New method using image analysis to measure gingival color

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Abstrak

For many years, observations of gingival color has been a popular area of dental research. However these methods are hard to analyze for any other than the different base conditions and colors. Thus we introduced an alternative method using image analysis to measure gingival color. For the research we performed a dental examination on 30 female students.

The system is set up by aligning the camera area and facial area. The subject's chin is placed in a fixed chin cup mounted 30 cm from the camera lens. Each image is acquired such that comparisons may be made with the original bite holder as well as a standard color scale. After converted to computer we used a curves dialog box for color adjustment. The curves dialog box allows adjustment of the entire tonal range of an image.

The results of the analysis of the free gingiva compared to the attached gingiva are that attached gingiva was more vivid red and yellow compared to the free gingival. In conclusion, the system described herein of digital capture and comparison of color images, analysis and separation in three channels of free and attached gingival surface images and matching with colorimetric scales may be useful for demonstrating the diversity of gingival color as well as analyses of gingival health.