Minimally Invasive Crown Lengthening

John C. Kois, DMD, MSD, and Elizabeth M. Bakeman, DDS, on the KB-1 chisel

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KEY TAKEAWAYS

1. Thin tip depth allows the chisel to be inserted into the sulcus with ease
2. Features a reference mark that can be utilized to help position the osseous crest 3 mm from the desired free gingival margin
3. A sharp, 1.5-mm bevel increases the efficiency of removing bone
4. Knurled handle provides a solid, non-slip grip

MANUFACTURER INFORMATION

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Providing small alterations in gingival levels to develop esthetically pleasing symmetry may not require the reflection of a mucoperiosteal flap. Crown lengthening of one to three teeth in the maxillary anterior region can frequently and conveniently be accomplished using a trans-sulcular approach. When indicated, the advantages of trans-sulcular crown lengthening include minimal disruption of the soft tissue, no need for sutures, and same-day execution in combination with direct and indirect restorative procedures.

The osseous architecture on the facial aspect of the maxillary anterior teeth is 1 mm or less in thickness approximately 87% of the time. Although the presence of thin bone creates a disadvantage when faced with extracting teeth and working to preserve bone volume, it is a helpful and distinct advantage when performing crown lengthening using a trans-sulcular approach. In addition, most of the situations that clinicians face in practice involve a normal dentogingival complex; therefore, alterations in gingival levels necessitate alterations of a commensurate amount of bone.

The removal of bone required for crown lengthening can be accomplished using hand, rotary, ultrasonic, or laser instrumentation. Reflecting a mucoperiosteal flap permits access for these various resective approaches, which would not necessarily be implementable or responsible when using a trans-sulcular approach due to limitations in physical and visual access. However, safe, efficient, and effective osseous recontouring can be facilitated by an instrument specifically designed for trans-sulcular crown lengthening.

The KB-1 chisel is an excellent instrument for this purpose. It was designed with a thin tip depth so that it can be easily inserted through the sulcus and a narrow tip width so that it can be easily rotated to peel bone from the osseous crest without damaging the soft tissues. It also features a long, sharp 1.5-mm bevel to increase efficiency in removing bone and a depth reference mark scored 3 mm from the tip of the chisel to aid the operator in appropriately positioning the osseous crest 3 mm from the desired free gingival margin without the need to stop and repeatedly measure. The KB-1 chisel has both internal and external bevels to aid in proper fulcruming and gaining access to various aspects of the intraoral environment as well as a knurled handle that provides a solid, non-slip grip for precise and accurate instrumentation.

Trans-sulcular crown lengthening is a valued technique that is frequently utilized by dentists who have the proper education and training to perform it. The primary requirements for its implementation include a knowledge of the mucogingival complex and the indications for crown lengthening as well as an understanding of basic surgical techniques and instrumentation. When trans-sulcular crown lengthening is indicated, the KB-1 chisel is a helpful and cost-effective instrument to efficiently facilitate optimal results.

The **KB-1 chisel** is designed for removing and shaping bone during various periodontal surgery procedures.