



STUDY OF ENDOSCOPY FOR DENTAL TREATMENT

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Abstract—Observation of the oral cavity microstructure is an important factor for a successful dental treatment. None of the many currently available diagnostic equipment can accurately observe the microstructure. In this study, we have designed an endoscope with a single graded-index multimode fiber of 600- μm diameter that can reach the narrow spaces in the oral cavity and can perform both image acquisition and sample illumination using a prism beam splitter, unlike the conventional endoscope using separate fibers. Thus, the side branch of the teeth and the subgingival calculus can be accurately observed with a resolution of up to 10 μm .

Keywords—dental therapy, root canal, graded-index image fiber