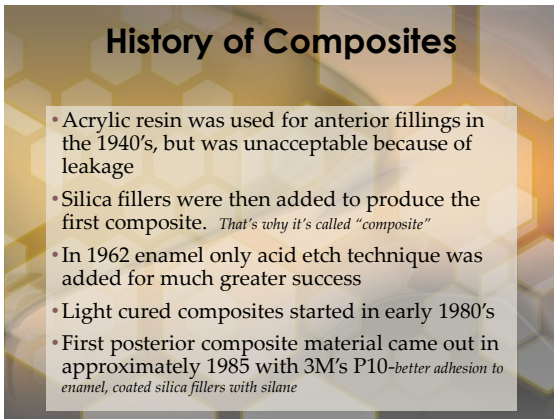
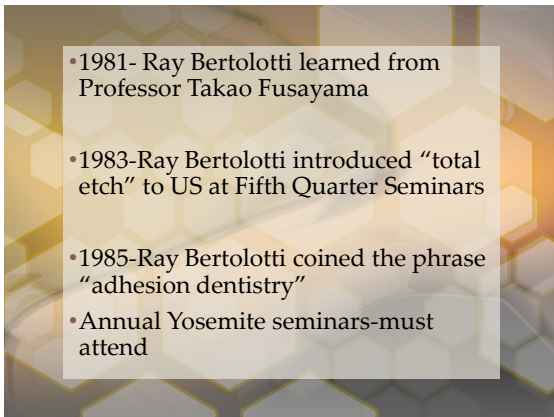


1



2



3

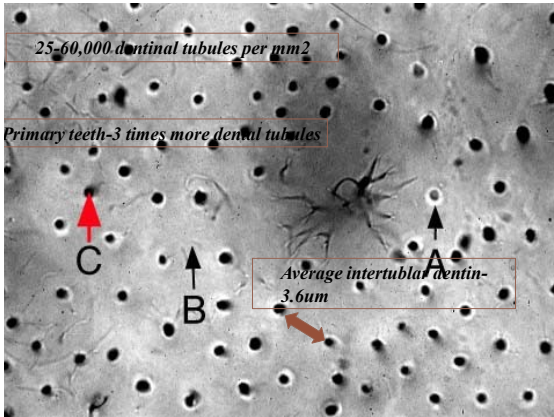
Advantages of Bonded Composite Restorations

• Great Aesthetics

- Can match all the colors (hues) of teeth
- Can match the value (lightness and darkness) of teeth
- Can match the chroma (intensity of color) of teeth
- Can match translucencies. More important than hue (color)!

• Less micro-leakage due to acid etch adhesion

4



5

Advantages of Bonded Composite Restorations

• Great Aesthetics

- Can match all the colors (hues) of teeth
- Can match the value (lightness and darkness) of teeth
- Can match the chroma (intensity of color) of teeth
- Can match translucencies. More important than hue (color)!

• Less micro-leakage due to acid etch adhesion

• Restorations BOND to the teeth

- Very high bond-strengths to both enamel and dentin
- Restore teeth to almost their original strength

- Leakage will be obvious when it occurs

6

Disadvantages of bonded composite restorations

- Take more time and precision than amalgam restorations
- Therefore, increased cost-
 - 50% more time than amalgam restorations, therefore should be 40-50% higher fee
- More technique sensitive
 - If not done carefully, will fail faster
 - But, newer dental bonding primers have less chance for error

7

• "A poorly placed composite is worse than a poorly placed amalgam"

• "A well done composite is much better than a well done amalgam"

Ron M. Ask, D.D.S.

8

STEP 1 for long lasting composites

Know your bonding & composite material

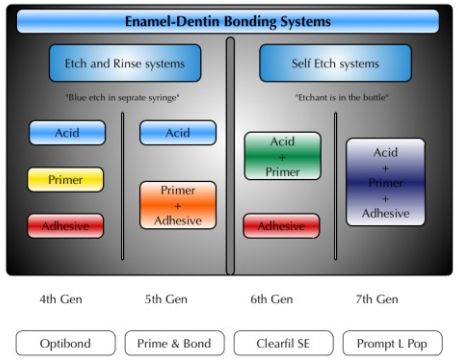
- Hydrophobic or hydrophilic?
 - Water soluble primers with alcohol, water and/or acetone
 - Why is this important?
- Select or total etch-etching enamel only or including dentin
- Bond to both enamel and dentin (not just enamel)- Why?
 - Mechanical retention and sealing tubules with hydrophilic primers

9

Know your composite material

- 3 steps=acid etch + primer + bond
- 2 steps= acid etch/primer + bond
- 2 steps = acid etch + primer/bond
- 1 step = acid etch/primer/bond-no?

10



11

Particle Size

- "Large particle" size-average >4 microns
- "Small particle" size-average 1-4 microns
- "Micro fill"-< 1 micron-.1 microns
- "Nano fill"-.005-.1 microns
- "Hybrid"- mixture of particle sizes like concrete or asphalt
- "Microhybrid"-mixture of particle sizes where the average size is <1 micron

12

- Ave=.16-.2
- Ave=.8
- Ave=.4
- Ave=.7
- Ave=<.1
- Ave=<.1

Palifique® Estelite

THE CHAMELEON EFFECT

Palifique Estelite A2 (shown in each of the above restorations, demonstrating "Chameleon Effect" shade matching).

SHADE MATCHING EXAMPLE

Palifique Estelite's wide color matching range in enamel shades is a result of exclusively manufactured sub-micron spherical filler. Color matching greatly improves as incorporating both the particle size and the refractive index.

PHYSICAL PROPERTIES

Shade	A1, A2, A3, A3.5
Filler	80-500 (100000)
Modulus	210,000 (MPa)
Compression Strength	180 MPa
Flexural Strength	1,270 (MPa)

AVAILABLE SHADES

A1, A2, A3, A3.5
 B1, B2, B3
 C1, C2, C3
 DAK, DAK (translucent)
 Incisal
 Cervical

All resins available in both Syringe and PCT's (Photo-Loaded Tray).
 Syringes contain 30 g & PCT's contain 20 g of paste per package.
 An anterior resin and PCT's available in Translucent, Natural, Porcelain, and Luminous.

13

"In a Class by Itself"

Estelite

Palifique® Estelite

The World's Only 100% Spherically Filled Composite.

"The ultimate anterior composite. My best kept secret now available in America."

By: William E. Berinatti DDS, PhD

- Chameleon effect shade matching
- Greater color match using fewer shades
- Maximum shade stability after polymerization
- High resistance to abrasion
- Enamel like smoothness and gloss
- Radiopaque

To Order Call Toll Free 888-JMORITA (566-7482)

J. MORITA USA

11800 S. Main Street, Torrance, CA 90503
 Tel: 562-591-2000 Fax: 562-591-2007

[Blank space for notes]

14

Base or No Base?

- Not necessary for thermal protection
- Not necessary for acid protection
 - Acid etch may not kill pulp tissue, bacterial invasion from micro-leakage for sure does
- Weakens final restoration and tooth
- Used only for indirect or direct pulp cap

[Blank space for notes]

15

• Properties of the different components:

- Tricalcium silicate ($3\text{CaO}\cdot\text{SiO}_2$): It is the main component of the powder. It regulates the setting reaction.
- Dicalcium silicate ($2\text{CaO}\cdot\text{SiO}_2$): It acts as second main core material
- Calcium carbonate (CaCO_3): It acts as filler.
- Zirconium dioxide (ZrO_2): It is added to provide the radio-opacity to the cement.
- Calcium chloride ($\text{CaCl}_2\cdot 2\text{H}_2\text{O}$): It is an accelerator.

16

Ozone (O3)

Here are the benefits of ozone gas when applies to the tooth after decay removal:

- Kills remaining bacteria in the tooth structure and tubules
- Allows dentist to be less aggressive, thereby not risking exposing the nerve of the tooth
- Lowers inflammation of the delicate pulp tissue
- Stimulates the tooth to heal faster and re-mineralize the remaining tooth structure

17

STEP 2 for long lasting composites- Control Your Environment for Quality!

- Adjust your chair and your patient so you and your assistant can see and perform properly
- Head of patient in line with end of chair
- Light so you can see!
- Magnification so you can really see!
 - 2.5 X –not enough
 - 3.3 X
 - 4.5 X+

18

Control Your Environment for Quality!

- Moisture control with rubber dam
- Moisture control with your 3-way syringe
- Oil control-use oil less compressor
- **Oil control-handpieces**

19

STEP 3 for long lasting composites- Prep Design

- ✓ Chase out all grooves, including DLG, buccal pits, cusp of Carabelli
- ✓ Clean out grooves likely in to dentin of any dark or white pits
- ✓ Control bleeding & crevicular fluids
- ✓ Control the soft tissue
- ✓ Follow decalcification/decay subgingival and around line angles

20

Control bleeding, crevicular fluids & soft tissue



21

OptraSculpt by Ivoclar Vivadent



22

STEP 3 for long lasting composites- **Prep Design**

- ✓ Remove all decay
- ✓ Chase out M-D cracks, etc.
- ✓ Remove all white enamel decalcification areas
- ✓ Bevel all margins
- ✓ Roughen with diamond all surfaces you expect to bond to, even 1 mm past

23

STEP 4 for long lasting composites- **Prime and Bond long enough!**

- ✓ 10 seconds-Etch enamel
- ✓ 10 Seconds-adding dentin
- ✓ 60 seconds-primer
- ✓ 10 seconds-bonding

24

STEP 5 for long lasting composites-
The Fill

- Matrix bands, peanuts, wedging, etc
- Gingival seal
- Band contouring for proper shaped contact
- Flowable composite-why?
- Layering-Why?
- Direct fill whole prep?
- Shrinkage-2%, 3%? Direction?

25

STEP 5 for long lasting composites-
The Fill

- Layering for chroma, value, hue and translucency
- Interproximal embrasures
- Overhangs
- Contacts
- Occlusal anatomy
- Polish

26

Bonded for life FEES

2025 National Dental Advisory Service

- D2391 resin-based composite-one surface, posterior 80% \$300 20 min.
- D2392 resin-based composite-two surface, posterior 80% \$356 30 min.
- D2393 resin-based composite-three surface, posterior 80% \$432 40 min.
- D2394 resin-based composite-four surface, posterior 80% \$508 50 min.
- D2960 labial veneer (resin laminate-direct 80%=\$1,047 1 hour

• Your hourly rate goal=? You do the math

27

10,000 hour rule from Anders Ericsson

- Not just the time or #'s; not the quantity, but the quality
- 30 years learned over 30 years vs. 30 years experience learned in 1 year.
- Visiting practice, going to courses like this
- Creating mediocrity vs. copying expertise
- Graduated 12/1977, started doing all composites 1984, 1,000+ composites/year=
- 40,000+ composites done

28

"We must be the change we wish to see in the world"

Mahatma Gandhi

29

Successful Bonded Composite Restoration Techniques

Expect the best,
demand the best,
be the best.....
to create Smiles for life.

Thank you

30