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TIPS FROM OUR READERS

Removal of damaged implant components with a custom-made screwdriver

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During implant treatment, technical complications related to the abutment, abutment screw, or prosthetic screw may develop.[1,2] Removing a damaged part can be challenging.[3] Various retrieval systems are available but most require drilling and are not easily applied to every implant design.[1,2,4] This report describes an alternative method for removing a damaged 1-piece abutment by using a custom screwdriver.

PROCEDURE

1. Identify the damaged structure from detailed clinical and radiographic examination.
2. Cut the active end from a round tungsten carbide bur size 016 (H1 RA 016; Komet), and modify the remaining shaft with a crown cutter bur (H4MC FG 012; Komet) to form a slotted screwdriver tip with flat base and side walls (Fig. 1A.).
3. Insert the custom screwdriver shaft into a connector for the rachet (034.005; Straumann) (Fig. 1B.).
4. Form a receptive notch in the center of the damaged abutment with a cavity preparation high-speed bur (H7S FG 010; Komet), and unscrew it with the screwdriver (Fig. 2).

This custom slotted screwdriver is an effective and relatively straightforward solution. Selecting low-speed rotary instruments (burs and drills) of various lengths for modification, screw fragments can also be reached inside the implant. An important advantage of this technique is the elimination of drilling systems for fragment removal[5] and the application of reverse torque with a rachet.[1] Limitations include the difficulty in forming the receptor notch when the fractured surface has been damaged by previous retrieval attempts. Knowledge of the prosthetic connection design and structure of each component of the implant system is required to avoid damage to the neighboring implant structures.

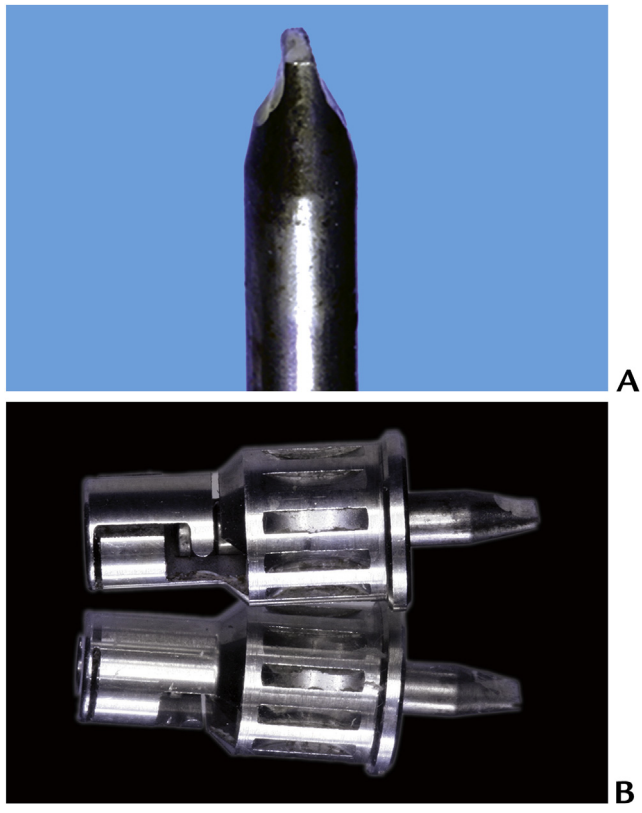

Figure 1. A, Round bur after modification. B, Assembly of custom screwdriver.

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Figure 2. Clinical application of custom screwdriver to damaged abutment.

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