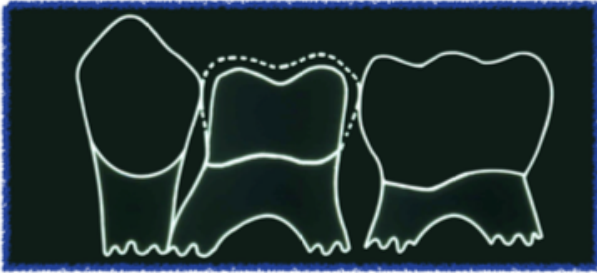


# STAINLESS STEEL CROWN PROCEDURE

## Stainless Steel Crown



### Technical Procedure



## SSC: Procedure

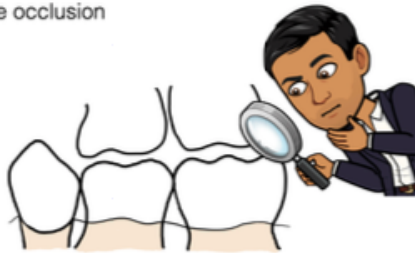


- administer local anaesthesia
- use a bite block
- isolation: preferably rubber dam
- tooth preparation: occlusal and proximal reductions
- SSC selection
- SSC contouring and trial fit
- cementation

## SSC: Procedure



Step 1: Check the occlusion



## SSC: Procedure



Step 2: Check the size



## SSC: Procedure



Step 3: Place wedges



- separate adjacent teeth
- reduce risk of iatrogenic damage
- depress the gingival tissues and rubber dam

## SSC: Procedure



Step 3: Tooth Preparation

- Occlusal Reduction
- Proximal Reduction
- Burs

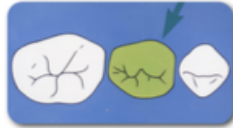


## SSC: Procedure



### Step 3: Tooth Preparation

- Buccal and Lingual Reduction?
  - In most cases the buccal and lingual surfaces do not require significant preparation as they are important for mechanical retention
  - occasionally on first primary molars where there is a prominent mesio-buccal bulge this can be reduced to allow for adequate seating of the crown



## SSC: Procedure



### Step 3: Tooth Preparation

- Occlusal Reduction
  - reduction by at least 1.5mm is necessary to provide clearance for the crown
  - reduction must follow the occlusal contours to ensure maximum resistance to displacement



## SSC: Procedure



### Step 3: Tooth Preparation

- Occlusal Reduction
  - depth cuts can be made to assist uniform reduction



## SSC: Procedure



### Step 3: Tooth Preparation

- Proximal Reduction
  - **AVOID** i) Excessive taper and/or ii) Creating a shoulder at the gingival margin
  - the ideal preparation should have a feather edge margin



## SSC: Procedure



### Step 3: Tooth Preparation

- Proximal Reduction
  - near vertical slices to clear the contact areas and to create space for the crown
  - enough clearance is confirmed by passing an explorer through the space

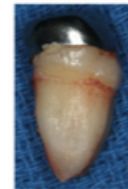


## SSC: Procedure



### Step 3: Tooth Preparation

- Proximal Reduction
  - **AVOID** i) Excessive taper and/or ii) Creating a shoulder at the gingival margin
  - the ideal preparation should have a feather edge margin



## SSC: Procedure



### Step 3: Tooth Preparation

- Finishing
  - All sharp line angles and corners should be rounded off



## SSC: Procedure



### Step 4: SSC Selection

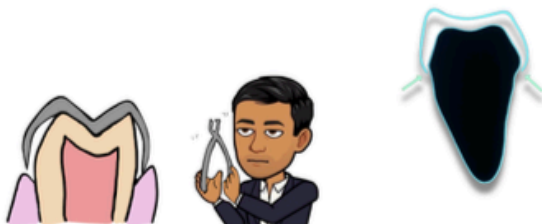


## SSC: Procedure



### Step 5: contouring and crimping

SSCs gain their retention from a "snap fit" achieved by the margin of the crown engaging the height of contour and under cuts in the crevice region



## SSC: Procedure



### Step 4: SSC Selection



## SSC: Procedure



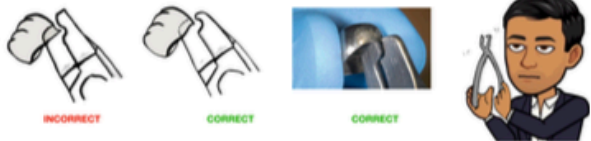
### Step 5: contouring and crimping

#### Crimping:

crimping of the margin by closing the jaws and holding the crown still whilst moving the pliers inwards

crimp the last 1-2mm of the gingival margin of the crown

\*ensure the right side of the pliers are used! If not use of this plier can cause a flaring of the margins!



## SSC: Procedure



### Step 5: contouring and crimping

#### Contouring:

general contouring of the SSC by closing the jaws of the pliers

smoothing of wrinkles by drawing the jaws around the margin of the crown

\*not usually required in pre-contoured SSCs



## SSC: Procedure

### Step 5: Trial Fit

- Ensure the stainless steel crown covers the tooth completely
- The cervical margin of the crown should be no more than 1mm below the gingival margin
- The crown will often 'click' as it engages the height of contour
- Once fully seated it should be stable with minimal rocking and resistance to dislodgement



## SSC: Procedure

### Step 6: Cementation

- Ensure adequate isolation and that the tooth is dry and free of any debris
- Cement using a conventional glass-ionomer cement (eg Fuji IX, Ketac Cem)



## SSC: Procedure

### Step 6: Cementation

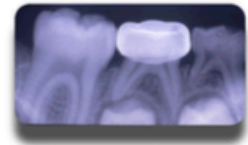
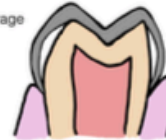
- Remove all excess cement
- Ensure to floss between the contact points while keeping pressure on the crown to prevent dislodgement



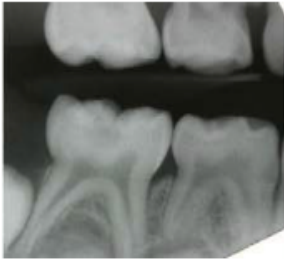
## SSC: Procedure

### Step 7: Evaluation

- Correct buccal and lingual contouring
- Close cervical fit
- Correct sulcus depth
- Correct crown length
- Full coverage



# PULPOTOMY PROCEDURE



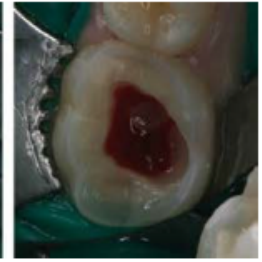
Pre-operative radiograph



Local Anaesthesia and Rubber dam isolation



Caries removal AND **occlusal reduction** (in anticipation for SSC)



Removal of the roof of the pulp chamber



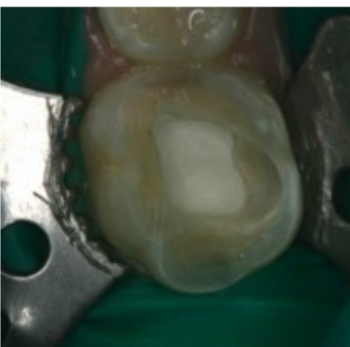
Amputate the coronal pulp using a sterile slow speed large round bur. Control bleeding using moistened cotton pellets



Hemostasis indicates that the radicular pulp is healthy (Vital)



Apply medicament (Ferric sulphate)



Place Cavit as a base



Place Fuji II LC (GIC) as a core



Complete stainless steel crown preparation

# RESIN COMPOSITE STRIP CROWN PROCEDURE

- administer local anaesthesia
- check occlusion, baseline crown size and position
- tooth preparation: incisal, proximal, buccal and palatal reduction
- composite crown form selection and trimming
- trial fit (must seat **passively**)
- rubber dam placement
- etch, bond, fill crown form
- cementation - maintain gentle pressure, remove excess and 'tack' cure
- remove any residual excess prior to final curing
- strip off celluloid crown form
- final polishing and occlusal assessment

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## Resin Composite Strip Crown: Procedure

- Tooth preparation
  - Caries removal
  - HINT: measure the mesio-distal dimensions of the crown first! This will help when selecting your crown size later
  - Incisal Reduction (~1.5mm)



## Resin Composite Strip Crown: Procedure

- Tooth preparation
  - Caries removal
  - Incisal Reduction (~1.5mm)
  - Proximal Reduction (0-1mm)
    - parallel proximal walls



## Resin Composite Strip Crown: Procedure

- Tooth preparation
  - Caries removal
  - Incisal Reduction (~1.5mm)
  - Proximal Reduction (0-1mm)
    - parallel proximal walls
  - Facial reduction (1mm) + Palatal reduction (0.5mm)
    - Knife edge margin
    - Rounded line angles



## Resin Composite Strip Crown: Procedure

- Crown Selection



### 3M™ ESPE™ Pediatric Strip Crowns

There are 16 crown sizes available in the 3M ESPE pediatric strip crown range.

Crown Shape	Number of sizes available	Width range mm
Upper central incisors	8	6.0 to 8.1
Upper lateral incisors	8	4.3 to 6.7

#### Kits

915100: Intro kit - 60 upper centrals  
60 upper laterals  
Set box only: PS-000

## Resin Composite Strip Crown: Procedure

### • Trimming

- GENTLY, using curved crown scissors
- remove the tag while cutting along the CEJ of the crown form
- avoid squashing the crown, the margins should be trimmed to achieve a uniform, smooth finish



## Resin Composite Strip Crown: Procedure

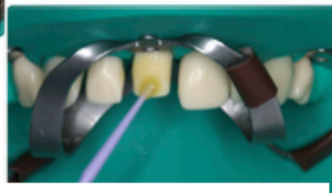
### • Rubber dam isolation



HINT: if working on multiple anterior teeth the D's (or primary first molars) can be used as anchor teeth. Single tooth isolation should be used rather than a slit technique to ensure adequate moisture control.

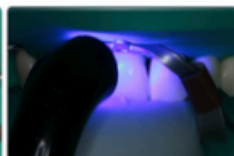
## Resin Composite Strip Crown: Procedure

- Acid Etch (Phosphoric acid)
- Application of a thin layer of dentine bonding agent



## Resin Composite Strip Crown: Procedure

- Cementation
- seat the crown firmly onto the tooth
- remove excess resin material (using probe/flat plastic)
- light-cure the composite crown



TIPS: ensure you avoid placing excessive force during seating as this may "squash" the crown form resulting in cracks, poor anatomy and marginal inconsistencies.

Avoid lifting your finger up and down during seating as this will cause voids within the composite crown and may act to imbibe gingival fluid and moisture into the crown form.

Once the excess on the labial has been removed you can "back" cure the labial surface for a more anatomical restoration.

## Resin Composite Strip Crown: Procedure

### • Trial Fit

- the crown form should slide over the preparation PASSIVELY
- should be able to be tried in with no resistance
- extending just below the gingival crest
- check the crown height and width is appropriate



HINT: there should be an adequate space between the crown form and the preparation as this will be filled with composite. Not enough space = thin amount of composite = high risk of fracture.

## Resin Composite Strip Crown: Procedure

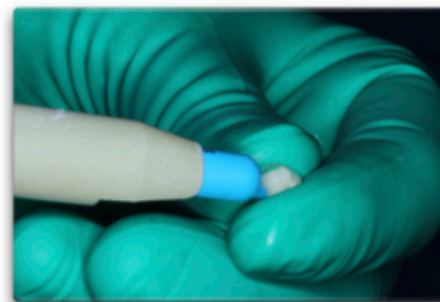
### • Trial fit under rubber dam



TIP: ensure there is no rubber dam caught/impinging the clamp. The 9F or 212 clamps can be used to retract the gingival tissues and increase surface area for retention.

## Resin Composite Strip Crown: Procedure

- Fill the crown form (approximately 2/3) with resin composite
- Ensure the crown form is filled evenly avoiding any voids or air inclusions



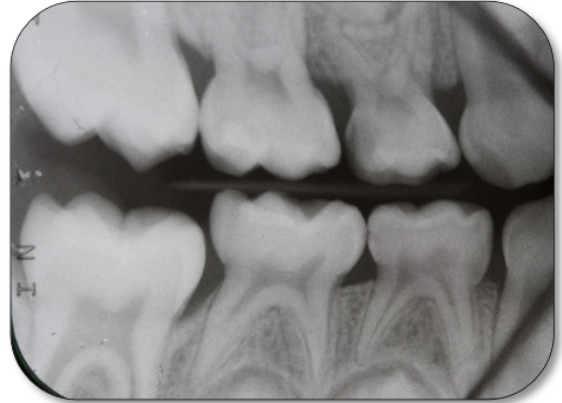
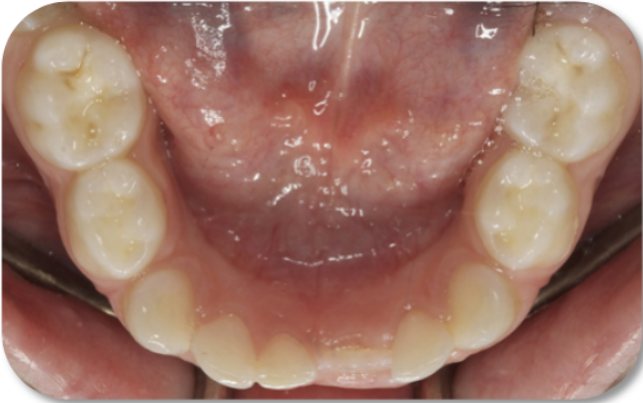
## Resin Composite Strip Crown: Procedure

- Crown form removal
- remove the strip crown (using an excavator or a probe)
- insert the instrument beneath the edge of the celluloid to strip off the crown form
- Final finishing and polishing of the margins can be completed on removal of the dam



TIP: a Hollenback carver can be used to score the surface (palatal or proximal) so as not to scratch the visible buccal surface after which a silicon excavator or plastic can be used to gently peel away the crown form.

## INTRACORONAL RESTORATION PROCEDURE



### ***PROCEDURE FOR PLACEMENT OF AN INTRA-CORONAL RESTORATION ON FRASACO TEETH 74 AND 84 (DISTO-OCCLUSAL)***

1. Identify the tooth (described below for 84DO restoration)
2. Insert a bite-block (in a clinical scenario)
3. Administer topical and local anaesthesia (in a clinical scenario)
4. Isolate the tooth using a rubber dam
  - clamp 12A on 85, 13A on 75
  - slit technique (from second molar to canine)
5. Cavity preparation
6. Matrix band placement
7. Apply etchant [ $H_3PO_4$  for 15 seconds]
8. Wash and dry the tooth
9. Apply the bonding agent
  - light cure for 10 seconds
10. Placement of the restorative material
  - composite (Z100)
11. Application of fissure sealant on the occlusal and buccal surfaces (Filtek Flow)
12. Finishing and polishing

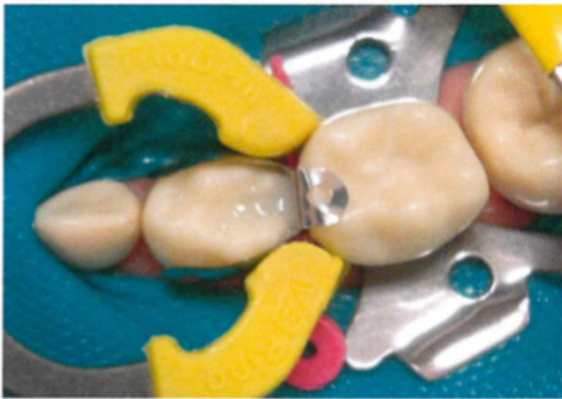
## Illustrations



1. Cavity preparation



2. Matrix band placement



3. Composite placement



4. Finishing and Polishing

