Different Stains, Different Treatment

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Wanted

Happy Teeth
Treatment Options

- Bleaching
- Resin Infiltration
- Microabrasion
- Tooth colored restorations
- Veneers
- Full coverage restorations (Crowns)
Treatment Options

- Bleaching
- **Resin Infiltration**
- Microabrasion
- Tooth colored restorations
- Veneers
- Full coverage restorations (Crowns)
Resin infiltration concept is based on using unfilled resins with extremely high penetration coefficient.

Although re-mineralization works well on shallow lesions, when you get to deeper lesions, you are probably not going to have great success with re-mineralization.

Arrest and stop the progression of caries.

Masking of white lesions → improved appearance.
Clinical Applications

- Proximal caries Infiltration.
- Post Orthodontic white lesions.
Clinical Applications

- Proximal caries Infiltration.
- Post Orthodontic white lesions.
- Developmental white lesions
- Fluorosis
- Hypoplastic/Hypominerlialized teeth
- Occlusal sealant

Caries

Developmental

Preventive
**Color Masking Effect**

- Enamel opacity is dependent on enamel refractive index.
- Alterations in the refractive index are due to:
  - Enamel surface roughness
  - Internal reflection
- Porous enamel scatter more light than sound enamel → white opacity.
The enamel has a refractive index of 1.62.

Subsurface lesion → pores filled with
- Water (R.I. → 1.33).
- Air (R.I → 1.00).

The difference in refractive index between the water and the enamel affects light scattering and makes the lesion look opaque.

The infiltrated lesions are filled with resin (R.I. of 1.46 - 1.52)

The masking effect of white spot lesions by resin infiltration have long-lasting effects. Also, after a new acid challenge, the group with low viscosity resin infiltration presented the lowest means of color change. (Torres 2011)

The color difference of the infiltrated lesions was significantly lower than untreated lesions. After re-mineralization, infiltrated polished areas had lower color difference values than unpolished non treated lesions. (Paris 2010)

Besides an arrest of lesion progression, an improvement of the esthetic appearance of the lesions is achieved. (Paris 2009)

ARM  ARM  
You  can do  this  
Dad  

LEG  LEG
Isolation  Etching (HCL 2min)  Rinse (10 sec.)  Icon Dry (30 sec.)  Infiltrant (3 min)
Remove excess

Cure (40 sec.)

Polish (if needed)

Separation

Interproximal (applicator)
Post Orthodontic lesions
Post Orthodontic
White lesions
(Post Treatment)
Post Orthodontic White lesions (Post Treatment)

Before

After
Post Orthodontic White lesions
(one year follow up)
Post Orthodontic White lesions
(Immediate post op)
Post orthodontic White lesions


Post orthodontic White lesions


Developmental Enamel Defects
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Developmental Enamel Defects
Enamel Fluorosis

Nov 2011
Rehydration
Color Masking
(After Rehydration)
Before

Color Masking (After Rehydration)

After

2 weeks
Color Masking
(After Rehydration)
Color Masking
(After Rehydration)
Yellow-Brown Discoloration

8 weeks Bleaching

ICON treatment
Yellow-Brown Discoloration

Resin restoration

Before treatment


RI Research

- Microhardness
- Surface roughness
- Bonding to other restorative materials
- Effect of bleaching
- Color stability
- Acid resistance
- Abrasion and wear
- Fluoride use
- ???
15% HCl gel Etching (2 minutes)

Rinse (10 sec)

Ethanol (30 sec) → air dry (10 sec)

Infiltrant (3 minutes)

Light Curing (40 sec)