

# PrepSure®, Crown Prep Guide

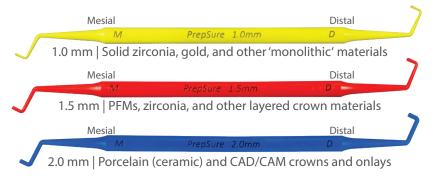
Product Information

PrepSure® is a set of three innovative crown prep instruments to monitor and confirm ideal reduction of tooth structure for crowns and onlays. Achieve ideal abutments with proper occlusal, buccal, lingual, and gingival clearances by evaluating with PrepSure® while reducing dental structure with burs and discs.

These ergonomic instruments are essential for improving accuracy and efficiency in crown preparation. PrepSure® brings quality dental care to every patient by providing an excellent patient experience.

- Takes out all the guesswork
- Solves a very common crown prep problem
- Prevents a second impression or digital scan
- Avoids under or over-reduction of tooth structure
- Prevents early crown fracture/perforation
- Matches indications for all common crown materials
- Ideal complement to digital workflows
- Autoclavable for exceptional value

## PrepSure®, Crown Prep Guide -



\*Please consult with your milling block manufacturer or dental lab for indications for specific crown materials\*



M Tip confirms mesial-half clearan



D Tip confirms distal-half clearance

### **Usage Guidelines & Technique**

This technique is effective for both anterior and posterior teeth and for case refinement. PrepSure® instruments are autoclavable (**steam heat only, up to 270°F** for 10 minutes at 30 psi max) and reusable, and they should be sterilized prior to use.

- 1 While performing reduction of the tooth structure, make depth-orientation grooves in the occlusal, buccal, and lingual surfaces to the reduction amount indicated for the desired crown material. Place the appropriate size PrepSure® tip into these grooves lengthwise to confirm the appropriate depth before continuing reduction. This will ensure adequate clearance on occlusal, buccal, and lingual surfaces of the prepared tooth.
- 2 Once reduction has been done, place the PrepSure® tip marked with an M on the mesial half of the occlusal surface of the prepared tooth. Gently glide the M Tip along the mesial cuspal waves of the prepared tooth, and then repeat this motion on the distal side using the D Tip. Each tip should glide smoothly; if the tip must be forced or snapped through, this indicates that insufficient depth has been prepared and further reduction is required.
- 3 Once both tips of the PrepSure® have been able to pass through the prepared space without getting stuck or requiring pressure, the minimum required occlusal clearance for the restoration has been achieved.
- 4 Lastly, when appropriate for the crown material being used, the 1.0 mm PrepSure® tip can be placed against the prepared gingival chamfer or shoulder margin to confirm that adequate depth has been made for the final restoration.



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# PrepSure®, Crown Prep Guide Inventor's Inspiration

#### Daniel S Kim, DDS, Inventor of PrepSure

One of the long-standing problems in dentistry is premature breakage or perforation of crowns. When a porcelain crown is broken (Fig.1), it is necessary to replace it immediately because its existing cracks and pressure will continuously lead to further fractures. Moreover, the broken pieces of porcelain can be swallowed and scratch the intestinal walls. The perforated crown (Fig.2) may allow dental decay to develop into the dentin under the crown, and that may require root canal treatment or the extraction of the tooth.

Crown preparations are hindered by the limited space in the mouth and small size of the coronal portion of the tooth. Excessive reduction of tooth structure causes hypersensitivity and can diminish retention, leading to a crown that recurrently falls off its abutment. In contrast, if the tooth structure was not reduced enough, the crown will likely break prematurely because it has been made too thin, wearing off rapidly and leading to perforation.



Fig. 1



Fig.2

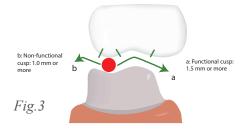
Ceramic is the most popular dental material for crowns for its aesthetics, however the breakage of the porcelain crown has been the most common problem. This is caused by insufficient occlusal reduction leading to the fabricated ceramic crown being too thin. Therefore, it is essential to prepare teeth precisely with enough occlusal clearance.

There are a few devices to guide the occlusal reduction of teeth for crowns, but all of them are inefficient or inaccurate. Their flat designs ignore the cuspal wave reduction, guiding users to cut flat abutments that ignore the tooth anatomy. This creates hypersensitivity because the tips of the pulpal horns are left too close to the prepared flat cut or are exposed. Because of this lack of reliability with the existing devices, many dentists use their own naked eye to guess the occlusal clearance, which leads to liability for miscalculations that cause financial burden for doctors and patients.

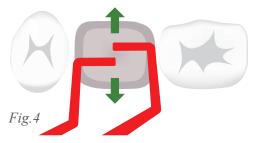
This problem inspired me to invent an accurate and reliable device to measure, monitor, and confirm the required occlusal clearance. Through years of research and experiments, I have developed PrepSure, Crown Prep Guide, which is designed to satisfy every requirement for ensuring accurate crown preparations.

- PrepSure guides the crown preparation properly with optimal reduction for occlusal clearance, preventing under- or over-reduction and following the cuspal waves for improved retention (Fig.3)
- PrepSure is designed with 3 diameters of the functional tips for all common crown materials:
- **1.0** mm for mono-layered solid zirconia materials and metallic materials, **1.5** mm for bi-layered materials, and **2.0** mm for ceramic and CAD/CAM ceramic materials.
- PrepSure is used to glide through on the mesial half of the tooth with its Mesial Tip and the distal half of the tooth with its Distal Tip to detect high spots and avoid unnecessary over reduction. (Fig.4)

PrepSure's unique design is the solution for this long-standing crown preparation problem, providing excellent patient experiences and leading to a win-win for patients and dentists, alike.



Place the PrepSure at the center of the occlusal surface to confirm the amount of reduction at the fossa where the cusps connect.



After confirming the reduction amount at the fossa, pass the PrepSure buccollingually to check the occlusal clearance of the cusps.

Original artwork modified from Dr. Akikazu Shinya