

Technical Guide

Instructions for Use and General Information

- SELECTING A CROWN
- PREPARATION OF THE TOOTH
- SHORTENING A CROWN
- SEATING AND FINISHING A CROWN
- DISINFECTION METHODS
- SUGGESTED ADA CODING
- REFERENCES



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Welcome to the Beautiful Possibilities of NuSmile® Crowns. As with any new procedure, the challenge of mastering a new technique presents itself. This guide was written with that challenge in mind and is intended to provide the technical information needed to successfully use NuSmile® Crowns. • Your success is important to us, questions and comments are always welcome.

Intended Use: NuSmile® Pediatric Crowns are designed for full coverage restoration of damaged or decayed pediatric anterior and posterior teeth.

Selecting a Crown

Always choose the crown size before prepping the tooth. Approximate the original size of the non-carious tooth and choose the crown size that looks most natural in the child's mouth. Parents are always happier with a natural looking crown of the correct size than with a bulky, oversized crown that looks too large. As a general rule, whatever size stainless steel crown (SSC) you would deem an appropriate fit; approximate one to two sizes smaller for a NuSmile® Crown. Downsizing compensates for the additional thickness of the esthetic facing. This is particularly important in cases with tight interproximal contacts, crowded dentition, or mesial-distal space loss. Very short clinical crowns and crowded dentitions may not be ideal for beginning case selections.

Caution: Single-use only. If reused, crown could be contaminated and could pose risk of infection. Determine crown size by using a traditional stainless steel crown, then choose a NuSmile® Crown that is one to two sizes smaller.

Preparation of the Tooth

The single most important aspect of mastering the use of NuSmile® Crowns is the proper preparation of the tooth. Adequate preparation of the tooth will significantly improve esthetics and crown fit, will reduce occurrence of veneer fracture and will save operating time. The tooth should be prepared to fit the crown so that the crown fits the tooth passively without using pressure. If the metal substructure flexes from pressure during fitting or seating, micro-fractures are likely to occur. Micro-fractures will lead to fracture or complete loss of the facing. Veneered SSC's require a greater amount of tooth reduction than traditional SSC's. Appropriate pulpal therapy may be required after tooth preparation.

Anterior teeth: Reduce the incisal length of the tooth by approximately 2mm and open the interproximal contacts. Continue by creating a feather-edge margin as far subgingivally as possible. The tooth is reduced by approximately 25 to 30%. For preparing the tooth subgingivally, and refining the preparation, tapered diamond burs are normally used, proceeding from coarse to fine as the preparation is completed.

Posterior teeth: The tooth should be reduced by approximately 30% overall. More preparation of the buccal and occlusal aspects of the tooth will be required with the occlusal aspect of the tooth needing to be reduced by at least 2mm (an equal amount of additional sub-gingival preparation will also be required). A course football diamond bur is a good choice for the first phase of preparation. A fine tapered diamond may be used to open the interproximal contacts and to begin circumferential reduction of the tooth. A course tapered diamond may be used to create a feather-edge margin and complete the reduction. This bur is also used to substantially reduce the tooth on the buccal aspect of the preparation to allow a natural gingival contour when the crown is seated. It may occasionally be advantageous to slightly reduce the interproximal aspect of adjacent primary teeth to facilitate fitting posterior veneered crowns.

Note about soft tissue: Anterior or posterior crowns should fit subgingivally without distorting the gingival tissue. If the gingival contour is not natural, then more tooth structure must be removed. With proper crown placement and oral hygiene, good gingival health should be expected within 7-10 days.

See reverse side for additional information

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Continued from reverse side

Shortening a Crown

In some cases shortening the crown from the gingival margin will be necessary to achieve the desired results. The NuSmile® Shortening Bur may be used at low range speed with a water spray to circumferentially reduce and feather the crown margins. After shortening, our low speed one step composite polisher may be used to restore a polished surface to the esthetic facing. Short NuSmile® Crowns are also available.

Seating and Finishing a Crown

A properly fitted crown should have a passive fit and be seated with finger pressure only. A “snap fit” is both undesirable and counter-productive as it may result in failure of the veneer. To cement the crown, high quality glass ionomer cement is recommended. When using glass ionomer cement, crimping should not be necessary. However, if you feel you must crimp, then do not crimp excessively or near the facing. Doctors who have the highest success rates do not crimp the crowns. Once seated and after allowing enough time for the cement to set, a white stone or composite finishing bur may be used to equilibrate the veneer out of excessive occlusal contact in centric and in excursions. The opposing teeth may also be slightly adjusted. With the anterior crowns it may be desirable to trim the veneer flush with the incisal edge of the crown if the patient demonstrates bruxism patterns or end-on occlusion. The distal point angle may also be rounded to shape the crown for a right or left anterior.

Disinfection Methods

Clinician is responsible for sterilization / disinfection. Cold sterilization is recommended according to the instructions of the manufacturer of the sterilant. While the steam autoclave method is acceptable, it is not recommended as the preferred method due to some color change and loss of strength. Do not use the Chemiclave method of sterilization.

Precaution: *The stainless steel substructure of this product has an approximate 8 - 14% nickel content. Allergic reaction may occur in individuals highly sensitive to nickel.*

NuSmile® Instruction Sheet for Parents: *See this document for suggested information for parents and guardians. You may use this sample text or create your own document. Contact our office for the digital text content.*

Suggested ADA Coding

The ADA has established a code for NuSmile® Crowns. Refer to ADA code book, Other Restorative Services.

D2934 Prefabricated esthetic coated stainless steel crowns – primary tooth.

Stainless steel primary crown with exterior esthetic coating.

References

The following private practice pediatric dentists have successfully used NuSmile® Crowns for many years, and have graciously extended an offer that you may contact them for technical advice or their professional opinion:

Larry Caldwell D.D.S.	Houston, TX	(281) 565-5437
Chuck Hughes D.D.S., M.S.	Dyersburg, TN	(731) 286-1271
Philip Thomas D.D.S.	Longview, TX	(903) 758-6406
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