A Novel Technique to Retrieve Stripped Healing Abutment with Limited Interarch Space: A Case Report

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ABSTRACT

Introduction: The retrieval of stripped implant components may be more difficult when the working field exhibits limited interarch space.

Method: A patient presented with a stripped healing abutment in occlusion with the opposing arch. The working surface of the abutment was modified to accommodate a short overdenture abutment driver and torque wrench.

Results: Successful removal of the stripped healing abutment was accomplished. A shorter healing abutment was placed to ensure absence of occlusal loading and provide additional vertical space in the working field.

Conclusion: Stripped implant components located in sites with limited restorative space may need to be modified to facilitate the use of short implant drivers.

BACKGROUND

Removal of implant components with damaged driver interfaces continues to pose a clinical challenge. Patient cases characterized by limited intraoral space and/or working on implants in the second molar sites often confer even greater difficulty.

Figure 1. Panoramic radiograph obtained after uncovery of implants #18 and 31.

CLINICAL CASE

Chief Complaint: A 40-year-old male patient presented to the clinic, stating “I am ready to get crowns for my implants.”

Clinical Findings:

- Existing implants #18 and 31 with 5mm tall healing abutments (Nobel Replace Conical Connection RP 5x5mm).
- Patient is occluding on both healing abutments.
- Patient demonstrates limited mouth opening (interincisal distance approximately 32mm).
- Engaging feature of healing abutment #18 presents as rounded-out hexagon.
- Healing abutments seem to be cold-welded to implant platforms.
- Suppuration observed upon palpation of implant #31.
- Insufficient restorative space associated with implants #18 and 31.

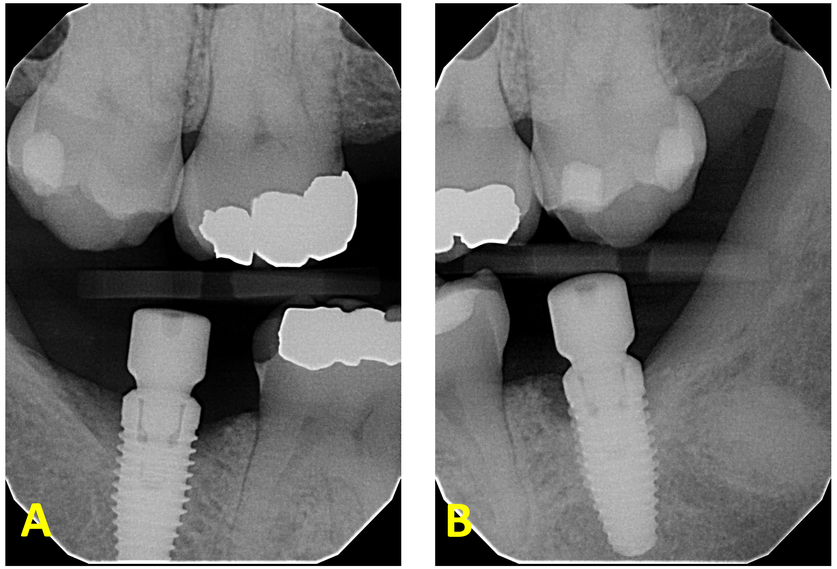

Figure 2. Vertical bitewing radiographs demonstrating excessively tall healing abutments at sites #31 (A) and 18 (B).

IMPLANT DRIVER ASSESSMENT

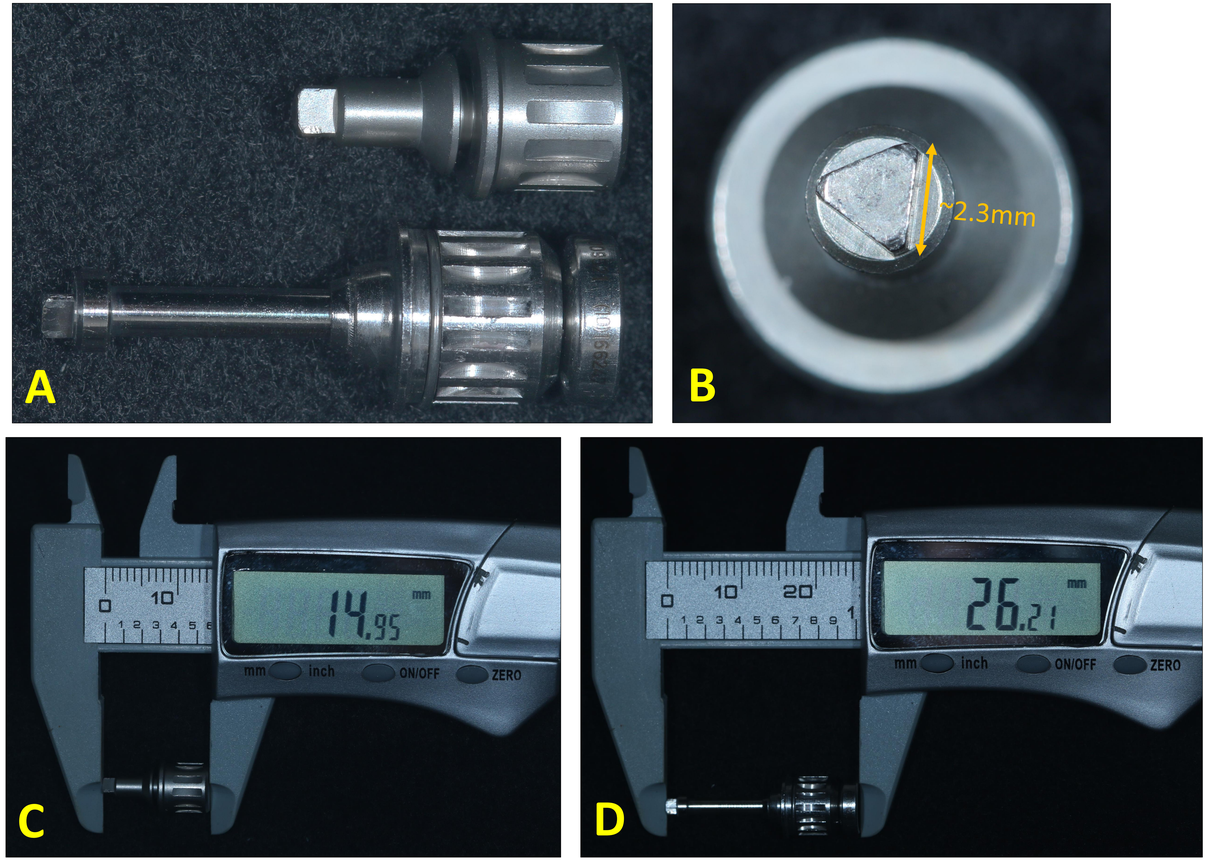

Figure 3. Overdenture abutment drivers from 2 implant systems were compared (A). The triangular driver tip resembles an equilateral triangle, with each side measuring approximately 2.3mm (B). The one-piece (Straumann Locator) short driver for ratchet measures about 15mm in length (C), while the two-piece (latch-type Locator driver and Nobel Biocare manual torque wrench adapter, prosthetic) measures about 26mm in length (D).

CLINICAL TECHNIQUE

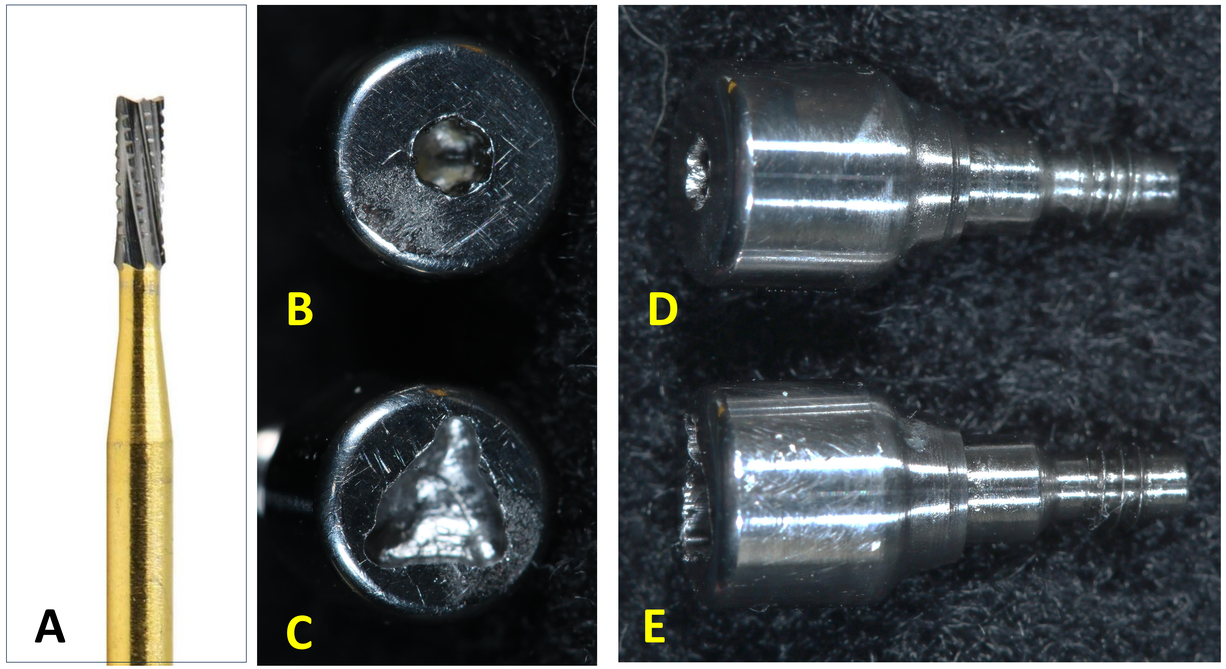

Figure 4. A 557 cross-cut metal and crown-cutting carbide bur (A) was used to intraorally modify the internal geometry of healing abutment #18 from a rounded hexagon (B, D) to a triangular shape (C, E) that accommodated the short Locator ratcheting driver.

CONCLUSION

Clinical situations involving worn implant components, especially in combination with limited intraoral access, may require the surface modification of abutments to allow for the application of short implant drivers.

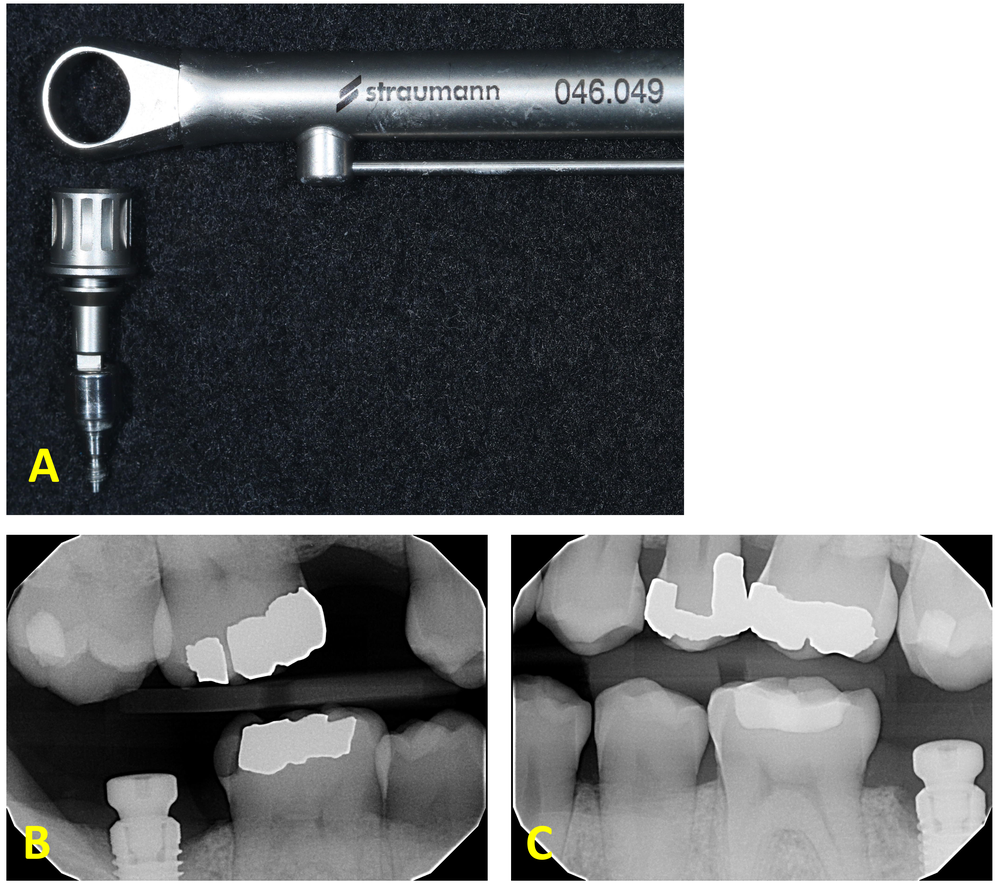

Figure 5. The corresponding torque wrench was used to successfully remove the previously cold-welded and stripped healing abutment #18 (A). Shorter healing abutments, 3mm tall, were seated on both implants #31 (B) and 18 (C).