

This guide is intended to provide the technical information needed to successfully use NuSmile SSCs. Your success is important to us, questions and comments are always welcome.

Intended Use: NuSmile® SSCs are designed for full coverage restoration of damaged or decayed teeth.

Occlusal Evaluation and Selecting a Crown

The occlusal relationship should be evaluated before the application of the rubber dam. Evaluate the relation of the opposing teeth to determine if there is sufficient clearance to avoid excessive contact in occlusion. Approximate the original mesial-distal dimension of the non-carious tooth and determine the space available between the adjacent teeth, then choose the smallest NuSmile SSC that will restore pre-existing proximal contacts.

Preparation of the Tooth and Trial Fitting

The single most important aspect of mastering the use of NuSmile SSCs is the proper preparation of the tooth. Local anesthesia is usually necessary and the use of a rubber dam is strongly recommended. The tooth should be prepared so that the crown fits the tooth with a snap fit. As in many cases involving early childhood caries (ECC), the extent of decay may dictate appropriate pulpal therapy before or after tooth preparation.

1. Remove all existing caries as indicated.
2. Prepare the occlusal surface, with a uniform occlusal reduction of 1.5mm and round all axial line angles.
3. Using a tapered fissure or diamond bur slice through the mesial proximal surface, reducing or removing the contact without creating a ledge in the proximal space or damaging the approximating tooth. Perform the same process to the distal surface.
4. The interproximal margins should be knife edge with no ledges extending approximately 1mm subgingival. Little or no reduction is required for the buccal and lingual surfaces other than rounding the axial line angles.
5. When multiple adjacent teeth are being prepared, greater interproximal reduction is required for easier crown placement. Slide through the proximal surface with a perio probe or explorer to ensure there is no contact.
6. If there is space loss from proximal caries, buccal reduction of the cervical bulge may be required.
7. Round all sharp edges and line angles. Make a final check of the preparation.
8. Try on the crown by placing from lingual to buccal, then pushing it over the buccal bulge for a snap fit. Check margins for close cervical adaptation extending 1mm subgingivally. This sizing step is particularly important in cases with tight interproximal contacts, crowded dentition, or mesial-distal space loss.

Adjusting a NuSmile SSC

It may be necessary to slightly resize or adjust the crown. The crown can be removed with a spoon excavator or other appropriate instrument. Crimp and contour the crown if it does not fit snugly by crimping the gingival one-fourth of the crown's margins inward to establish a tight marginal fit and adaptation (contour with 114 ball and socket or 137 Gordon plier and crimp with Unitek 800-417 pliers). If the crown is too small, use the next larger size crown or further reduce the tooth circumferentially. If the crown is in hyperocclusion, the tooth preparation may have a ledge, may need more occlusal reduction; or the crown may be in too tight contact with the adjacent tooth. Excessive gingival blanching means that the crown is too long or too bulky. A properly fitting crown extends 1mm into the sulcus and can be trimmed with C&B scissors or heatless stone as needed. No other areas of the NuSmile SSC should be adjusted.

Cementing the Crown

The prepared teeth should be cleaned of any saliva, blood or debris, and any gingival hemorrhage reasonably controlled prior to cementation. Pressure, tissue infiltration or a hemostatic agent may be used for this purpose as necessary. NuSmile BioCem® Universal BioActive Cement, glass ionomer cement or resin modified glass ionomer cement may be used to cement the NuSmile SSC. If pulpal therapy has been performed with a eugenol-based material in the pulp chamber, cover the eugenol material with pure glass ionomer before cementation with NuSmile BioCem® or RMGI. Fill the crown approximately two-thirds full with cement so that excess cement will flow out from the margins during cementation preventing any voids. Perform cleanup and allow cement to cure per cement manufacturer's instructions. Check occlusion. If a NuSmile SSC is in hyperocclusion, the opposing teeth may be slightly adjusted as necessary.

Cleaning and Sterilization

NuSmile Crowns are provided in clean non-sterile packaging. Clinician may choose to sterilize before use. The user is responsible for sterilization of crowns as needed.

Manual Cleaning

This cleaning procedure has been performed and validated in accordance with the AAMI TIR30:2011 guidance document.

Rinse the crowns under running utility (tap) water to remove excess soil. Use an enzymatic detergent such as Valsure® Enzymatic or an alkaline detergent such as Neodisher® MediClean Forte, prepared per manufacturer's recommendations, in a sonication unit. Fully immerse the crowns into the prepared detergent bath and brush, using a soft-bristled brush to remove any visible soil. Allow the crowns to sonicate for at least 10 minutes. Remove the crowns from the sonication unit and rinse under running critical reverse osmosis/deionized (RO/DI) water to remove any residual detergent. Dry the crowns thoroughly using a clean lint-free cloth and filtered pressurized air, or thoroughly air dry prior to sterilization.

Steam Sterilization

This sterilization procedure has been performed and validated in accordance with ANSI/AAMI/ISO 17665-1:2006/(R)2013, Annex D and ANSI/AAMI/ISO 14937:2009/(R)2013, Annex D (Approach 3).

Prevacuum Sterilization

Item	Preconditioning Pulses	Exposure time at 132°C (270°F)	Dry Time
Pouched crowns*	4	4 minutes	Minimum 30 minutes


Gravity Sterilization

Item	Exposure time at 121°C (250°F)	Dry Time
Pouched crowns*	30 minutes	Minimum 30 minutes

*Place pouch with crowns on its edge in sterilizer.

Processing Responsibility and Precautions

The lifetime of the crowns depends on the frequency of use, the care of the user and proper reprocessing methods. Individual NuSmile Crowns are not directly marked with a unique device identifier (UDI). The user is responsible for inspecting the crowns prior to use and assumes all liability in the event of reprocessing. Your office/institution should ensure that only validated procedures are used for cleaning and sterilization. Cleaning and sterilization equipment must be maintained and checked regularly. Cleaning and sterilization procedures other than those shown above are the responsibility of the user.

Caution:  NuSmile Crowns can be reprocessed if contamination occurs, however, crowns cemented for intraoral service should not be reprocessed to use for another patient.

Additional 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.

Suggested ADA Coding

Refer to "Other Restorative Services"
D2930 – Prefabricated stainless steel crown, primary tooth.

Symbols used on labeling:

