

## Technology Age

- 5.1% Growth Annually
  - \$185 Billion by 2025
  - Patients = Consumers = Express
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## Weaknesses

- Wasted time or energy
  - What you need to do More of...
  - Practice aspects that may have slipped or forgotten
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## The Restorative Interface

- Bonding involves... two different substrates
  - Adhesive Layer
    - Enamel
    - Dentin
      - MOIST: allows for permeation of Primer / Adhesive
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## Moisture Levels

- Post-op sensitivity
  - Micro-leakage
  - Weaker restoration
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## Universal Bonding Agents - "UBA's"

- Airing is critical
  - Application and coverage is important
  - Film thickness
  - Handle per manufacturer's recommendations
  - Consider how dispensed: unidose or bottle
  - Multiple teeth or single tooth
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## Why are Posterior Composites Difficult?

- Inherited design
- Contact position
- Isolation
- Lack of cure

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## Why Bulk-fills?

- High polymerization stress can cause the bond between the material and the cavity wall to break. These stresses can also lead to enamel fractures, cracked cusps, marginal staining, white lines and post-operative sensitivity.
- Bulk-fills LESSEN the stress and aid the operator!

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## Sectional Matrix

- Pre-wedge and protect adjacent surface \*\* damage to the adjacent surface is proven!
- Pre-formed matrix = correct CONTACT anatomy
- Wedge = creates a SEAL
- Ring = provides separation force and restores the contact space / position

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## Curing

- Poor light curing = consequences
- Depth of cure = VITAL
- Recommendations:
  - Power output = 600-900 mWcm<sup>2</sup>
  - Exit beam diameter: 7-10 mm
  - Average irradiance not more than 2000mWcm<sup>2</sup>
  - Light's spectrum peak: 460nm
  - Respect distance performance

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## Class II Challenges

- Non-rounding of marginal ridges
- Heavy localized occlusion
- Over-contoured surfaces
- Isolation
- Caries ALWAYS will form UNDER the contact!

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## Secrets to Restoration Longevity

- Use an Adaptable, low-stress bulk-fill foundation
- Properly light cure
- Respect Increments
- Cap with a proper occlusal material
- Do-not OVER-finish
- Always Polish

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## Preps

- Approach with RETENTION in mind - end point
  - Retentive:
    - slight taper
    - good height in relation to width
    - tilting has resistance
  - Non-retentive:
    - minimal taper
    - short height: 2-3mm
- Pitfalls:
- Improper or Lack of Reduction
  - Lack of defined margins
  - Undercuts
  - Overheated Tooth Structure
- Single Use Burs
    - Fresh cutting = efficiency
    - Reduces cross contamination
    - Cost effective
  - Value of Smooth & Rounded Preparations = better adhesion

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## Margins = your signature!

- Impression material considerations:
  - Tear strength
  - Hydrophilicity
  - Dimensionally stability
- What to AVOID

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## Temporaries = create a Duplicate Model

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## Temp Cements

- Properties
  - low film thickness
  - Easy to clean-up
  - kind to the tooth and gingiva
  - Retentive
  - Contain NO EUGENOL

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## Priming Indirect Restorations - reasons:

- decontaminate surfaces
- ensures a stronger bond
- dependent upon the substrate

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## Cements Today

- Glass Ionomer
- Resin Modified GI
- Self Adhesive Resin
- Adhesive Resin
- Bioactive