



# Sealant Set-Up

Preparing Your Operator

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# Why Seal?





- Pain prevention
- School time
- Work time
- Travel
- Confidence
- Opportunities
- Efficiency
- Task delegation



# Dental Operator





# Safety Equipment



# Basics

- Air/water syringe
- Slow-speed suction tip
- Patient bib
- Double-sided mirror
- Gauze
- Dry angles
- Cotton rolls
- Prophylaxis handpiece
- Rubber cup prophylaxis angle
- #23 Shepherd's Hook explorer





# Sealant-Specific

- o Sealant pen with bonding properties (ex: Embrace wetbond sealant)
- o Etchant pen
- o Pen tips
- o Microbrushes
- o Pumice powder
- o Dappen dish
- o Biteblock
- o Curing light with shield and sleeve
- o Dry angles
- o Articulating paper and forceps



# Surface Cleaning with Pumice

- Volcanic Silica
- Loose abrasive
- Moh's hardness scale=6
- Fine!
- Cleanse and polish
- Dilute!












<https://www.henryschein.com/us-en/zahn/c/abrasives-lab/pumice>

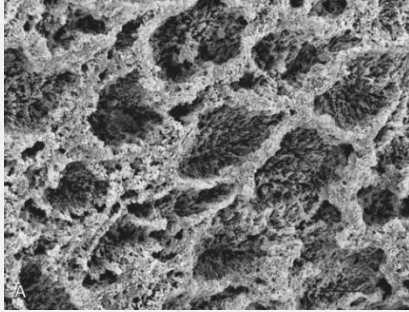


# Mohs Hardness Scale



Increasing Hardness ↑

Mineral Name	Scale Number	Common Object
Diamond	10	
 → Corundum	9	 Masonry Drill Bit (8.5)
Topaz	8	
 → Quartz	7	 Steel Nail (6.5)
Orthoclase	6	
Apatite	5	 Knife/Glass Plate (5.5)
 → Fluorite	4	 Copper Penny (3.5)
Calcite	3	
Gypsum	2	
 → Talc	1	 Fingernail (2.5)



<https://pocketdentistry.com/4-fundamental-concepts-of-enamel-and-dentin-adhesion/>

# Etching



<https://www.ultradent.com/products/categories/bond-etch/etchants/ultra-etch>

- o Enamel=hydroxyapatite crystals (20% carbonate)
- o Solubility in acid
- o Etching opens porosities between rods
- o 20 seconds in permanent teeth (frosty appearance) with 37% phosphoric acid (plus silica in gels)



- o 60+ seconds on deciduous teeth
- o Rinse 10+ seconds (Silica!)

[https://www.safcodental.com/catalog/cosmetic-dentistry-filling-materials/etching-products/etch-rite?ref=goadw&utm\\_campaign=\(ROI\)\\_Smart\\_Shopping\\_-\\_Low\\_AOV&utm\\_adgroup=&keyword=&matchtype=&adposition=&gclid=Cj0KCQjw3f6HBhDHARIsAD\\_i3D97NI5J2Z37oYLgBu1mKoz0BzdePS0GnKJhAHm1PyC2jfnvzG5SRilaAoQeEALw\\_wcB](https://www.safcodental.com/catalog/cosmetic-dentistry-filling-materials/etching-products/etch-rite?ref=goadw&utm_campaign=(ROI)_Smart_Shopping_-_Low_AOV&utm_adgroup=&keyword=&matchtype=&adposition=&gclid=Cj0KCQjw3f6HBhDHARIsAD_i3D97NI5J2Z37oYLgBu1mKoz0BzdePS0GnKJhAHm1PyC2jfnvzG5SRilaAoQeEALw_wcB)





[https://www.safcodental.com/catalog/preventives/sealants/embrace-wetbond?utm\\_source=google&utm\\_medium=organic&utm\\_campaign=surfaces-across-google](https://www.safcodental.com/catalog/preventives/sealants/embrace-wetbond?utm_source=google&utm_medium=organic&utm_campaign=surfaces-across-google)

# Sealing

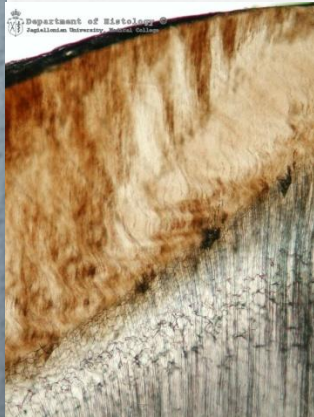


Before



After

<https://us.dental-tribune.com/news/dental-sealants-they-are-not-just-for-kids-anymore/>



- Unfilled or lightly filled resin
- Fluorides benefit smooth surfaces best
- 88% of childhood caries in pits and fissures (DEJ), 44% on molars
- 30% sealant rate among low-income children
- Chemical, or blue light activated polymerization
- Light filler particles for wear resistance (radiopaque)
- 20 second halogen light cure. LED and laser, less.

# Sealing Over Decay?!





# Just Kidding!

- o Nutrients cut off
- o 89% reversal in caries activity!
- o 2000-fold decrease in bacteria under sealants
- o ADA and NNOHA supported
- o Incipient caries vs. known active caries
- o Proper retention!
- o 24-hour exposure of etched enamel begins remineralization by salivary deposition of calcium phosphate salts. Plus, residual resin tags!

# Bonding

- o Bonding resin prior to sealant optional
- o Bond=low-viscosity resin
- o Flow into pits and fissures
- o Sealant resin bonds chemically to bonding resin.
- o Embrace wetbond sealant is fluoride-releasing, and bonds chemically and mechanically with wet teeth.



# Pen tips



<https://www.denallicorporation.com/Flocked-Dental-Applicator-Tips-p/tipsflk200.htm>



[https://www.net32.com/ec/house-brand-blue-25-gauge-etchant-tips-d-106876?utm\\_source=google&utm\\_medium=cpc&adpos=&scid=scplp106876&sc\\_intid=106876&gclid=CjwKCAjwglSIBhBfEiwALE19SWD5QTeK0gdrFcyYy0BKLuQ4tSiYGzwy5TECJUfs3tOwu2hCZQ1PZR0CI PwQAvD\\_BwE](https://www.net32.com/ec/house-brand-blue-25-gauge-etchant-tips-d-106876?utm_source=google&utm_medium=cpc&adpos=&scid=scplp106876&sc_intid=106876&gclid=CjwKCAjwglSIBhBfEiwALE19SWD5QTeK0gdrFcyYy0BKLuQ4tSiYGzwy5TECJUfs3tOwu2hCZQ1PZR0CI PwQAvD_BwE)

# Articulating Paper

- Bite interference
- Sealant wear
- Discomfort in teeth and TMJ
- Scaler to adjust



<https://www.net32.com/ec/hufriedy-13-14-gracey-curette-8-resineight-d-150744>



# Exploration



<https://www.aegisdentalnetwork.com/id/2008/05/a-new-therapeutic-pit-and-fissure-sealant-improves-early-dental-caries-monitoring-for-minimally-invasive-dentistry>



<https://www.intechopen.com/chapters/48173>

- Flaking sealant
- Holes
- Loose sealant
- Contact areas sealed?
- Bulbous sealant

# Isolation



<https://jiaxinmed.en.made-in-china.com/product/rKpnqYWlgeUv/China-Surgical-Consumable-Material-Dental-Cotton-Roll.html>



<https://pocketdentistry.com/10-moisture-control/>

- o Air!
- o Gauze
- o Wide opening
- o Collect saliva
- o Divert saliva



<https://www.dentalofficedepot.com/plasdent-mouth-props-9046.html>





# Curing

- 470 nanometer blue light
- Operatory light on some materials
- UV light damaging to eyesight
- Follow manufacturer's instructions!



<https://www.atomodental.com/products/curing-light-sleeves-500-box>

# Ready?!



<https://www.aegisdentalnetwork.com/ida/2011/12/dental-sealants-a-cornerstone-of-preventive-care>