Impression technique for implant dentistry

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Introduction

Making final impressions for dental implants can be one of the most challenging procedures in restorative dentistry. Traditionally, final impressions for implants require restorative dentists to use very rigid impression material to capture the accurate position of the implant fixtures. Unfortunately, this technique of using rigid impression materials has one major disadvantage. The gingival tissues around the implant fixtures, fine details of the surrounding gingival tissues and occlusal details of the neighbouring teeth are missing or inaccurately captured in the final impression.

There are 2 objectives during the implant impression procedure. The final impression has to capture the position of the implant fixtures accurately as well as to register the fine details of surrounding teeth and gingival tissue.

This article will point out how we manage to address this problem and highlight the current impression technique using Honigum-Heavy and Honigum-Light that we are currently adopting at our dental centre.

Case report

This patient presented to our dental centre with a missing right first molar 3 months ago. An implant restoration was indicated to replace the missing tooth. Subsequently, an implant with regular platform was inserted using a one-stage approach. The implant was left undisturbed for a period of 2 months for transmucosal healing.

The implant had successfully osseointregrated and was ready for final impression. The healing abutment was removed (Fig. 1). A regular size impression coping was connected and hand-tightened to the implant fixture. From labial view of the impression coping there are three concave areas on the surface of the impression coping (Fig. 2) and they are the indexing features of this implant system. This is a common characteristic feature of any impression copings for any implant system. They need to be registered during the final impression. In order to capture these fine details the low viscous Honigum-Light was used (Fig. 3). The impression material was syringed around the implant/soft tissue interface as well as the gingival margins of the neighboring teeth (Fig. 4).

The tray material was Honigum-Heavy, a heavy-body impression material. This material achieves a very high end hardness and thus a high fixation capability. It was loaded properly into a rigid impression tray to avoid air entrapment (Fig. 5). With the cheek retracted, the loaded impression tray was carefully maneuvered into position and seated without causing any form of discomfort to the patient. The tray was carefully removed after complete setting of the impression material (03:15 minutes). The fine details were all recorded and implant fixture position was also captured (Fig. 6). It was then sent to the laboratory for fabri-

Fig. 1 Baseline situation after removal of the healing abutment

Fig. 2 Impression coping – labial view

Fig. 3 Direct and bubble free syringing using Honigum-Light

Fig. 4 Capturing fine of the left lower jaw details using Honigum-Light

Fig. 5 Bubblefree, homogeneous application of Honigum-Heavy into the rigid impression tray

cation of the final prosthesis. With an accurate impression, the dental technician was able to fabricate the abutment and the implant crown precisely. This way expensive and gratuitous remakes can be avoided. At the issue stage, the customized zirconia abutment was torque to 35 Ncm (Fig 7). This zirconia implant crown was cemented and occlusion was verified and checked. 1 week review showed stable and excellent result (Fig. 8 and 9).

Conclusion

This method of capturing final impressions using dual viscosity impression technique for implant fixtures has allowed the author to complete all implant restorations effectively and with great efficiency. The high final hardness of Honigum-Heavy allows an exact reposition of the implant abutment. Whereas fine details are precisely captured by the low viscous Honigum-Light. The choice of viscosity of impression materials used in this article makes challenging clinical situations easier to tackle and helps to make the restorative procedure enjoyable and impression making predictable.

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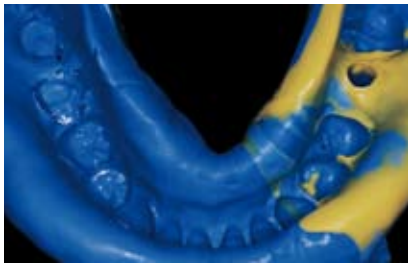

Fig. 6 Precise and detailed double mixing impression with Honigum-Heavy and Honigum-Light

Fig. 7 Inserted zirconia abutment

Fig. 8 Result after one week

Fig. 9 Overview lower jaw