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CAD/CAM WORK FLOW

PRESENTATION: Female patient, healthy, 48 years old, attended the clinic unhappy with the aesthetics of her smile due to the presence of a maladaptation metal-ceramic crown associated with the tooth 33. It was previously endodontic and had no symptoms. According to the American Association of Endodontists the endodontic diagnosis is pretreated tooth and normal periapical tissues. The periodontal disease of the patient was stable, being in the periodontal support treatment at about one year. Through the CAD/CAM technology, the crown was replaced in a single appointment. The metal-ceramic crown was removed and the dentin was immediately sealed, as well as the build-up. Thereafter the tooth 33 was prepared to receive a new crown in lithium disilicate. After the digital impressions the design, milling and make-up of the restoration was realized. Crown adhesion was accomplished through a heated composite resin using a rubber dam isolation.

Fig. 1 - Initial x-ray

Fig. 2 - Initial smile photography

Fig. 3 - Initial close-up

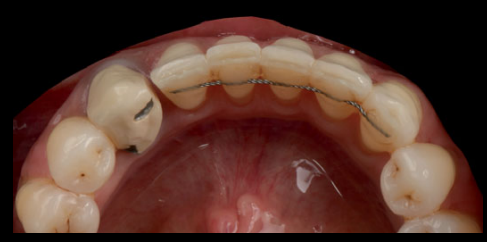

Fig. 4 - Initial occlusal photography

Fig. 5 - Build-up

Fig. 6 - Final preparation

Fig. 7 - Final preparation

DISCUSSION: CAD/CAM technology is not recent, as the first indirect restoration was made in 1983 by François Duret. However the medical-dental community has recently witnessed an exponential evolution of techniques and materials used in this field. This great scientific evolution allows a harmonious and fast workflow, in which the dentist can keep control of all phases of work. It also represents a great advantage for the patient since he can see his rehabilitation completed in a single appointment, avoiding consecutive visits and obtaining a final result equal to the conventional methods.

Fig. 8 - Digital impression

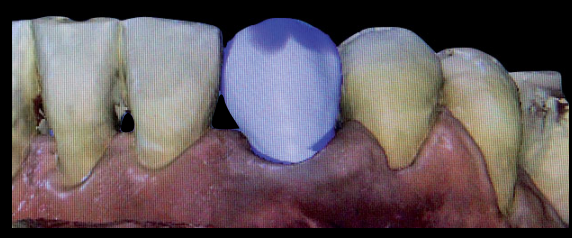

Fig. 9 - Anatomy and points of contact adjustment

Fig. 10 - Crown after milling with 1.6 mm thickness

CONCLUSION: The use of CAD/CAM systems in the clinic has become an enormous advantage over the years, since it enables quick and faithful impressions, preparation of an esthetic restoration and with good bio-mechanical properties, as well as the opportunity to cement itself on the day. Greatly reducing the duration of the appointment, which makes this technology quite appealing to dentists and patients.

Fig. 11 - Final x-ray

Fig. 12 - Final smile photography

Fig. 13 - Crown of 33 on the day of cementation

Fig. 14 - Close-up on the day of the cementation

Fig. 15 - Close-up after two months

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