

Porcelain Bonding Techniques for CDAs



Teleconference March 24th.

with

Gary Chadwick
Sure Dental Canada

Links for this course.



Youtube Channel

<https://www.youtube.com/user/suredentalchannel>

Time Saving Temporary Veneer Technique

Interface General Instructions



Sure Dental Web Site

www.suredental.com

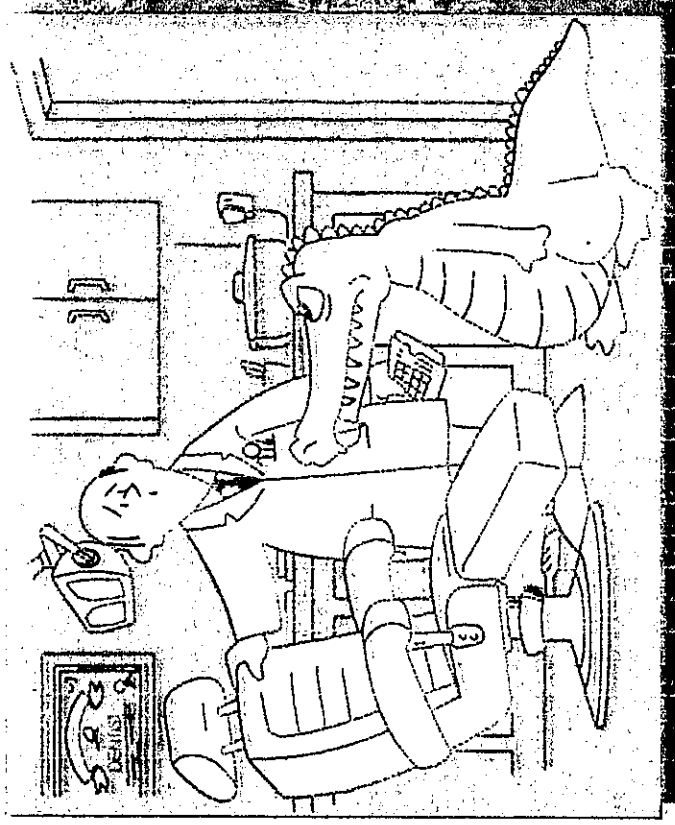
Porcelain Veneer Technique

by Raymond L. Bertolotti, DDS, PhD

Sure Dental Supplies of Canada
200 North Service Rd., Oakville, ON L6M 2Y1
1.888.277.2335

PROMOTING COSMETIC DENTISTRY

- └ Don't Sell
- └ Patient Education
- └ Models (wax ups)
- └ Smile Portfolios with letters from patients
- └ Video Imaging Done off site.



COMMUNICATION

■ INDICATIONS

- *Discolored Teeth*
- *Peg Laterals*
- *Diastemas*
- *Realign rotated teeth.*

■ CONTRA INDICATIONS

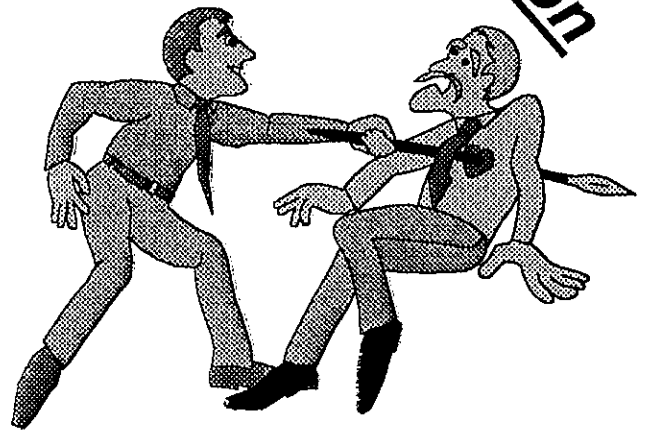
- *Little or no enamel.*
- *High Stress areas.*

*Patient
Communication*

COMMUNICATION

- *Desired variations in shade over veneer surface.*
- *Description of desired surface texture.*
- *Shade of teeth to be restored.*
- *Desire to make teeth look longer or shorter.*

*Laboratory
Communication*



Cosmetic Case Checklist

Photos of pre-operative teeth. (Use shade guide if matching adjacent dentition preferable 1:1 or 1:2 for facial and lateral views.

Photos of preparations with Stump shade next to prep.

Photos of provisionals: full face (1:10) and full smile (1:2)

Pre-operative models, including opposing

**Model or impressions of provisional
Bite registration**

Stick Bite (stick horizontal to interpapillary line

Detailed lab prescription, must include desired length of final restoration

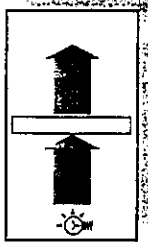
Detailed color mapping

Smile design as per smile catalogue.

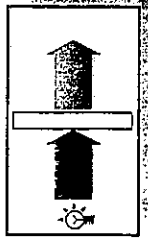
Veneer[®] RX



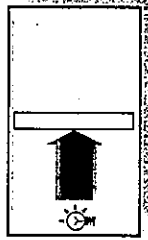
OPACITY (arrows illustrate the degree of light transluence through porcelain)



LIGHT
one shade shift or less
i.e. A2.5 to A1

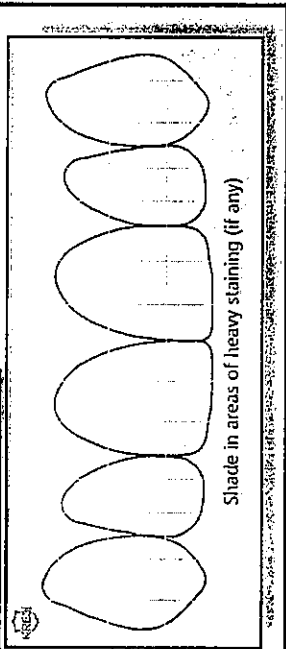


MODERATE
2 to 2.5 shade shift
i.e. A3 to A1



HEAVY
2.5+ shade shift
i.e. A4 to A1

STAINING OF PREPARED DENTITION



LENGTH OF CENTRALS (relative to prep.)

same as prep 1/4mm longer 1/2mm longer 3/4mm longer ___mm longer

LENGTH OF LATERALS (relative to centrals)



same as centrals



3/4mm shorter

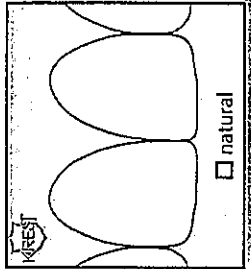
1mm shorter



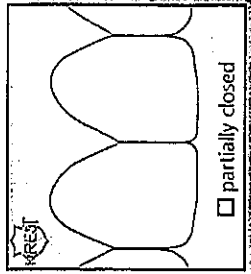
1/4mm shorter

1/2mm shorter

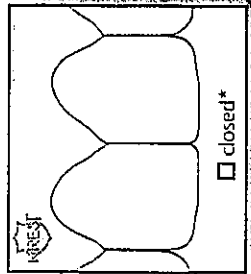
EMBRASSURES (in diastema cases)



natural



partially closed



closed*

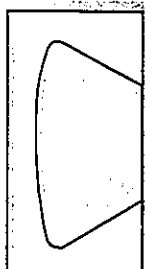
*in some cases, closed embrassures may create a compromised, squarish appearance. Closed embrassures are only possible with specific preparations.

GINGIVAL CHROMA

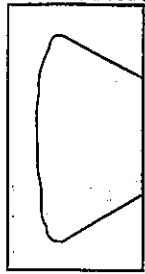
add gingival chroma shade _____

- 1/2mm
- 1mm
- 1 1/2mm
- 2mm
- ___mm

LABIAL TEXTURE (as viewed from incisal)

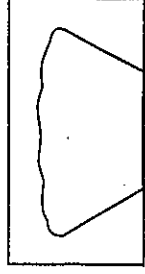


smooth



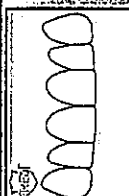
moderate (natural)

*moderate is the advised standard

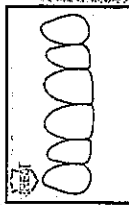


exaggerated

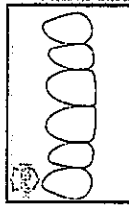
INCISAL CONTOUR



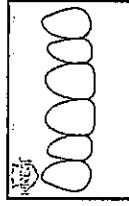
flat



flat/moderate (masculine)



rounded/moderate (feminine)



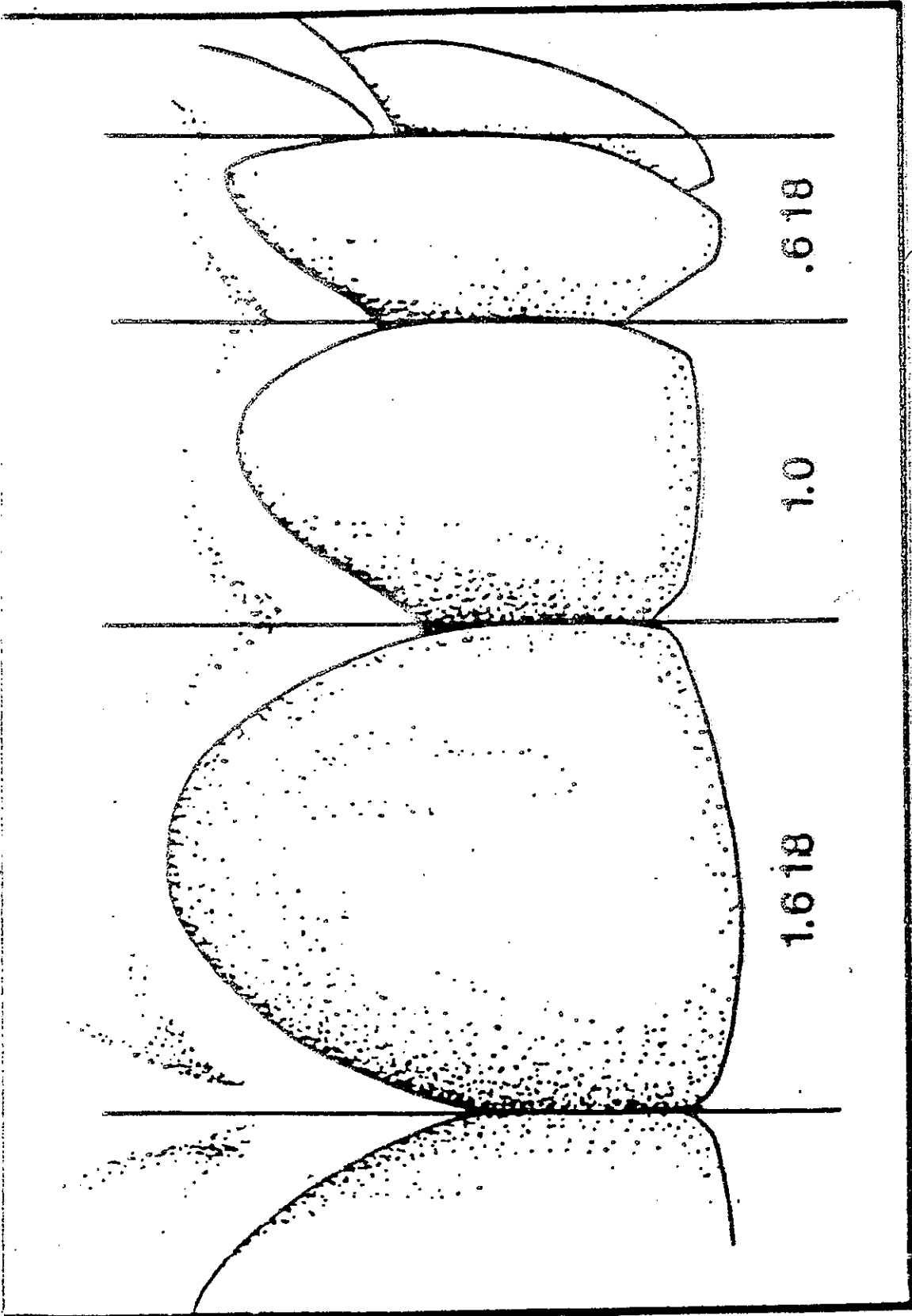
rounded

If a wax mock-up has been fabricated as a guide, please note any changes to be made to the final case, that have not been indicated on this Rx.

WAX MOCK-UP COMPARISON

GUIDELINES FOR ESTHETICS

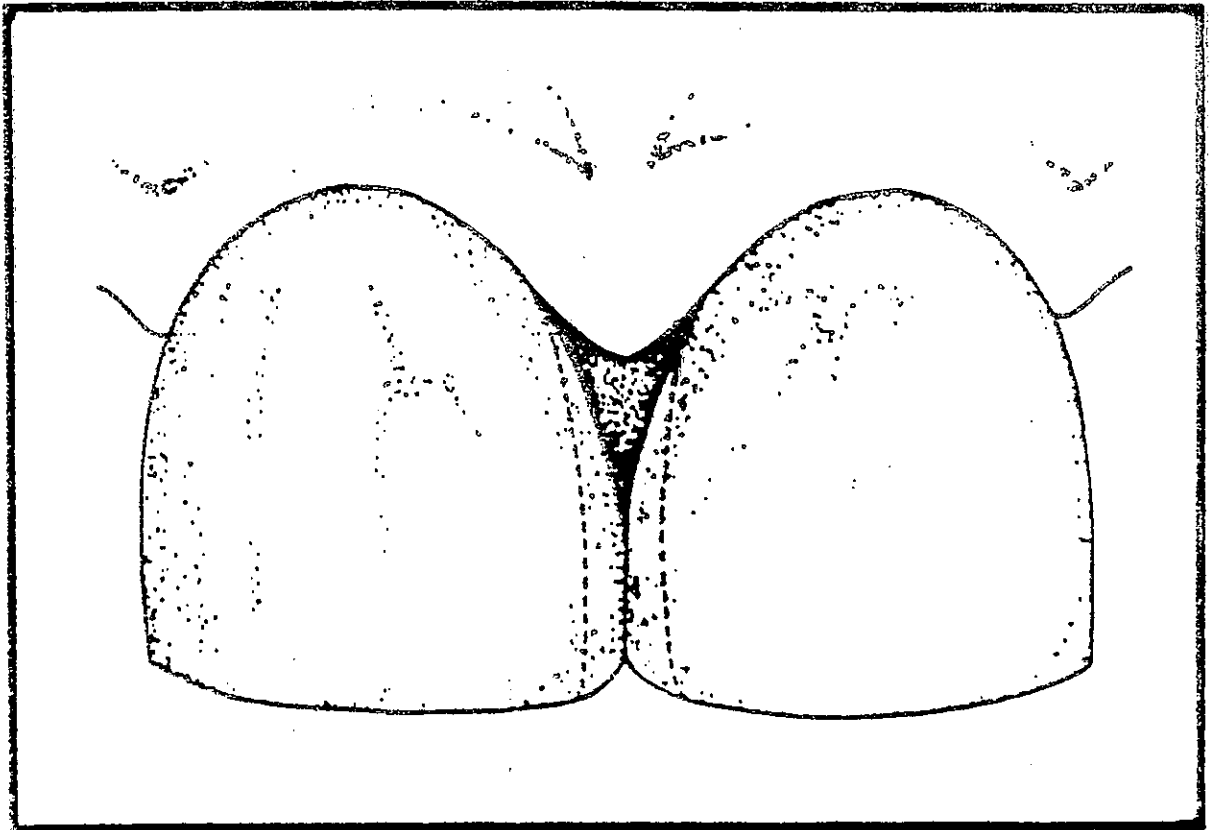
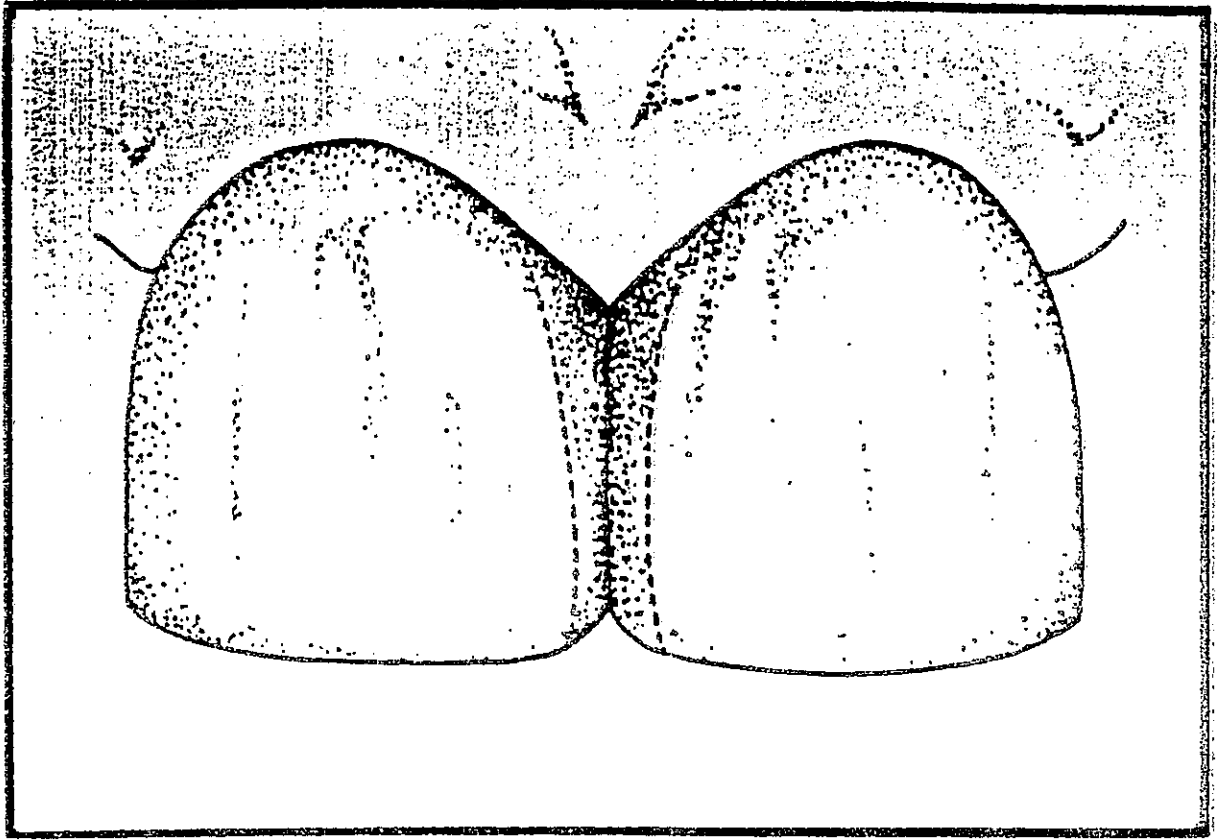
- GOLDEN PROPORTION
 - 1.6 - 1.0 - .6
- LENGTH TO WIDTH RATIO
 - 4:3
- CENTRAL INSISOR
DOMINANCE
- LARGE DIASTEMAS
 - LONG VERTICAL
PROXIMAL CONTACT
- SHADE CHANGE
 - 8 VENEERS MINIMUM



.618

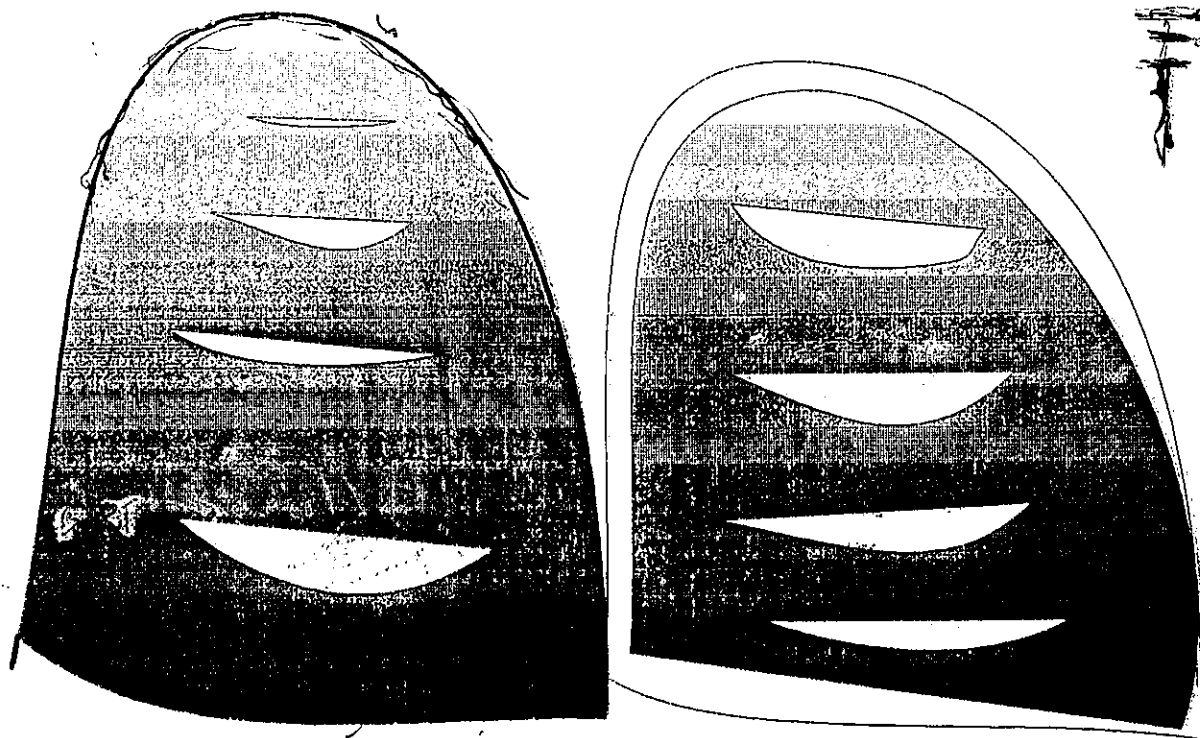
1.0

1.618

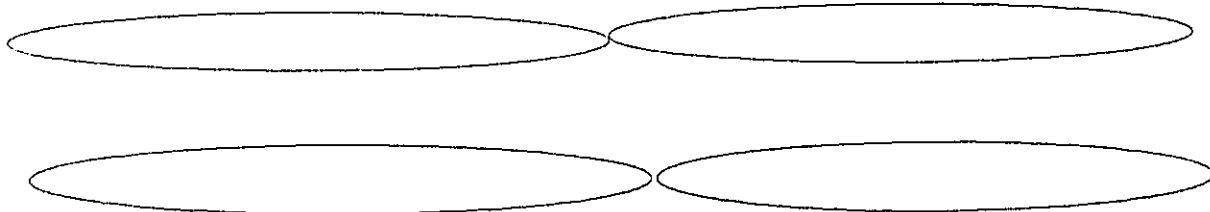


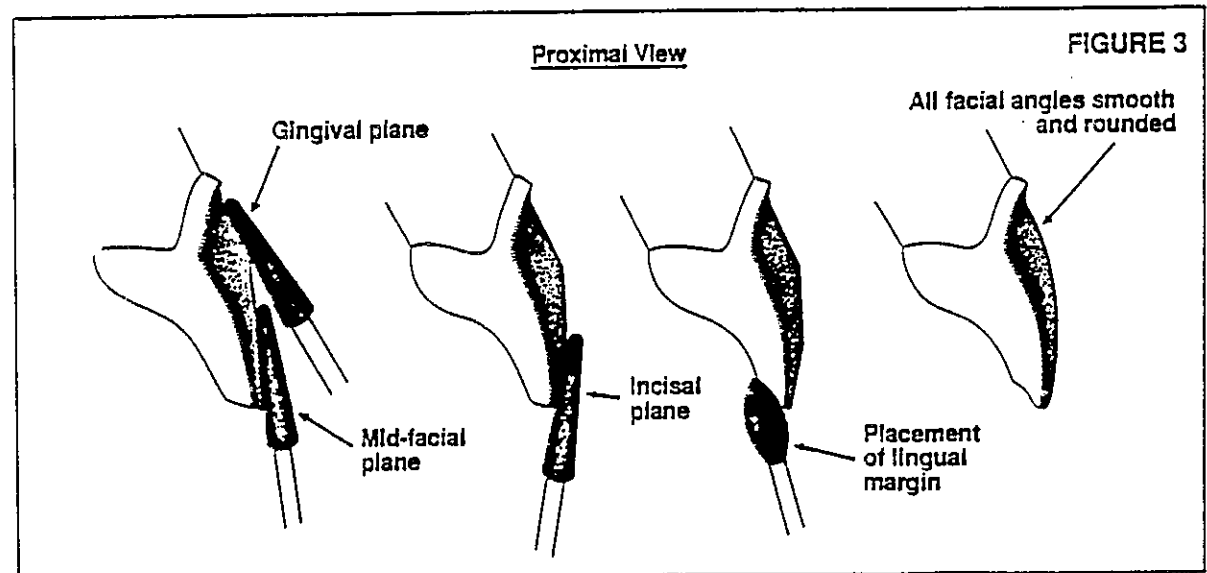
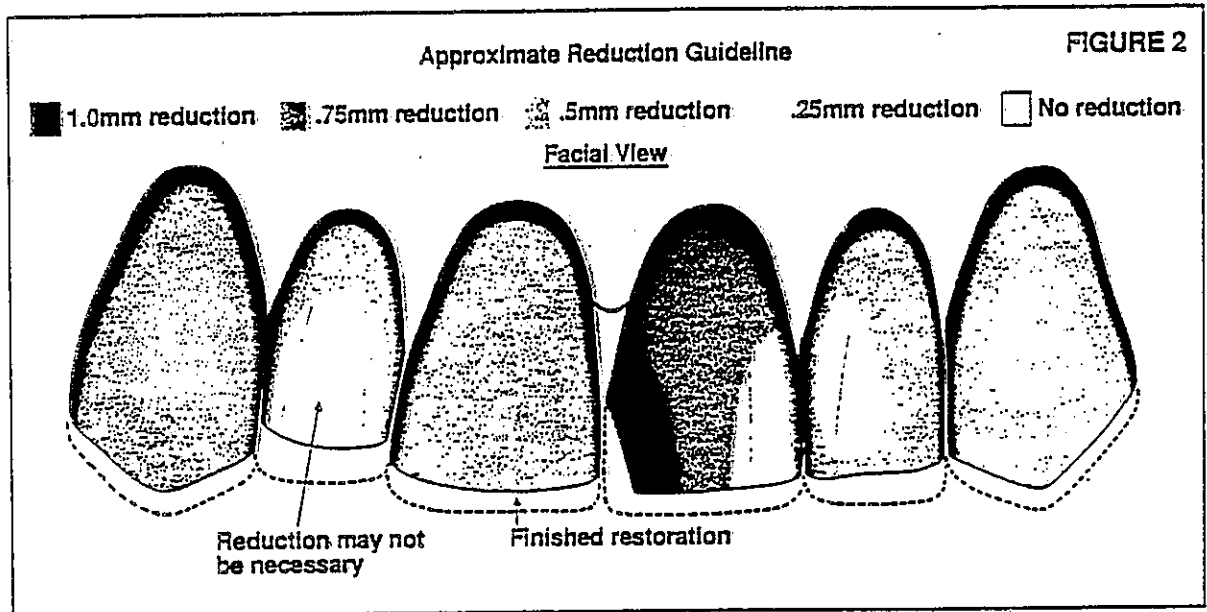
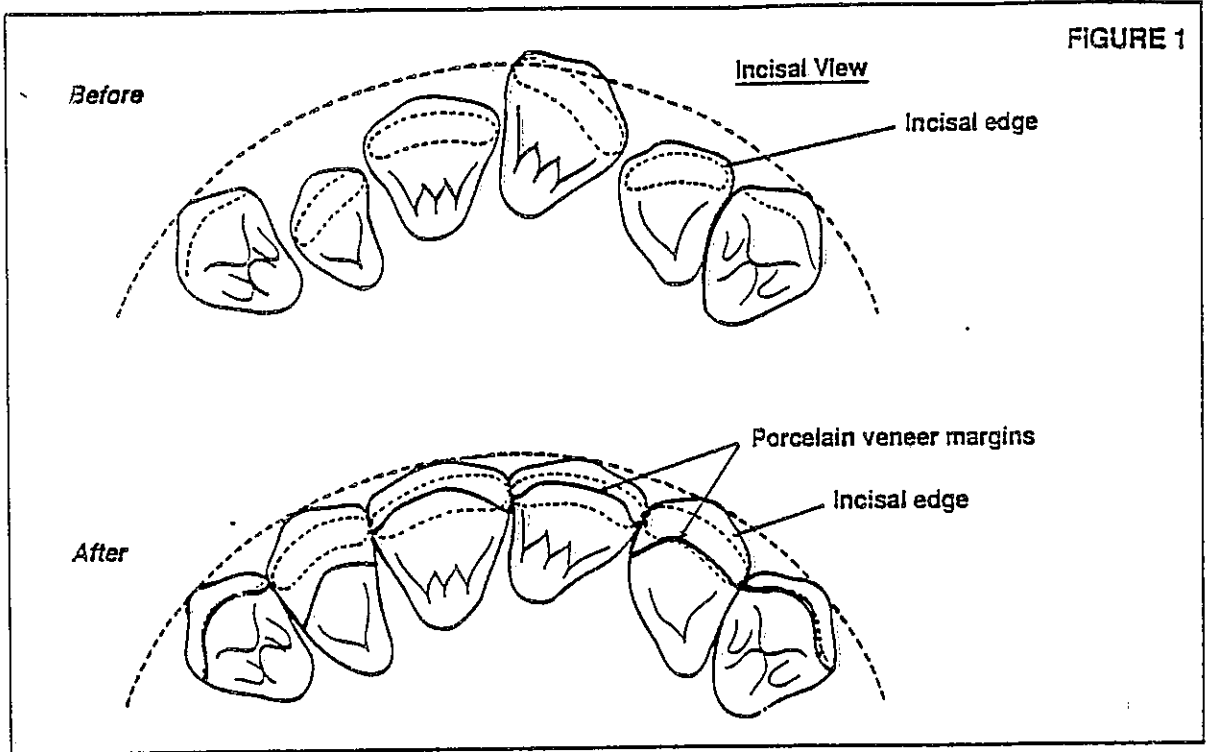
PREPARATION

STANDARD WINDOW PREP



**.5mm REDUCTION ON THE LABIAL
DO NOT BREAK THE CONTACTS
BEVEL INCISAL EDGE (FOR SEATING INDEX)
USE DEPTH CUTTERS OR MEASURE WIDTH OF BURS BEING USED**





Temporization

Indications

- Maintain Contacts
- Patient Desires Temporary
- Allows Patient to Evaluate Simulated Veneers prior to fabrication

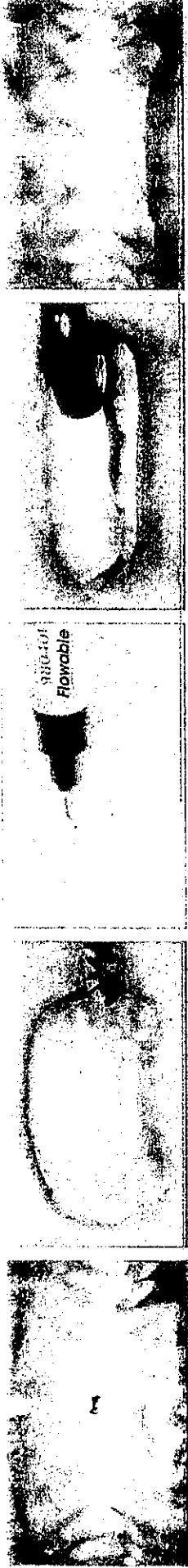
Contra-Indications

- Contacts have not been broken
- Patient is not insistant on temporarys
- Patient is clear on what the final restorations will look like.

TEMPORIZATION

- BEAD BRUSH
- PRE IMPRESSION
- COMPOSITE SPOT ETCH

Veneer Temps using a Clear Matrix



Porcelain Bonding and Adhesive Bonding
MASTIS

Fabrication of Temporary Restorations

Con't

→ 2. DETERMINE TEMPORARY TECHNIQUE

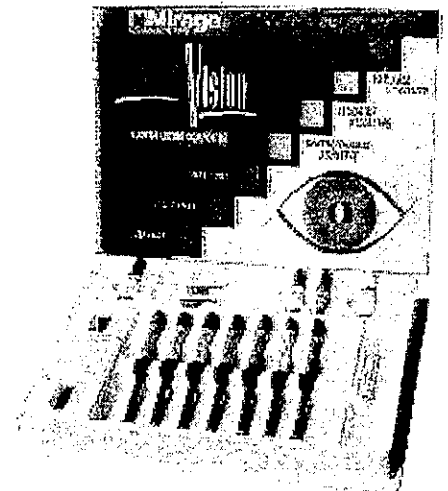
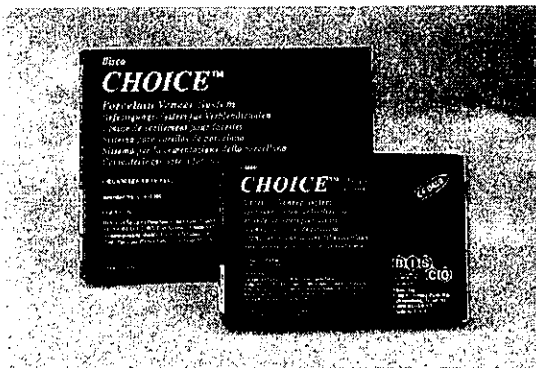
Great for temporizing crowns and heavily prepared veneer cases.

Determine if teeth to be restored require changes in shape position or length.
Have lab create a wax up up desired results.

Take an impression of the Wax Up using a soft flexible Putty. Impress all teeth to be prepared + 2 teeth on either side for reference when seating in the mouth. (also mark the midline of the impression with a marker or scalpel.

Bonding Kits

- Choice
 - Mirage F.L.C
 - Variolink
 - Cosmodent
-
- Luting Resin & Catalyst
 - Bonding Agent & Catalyst
 - Silane
 - Etchant (Phosphoric & Hydrofluoric)



Kit Contents

1 Bottle Silane Bond Enhancer 2 Syringes Enamel Etching Gel - 37 % Phosphoric Acid 1 Bottle Part A - Dentin/Enamel Primer 1 Bottle Part B - Dentin/Enamel Primer 1 Bottle Unfilled Resin 5 Syringes Filled Composite Resin (A2, A4, B1, C1, D3) 1 Syringe Universal Catalyst - Low Viscosity 1 Syringe Universal Catalyst - High Viscosity 1 Syringe Diamond Paste Accessories: Mixing Wells, Mixing Pad, Brush Handle, Mixing Stick, Brush Tips, Needles, Instructions, OSHA Packet
Also Available: Filled Composite Resin (A1, B2), Light Catalyst - Low Viscosity, Dark Catalyst - Low Viscosity

MASKING STAINS

- OPAQUERS IN THE PORCELAIN
- OPAQUERS IN THE COMPOSITE
- OPAQUERS ON THE TOOTH
 - DIE SPACER ON MODEL

MATERIALS

- *Creative Color (Cosmedent)*
- *Kolor Plus (Kerr)*
- *Rembrandt Shade Modification (Den-Mat)*
- *BisColor (Bisco)*
- *Heliotint (Ivoclar)*

Tints and Opaquers

MATERIALS

- *Scotchbond
Ceramic Primer
(3m)*
- *Clearfil Porcelain
Bond (Kuraray)*
- *Silane Bond
Enhancer
(Pulpdent)*
- *Porcelain Primer
(Bisco)*

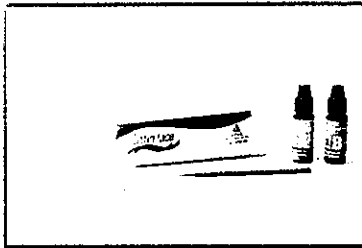
*Silane Coupling
Agents*



Unique Multi-Purpose Ceramic Primer

Challenges with most ceramic primers are short shelf-life and need to use hydrofluoric acid to etch the ceramic surface. Interface has resolved these challenges.

Interface



Apex Dental Materials



To Order 1-888-277-2335

Interface is supplied in two bottles. It allows simultaneous conditioning of ceramic, enamel, and dentin prior to use of Simplicity or Surpass adhesives. It is activated just before use; has specific and varied instructions for several uses; and does not require hydrofluoric acid etching before application.

100% of 23 evaluators rated Interface excellent or good, and 100% said they found the product to be worthy of trial by colleagues.

CR Conclusions: Interface is an effective ceramic, enamel, and dentin primer/conditioner that requires activation just before use ensuring its chemical activity and freshness. Long-term clinical research and data are being established.

Various Surface Treatments

	PORCELAIN	COMPOSITE	TOOTH
• METAL			
• Sandblast	Hydrofluoric Acid	Sandblast	Phosphoric
• Metal Primer	Phosphoric Acid	Composite Act.	Prime
• Cement	Silane	Unfilled Resin	Unfilled Resin
•	Unfilled Resin	Composite	
•	Composite		

SURFACE TREATMENT

TOOTH

VENEER

**PUMICE
ETCH
PRIME ?
BOND**

**HYDROFLUORIC ETCH AT LAB
CLEAN
SILANE
BOND
COMPOSITE**



ARMAMANTARIUM

- GLASS SLAB
- MEDIUM SIZED SPATULA
- DENTAL ADHESIVE KIT
- PORCELAIN BONDING KIT
- THIN UNWAXED FLOSS
- MYLAR STRIPS OR DEADSOFT
(OPTIONAL)
- VENEER PLACEMENT INSTRUMENT
- PORCELAIN POLISHING SYSTEM
- CAMERA

BONDING SEQUENCE

- TRY VENEERS ON MODEL
- TRY VENEERS IN MOUTH WITH WATER
- TRY VENEERS IN MOUTH WITH COMPOSITE IF NECESSARY
- (BE SURE TO VIEW FROM ALL ANGLES)
- MIX UP COMPOSITE AND HOLD UP TO TEETH FOR COMPARISON

VENEER INSERTION PROCEDURE

DOCTOR

Try veneers on model.

Wet Veneers and try in Mouth.

Etch Teeth.

Apply Bonding Agent (do not cure

Separate teeth with mylar strips.

Insert veneers (two at a time)

Remove excess flash with brush.

Draw mylar strips into mouth.

*Tack incisal edge of veneers (5
seconds with light)*

Run floss interproximally

*Fully cure veneers (approx 100
seconds per tooth)*

Check bite.

*Veneers are completely adjustable
once they are bonded into place.*

ASSISTANT

*Rinse veneers in alcohol.
(air dry)*

*Apply Silane
(air dry)*

*Apply unfilled resin
(air dry)*

*Fill veneers with desired shade of
filled composite.*

TROUBLE SHOOTING

- BONDING TEETH TOGETHER
 - TOFFLEMYER MATRIX BAND
 - CERI SAW
 - MOPPER TORQUE
- REMOVING VENEERS
 - RE PREP WITH DEPTH CUTTER
- BONDING TO VARIOUS SURFACES
 - COMPOSITE
 - METAL
 - PORCELAIN

COLOUR STABILITY

CHEMICALLY ACTIVATED RESIN CEMENTS

2 PASTE SYSTEM 1 TERTIARY AMINE
1 BENZOYL PEROXIDE

DARKENING EFFECT IN ORAL ENVIRONMENT
“AMINO DISCOLORATION”

LIGHT ACTIVATED RESIN CEMENTS

COMMAND SET & COLOR STABILITY
MOST COMMON PHOTOINITIATOR
CAMPORQUINONE

DELEMA MANUFACTURERS TRADE OFF RAPID
POLYMERIZATION FOR COLOR STABILITY

MATERIALS

■ Light Cured /Dual Cured

- **Insure**
(Cosmedent)
- **Nexus** (Kerr)
- **VarioLink**
(Ivoclar)
- **Lute It**
(Jeneric/Pentron)
- **Choice** (Bisco)

■ Dual Cure

- **Dual Cement**
(Ivoclar)
- **Duo Link**
(Bisco)
- **Duo Cement**
- (Coltene/Whaledent)

■ Self Cure

- **C & B Cement** (Bisco)
- **Panavia 21**
- **Cement It**
- **C & B Metabond**
(Parkell)
- **Flexi Flow**
(EDS)

**RESIN BASED
CEMENTS**

SHADE TAKING

- NEUTRAL COLORS IN ROOM
- TURN OFF OPERATORY LIGHT
- ALLOW AS MUCH NATURAL LIGHT INTO THE ROOM AS POSSIBLE
- REMOVE PATIENTS LIP STICK
- USE VITA SHADE GUIDE (WITHOUT NECKS IDEAL!)
- DETERMINE VALUE
- CUSPIDS GENERALLY DETERMINE THE HUE

SENSITIVITY

Biting

Hot & Cold

Pain on Percussion

SENSITIVITY PRONE

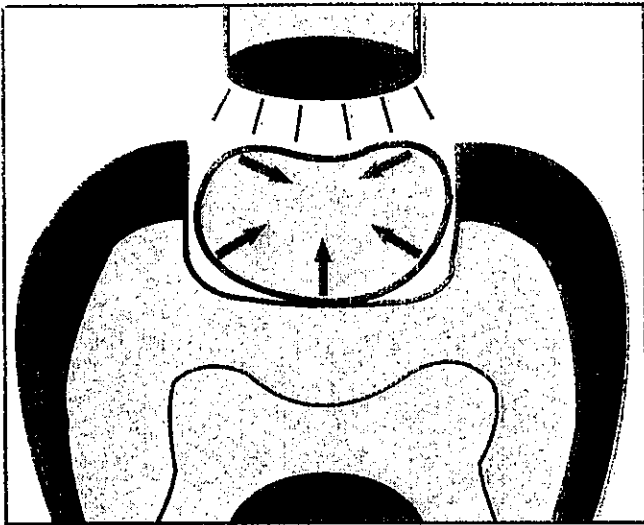


FIGURE 1

*light-cured composites
shrink away from
adhesive walls upon
polymerization*

SENSITIVITY VIRTUALLY ELIMINATED

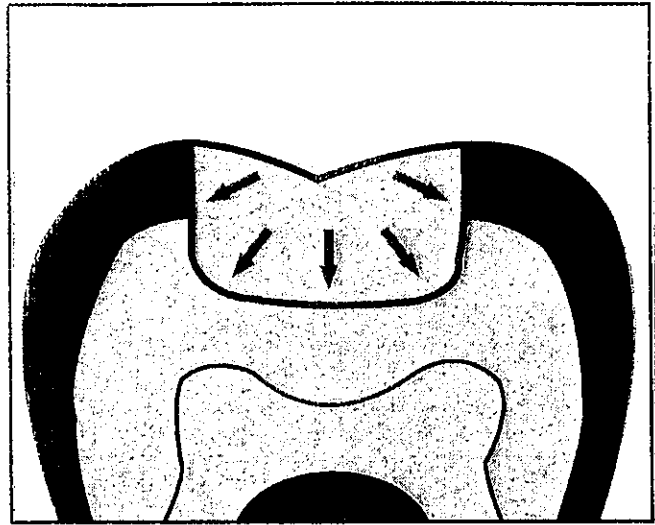
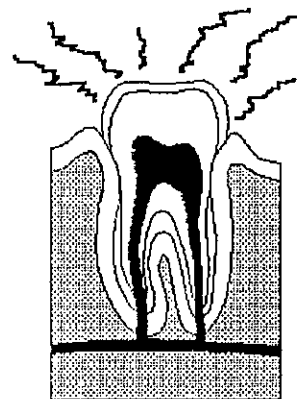


FIGURE 2

*self-cure Bisfil 2B or
Bisfil II – shrink toward
adhesive walls during
polymerization*

CAUSE	RESULT	CORRECTION
Dentin over dried	Collagen collapses preventing penetration of primer	Dry dentin only a brief second
Drying primers between coats	Blocks penetration of subsequent coats	Dry after last coat only
Air blasting primer	May remove primer from tooth	Position air syringe 1-2" from tooth and begin lightly air drying
Inadequate primer drying	Solvent not completely removed	Increase drying time
Inadequate light-curing	Incomplete polymerization	Check light with light meter
Bulk placement of composite	Shrinkage stress with open margins	Incrementally place composite
Use of eugenol or astringents	May inhibit complete polymerization if not rinsed well	Rinse thoroughly
Using small tufted brush	May not carry enough material to cover dentin	Use larger tufted brush
Aggressive crown placement	May cause hydrostatic pressure	Passively place crown with light pressure.

SENSITIVITY



G. Chadwick

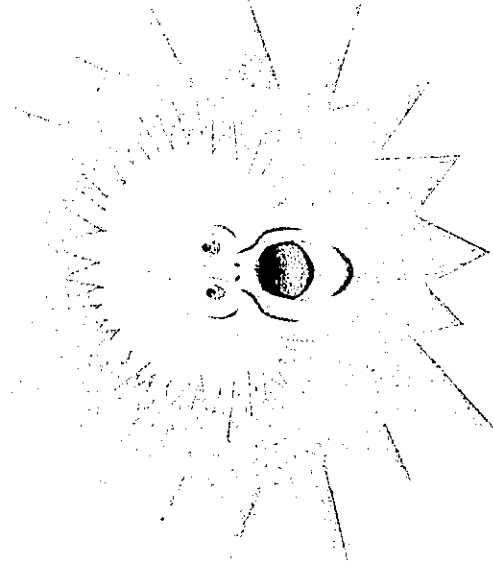
DESENSITIZERS

┆ Aqua Prep

┆ Gluma 3

┆ Hema Glu & Hema Benz

┆ MicroPrime



Curing Intensity

Intensity Output is Decreased by:

- *Frosting or Darkening of the bulb*
- *Light Guide Fracture*
- *Filter Deterioration*
- *Composite buildup on the curing tip*

CURING LIGHTS

■ Proper Intensity

■ Maintenance

- Cleaning Kits
- Syran Wrap

■ Proper Tip

- Opaque Tape on end of wand

Thank You

*For more information on material presented
in this course please do
not hesitate to contact us*

1.888.277.2335

Porcelain Bonding Techniques for CDAs

with

Gary Chadwick
Sure Dental Canada