

Occlusal Contacts for Implant Dentistry

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Abstract

This study uses a computerized measuring system to observe predictable light and heavy occlusal contact. The method presented offers a means by which the occlusion of a restoration can be adjusted before delivery, on insertion, and monitored overtime.

Key Words: Dental, Implant dentistry, Dental management.

About the study

Implant restorations differ from conventional restorations because they lack a periodontal housing which among other purposes is used to absorb the everyday forces from eating and grinding [1]. Implant restorations function the same but the physiological demands differ [2]. To accommodate this lack of periodontal support it is advocated that both a light and heavy bite be made [3]. We use an occlusal scan to record the bites and to incorporate them into our restorations [4]. The procedure is as follows: For single and or multiple crowns we first establish the existing occlusion by closing commands and recording the occlusal position [5]. This is accomplished by positioning the wand of the scanning system close to the restoration to be constructed using cerec (dentsply, sirona). The completed restoration is inserted. At this time a silicone bite in a triple tray (premier, plymouth meeting, PA) is processed and shown on the computer screen. Using the same tray and a non-set impression material a second bite is recorded by biting hard [6]. This bite is compared to the previous bite on the screen (Figures 1-4). If the light bite is almost in contact and the heavy bite is in occlusal contact, the restoration is approved. [7] If not, the ceramic restoration is adjusted by adding or subtracting ceramic material.

The scanning system uses a DC light box, a camera and an analyzer (image J freeware) that processes the optical and computer images. The triple trays are market available as is the instant impression material. The total impression processing time is less than a minute with this procedue. Intensity of closure can be gauged by studying studying the optical patterns. A permanent record can then be stored along with routine radiographs.



Figure 1: Ceramic restorations.

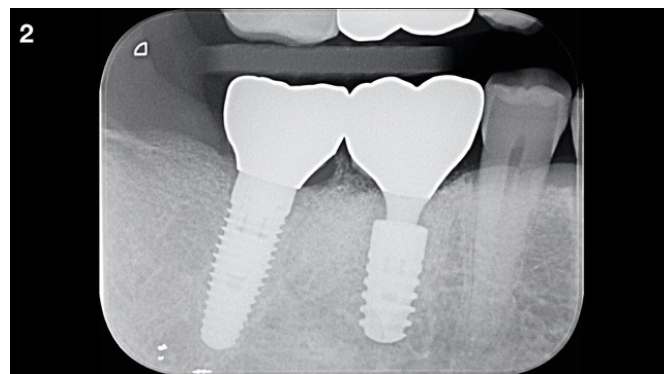


Figure 2: Implants and restorations.

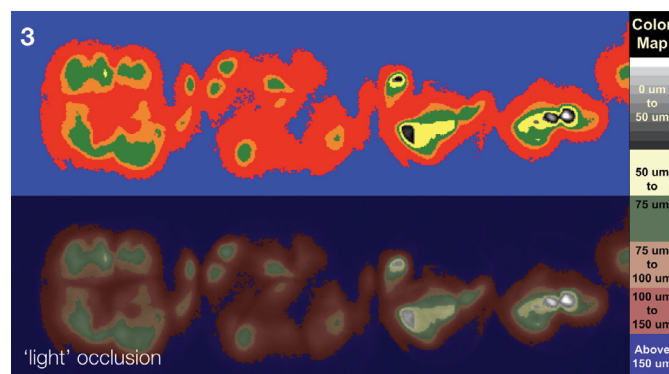


Figure 3: (a) Light bite, (b) Silicone impression of light bite.

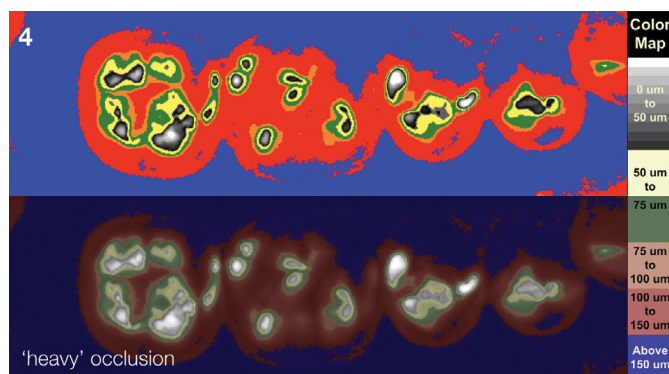


Figure 4: (a) Heavy bite (b) Silicone impression of heavy bite.

Conclusion

A method is presented whereby the occlusion of a restoration can be adjusted before delivery, on insertion, and monitored overtime.

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