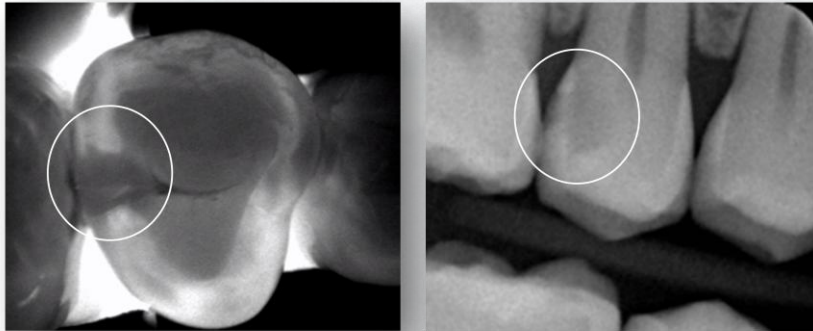


## Summary of 'Interim report for LMU Munich'

### DIAGNOcam: "Virtually identical results for approximal caries diagnosis compared to X-ray"

Approximal lesions were investigated during in vivo studies conducted at the LMU in Munich. The question was to establish the extent of correlation between the new DIAGNOcam process (one requiring no use of X-ray), X-ray diagnosis and actual propagation of tooth decay, i.e. dental caries. These studies demonstrated that diagnostic indications equivalent to X-ray can be achieved. Furthermore, there is a high degree of correlation between clinical propagation of dental caries and the DIAGNOcam image.



In contrast, the DIAGNOcam image (B) points up extensive distal shadowing, which has already extended to the enamel-cement boundary.

The associated bitewing X-ray picture (C) points to a carious process reaching into the inner half of the enamel-dentine.

### Material and Method

50 young people and adults still having their own teeth ('residual dentition') and a total of 95 approximal lesions without cavities were investigated between April and September 2012 on the basis of defined inclusion and exclusion criteria. Before the study began, diagnosis was founded upon established diagnosis procedures. First of all, the cleaned and dried interdental spaces were inspected visually, then bitewing X-ray images that accurately reflected indications were produced. The following additional parameters were also applied:

- Recording of the DMF index and evaluation of lesions free of cavity formation using the UniVISS process (Kühnisch et al. 2009,2011) followed by photographic documentation.
- DIAGNOdent and DIAGNOcam examination
- Identification and validation of existing dentine lesions. The dental caries were drilled out with a self-limit plastic drill (Polybur, Gebr. Brasseler, Lemgo). At this point, the presence of carious lesion was established, followed by the depth of the dental caries.
- The ensuing filling therapy was performed using the Sonicfill system (KaVo & Kerr, Biberach and Orange USA).

### Results

It was demonstrated that the lesion depicted on the DIAGNOcam image correlates very closely to the X-ray image and the clinical situation (DIAGNOcam vs. X-ray image 97%; DIAGNOcam vs. clinical propagation 96%). Verification of the presence of dental caries with the DIAGNOcam process is most successful when the approximal enamel lesion only makes contact with the enamel-dentine boundary at isolated points.