

Standardized Oral Health Assessment and Scoring using Digital Imaging

Researchers at the University of South Florida invented a system and methodology using digital imaging technology to objectively capture clinical data on oral health and to provide standardized scoring methodology for quantifying oral health.

Traditional methods for scoring oral health, including both tooth (e.g. plaque burden) and gum (e.g. inflammation) health, have relied upon visual examination by skilled professionals, including dental hygienists. This type of measurement of oral health is suboptimal for a number of reasons including lack of reliability within and between assessors, imprecise measurement of the health of every tooth, computational complexity, and personnel time burden. A reliable, user-friendly, precise, and fully objective and standardized methodology for quantifying and scoring oral health is needed for clinicians and researchers. In order to overcome these issues, our inventors use a digital imaging technology to objectively capture clinical data on oral health, and then provide standardized scoring methodology for quantifying oral health.

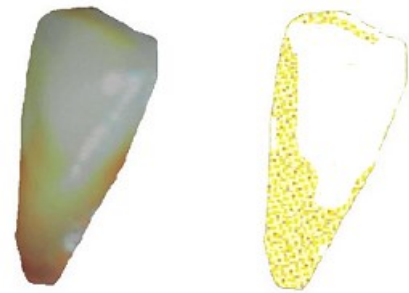
This invention involves two stages: the process of capturing clinical data by use of digital imaging technology, and the process of standardized scoring of oral health data. The process of capturing clinical data on oral health is based on the use of an intraoral camera with imaging software that has the capacity to capture digital images of all tooth surfaces. The process of scoring involves the color classification from digital images to quantify oral health scoring.

This methodology can be applied to persons both in clinical settings (including hospitalized patients) as well as the general population.

ADVANTAGES:

- **Reliable**
- **User-friendly**
- **Standardized scoring methodology**

Use of Digital Imaging for Standardized Scoring of Oral Health Data



Visual Score by
Quadrants:

4/5 = 80%

Digital Score by
Pixels:

32459/83400 = 38.92%

*Digital Scoring Improves Accuracy of
Dental Plaque Measurement Over
Visual Scoring Systems*