Impression technique for implant dentistry

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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 a 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 two 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 impression technique using Honigum-Heavy and Honigum-Light that we are currently using within our dental centre.

Case report

The patient presented with a missing right first molar three 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 two
The implant had successfully osseointegrated and was ready for the final impression to be taken. The healing abutment was removed (Fig 1). A regular size impression coping was connected and hand-tightened onto the implant fixture. From the 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 impression copings for any implant system. They need to be registered during the final impression. In order to capture these fine details low viscosity 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 neighbouring teeth (Fig 4).

The tray material was Honigum-Heavy, a heavy-body impression material. This material achieves a very high end hard-
Often times, compromises have to be made when developing impression materials. Because normally the rheological properties of stability and good flow characteristics would stand in each other’s way. DMG’s Honigum overcomes these contradictions. Thanks to its unique rheological active matrix, Honigum yields highest ratings in both disciplines. We are very pleased to see that even the noted test institute »The Dental Advisor« values that fact: Among 50 VPS Honigum received the best »clinical ratings«.*

* The Dental Advisor, Vol. 23, No. 3, p 2-5

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Overcoming opposites.

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ness and thus a high fixation capability. It was loaded properly into a rigid impression tray to avoid air entrapment (Fig 5) using a MixStar automatic mixing unit (Fig 6). With the cheek retracted, the loaded impression tray was carefully manoeuvred 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 (3:15 minutes). The fine details were all recorded and the implant fixture position was also captured (Fig 7). It was then sent to the laboratory for fabrication of the final prosthesis. With an accurate impression, the dental technician was able to fabricate the abutment and the implant crown precisely, consequently expensive and gratuitous remakes can be avoided. At the fitting stage, the customised zirconia abutment was torqued to 35Ncm (Fig 8). Finally, the zirconia implant crown was cemented and the occlusion verified and checked. One week review showed a stable and excellent result (Fig 9 and 10).

Conclusion

This method of capturing final impressions using a dual viscosity impression technique for implant fixtures has allowed the author to complete all my implant restorations effectively and with great efficiency. The high final hardness of Honigum-Heavy allows exact positioning of the implant abutment, whilst 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 taking predictable.

The complete Honigum impression material range is distributed in the UK and Ireland by DMG Dental Products (UK) Ltd. For further information contact your local dealer or DMG Dental Products (UK) Ltd on 01656 789401, fax 01656 360100, email info@dmg-dental.co.uk or visit www.dmg-dental.com.

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