The Science and Benefits of Caries Infiltration

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Although the overall incidence of caries in the population has declined, 1 in 5 children younger than 5 years still receives a caries diagnosis. Almost one-half of children 6 through 11 years of age and more than one-half aged 12 through 19 years have experienced caries.[1] According to the Centers for Disease Control and Prevention's National Center for Health Statistics April 2018 NCHS Data Brief, the prevalence of caries in primary or permanent teeth in children aged 2 through 19 was 45.8% and increased with age, from 21.4% in ages 2 through 5, to 50.5% in ages 6 through 11, and to 53.8% in ages 12 through 19.[2]

Caries affects children's overall health, development, and quality of life because it—and the associated pain and effects on facial esthetics—can compromise critical factors such as the ability to eat and sleep, self-esteem, social and speech development, and success in school.[1] In fact, childhood caries can have a lifelong effect on patients' oral, general, and emotional health.

The appearance of visible white-spot lesions indicates that enamel demineralization and the caries process are underway. Both children and adults, especially those undergoing orthodontic treatment, are susceptible to incipient smooth-surface and interproximal carious lesions, even if they exhibit good oral hygiene. Numerous adjunctive preventive therapies, from fluoride rinses and varnishes to frequent professional cleanings and the use of xylitol-containing products, can be used to reduce the incidence of incipient carious lesions in primary and permanent teeth.

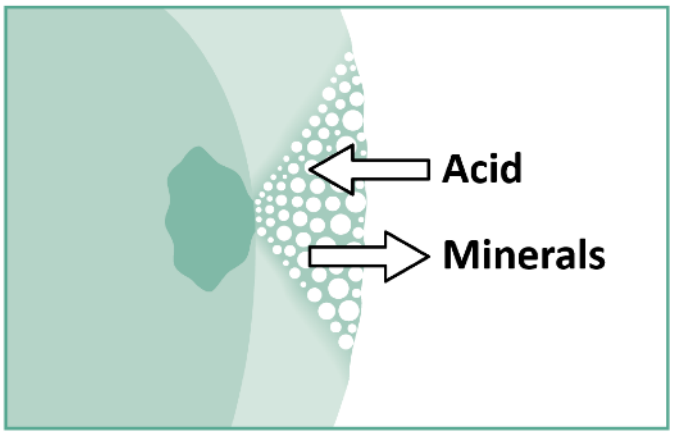
However, when interproximal or white-spot lesions occur, they can cause structural, functional, and esthetic issues. Treating these lesions in the early stages should begin with minimal therapy options such as high-concentration topical fluoride, fluoride varnish, remineralization, microabrasion, and resin infiltration.[3]

In this e-book, 2 dentists describe their experiences with Icon resin infiltration therapy (DMG) and useful tips for how they use both treatments in their practices.

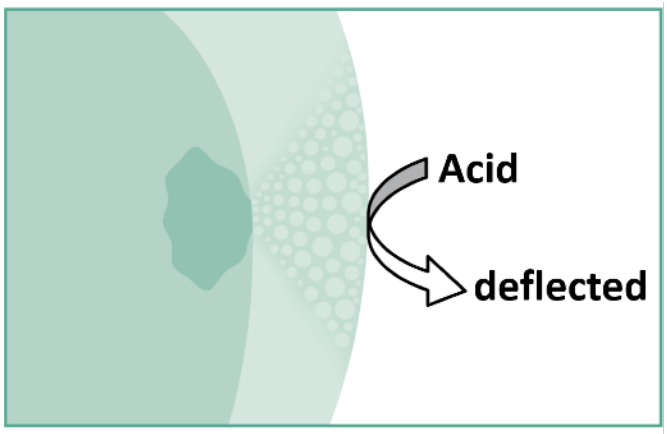
Icon is a treatment option that falls between fluoride therapy and the "wait-and-see" then "drill-and-fill" approach once carious lesions become large enough to treat. Even ultraconservative restorative treatment removes more healthy tooth structure than may be necessary to arrest caries. Icon can be used in lesion depths of enamel 1 (E1), enamel 2 (E2), and dentin 1 (D1). Restorative procedures may be required for dentin 2 (D2) and dentin 3 (D3) lesions, as well as cavitated enamel.

The Icon infiltrant is a low-viscosity hydrophilic resin material designed to infiltrate a smooth-surface or interproximal lesion, block its progression, and arrest its development at an early stage. Drilling and anesthesia are not necessary, and treatment requires only a single visit.

The protocol involves preparing the smooth-surface lesions by abrading lightly with a disk (optional), then using a 15% hydrochloric acid (Icon-Etch, DMG) to etch the surface of the tooth. Ethanol alcohol (Icon-Dry, DMG) is then applied to show a preview of the final result. If the preview is not satisfactory, etching a second and possibly a third time may be needed. Next, the resin (Icon-Infilrant, DMG) is brushed onto the lesion, allowed to penetrate (≤ 800 micrometers in depth), light cured, and finished. The infiltrant can be applied for up to 3 minutes before light curing to reach the desired level of infiltration. For deeper lesions, the first application of the infiltrant may be left on longer than 3 minutes. After light curing, the infiltrant creates a diffusion barrier within the hard tissue that stabilizes the caries, cutting off its supply of nutrients and oxygen.[4]



In early caries, cariogenic acids attack the enamel and draw out minerals.



After Icon (DMG) resin infiltration, the pore system is closed, blocking the progression of caries.

As clinicians began using the infiltration technique, they noticed that smooth-surface enamel lesions lost their whitish-opaque color and looked more like surrounding healthy enamel. After thorough clinical testing, it was determined that this was due to light refraction properties in the material that mimic those of natural teeth. Meeting esthetic concerns while addressing long-term caries arrest with an atraumatic technique is an added benefit of resin infiltration therapy.

Benefits of Icon Resin Infiltration

- Arrests caries at an early stage
- Esthetic results on smooth surfaces
- Microinvasive technology
- No anesthesia or drilling
- One patient visit
- Preserves healthy tooth structure

Source: DMG. Icon. Available at: https://www.dmg-america.com/en/products/product/icon/. Accessed October 9, 2019.

Treating White-Spot Lesions and More

Carla Cohn, DMD, is a general dentist who focuses on treating children in her Winnipeg, Manitoba, Canada, practice. She has been using Icon since it was launched in 2009. With the number of children she sees in her practice, DMG thought her insights would provide practical data on the effectiveness of treatment and its success.

Carla Cohn, DMD, is a general dentist, devoted solely to the practice of dentistry for children. She maintains a private practice at Kids Dental in Winnipeg, Manitoba, Canada. She is a member of the American Academy of Pediatric Dentistry Speakers Bureau, Catapult Education Speakers Bureau, Pierre Fauchard Academy, and a cofounder of the Women's Dental Network. Dr. Cohn has been named as Dentistry Today's Leader in Continuing Education multiple years in a row. She has published several articles and webinars and enjoys lecturing on all aspects of children's dentistry for general practitioners both nationally and internationally. She can be reached at drcohn@shaw.ca.

"Quite honestly, when it was introduced to me, I thought that there was no way this product could do what they said it was going to do. I was completely skeptical when I took it back to my office," Dr. Cohn recalls. "But, a couple of weeks later a young teenager came in who was an ideal candidate for exactly what they were saying it could do, and I thought, 'Well, let's give it a try.'"

When the patient came in for her regular re-care appointment, she had just had her orthodontic brackets removed and her teeth were covered with postorthodontic white-spot lesions. This is common, Dr. Cohn explains, because it is difficult for children (as well as adults) to maintain oral hygiene during orthodontic treatment. Plaque gets caught around the brackets and bands, which are hard to maneuver around. "Plus, it's difficult at the best of times for teenagers to clean their teeth properly," Dr. Cohn observes.

As the bacteria in the plaque increase the acid in the biofilm over extended periods, patients often develop white-spot lesions that can eventually become cavities if demineralization is left unchecked. According to Dr. Cohn, the incidence of postorthodontic white-spot lesions is from 73% through 95% of orthodontic patients.[5,6] "These weakened areas are in danger of breaking through and developing frank cavitations," she says, "and they are unsightly."

Incidence of Caries in Adults

According to the National Center for Health Statistics, the percentage of adults aged 20 through 44 years with untreated dental caries was 31.6% from 2011 through 2014.

Data from the National Health and Nutrition Examination Survey, 2011-2012, indicated that 91% of adults aged 20 through 64 years had untreated caries. Roughly 1 in 5 people 65 years and older had untreated caries. Caries was higher in adults aged 35 through 64 years than in adults aged 20 through 34 years.

According to researchers using the 2011-2014 National Health and Nutrition Examination Survey data, 12.4 million children and 57.6 million adults had untreated caries. Demographic and socioeconomic disparities were cited as the reason most of the cases were untreated.

Sources: National Center for Health Statistics. Oral and Dental Health. Available at: https://www.cdc.gov/nchs/fastats/dental.htm. Accessed August 29, 2019; Dye BA, Thornton-Evans G, Li X, Iafolla TJ. Dental caries and tooth loss in adults in the United States, 2011-2012. *NCHS Data Brief.* 2015;191:1-8. Available at: https://www.cdc.gov/nchs/products/databriefs/db197.htm. Accessed August 27, 2019; Statista. Percentage of persons with a dental visit in the past year in the U.S. from 1997 to 2016. Available at: https://www.statista.com/statistics/187892/persons-with-a-dental-visit-in-the-past-year-in-the-us-since-1997/. Accessed September 16, 2019.; Elflein J. Oral health and dental care in the U.S. Statistics & facts. Statista. Available at: https://www.statista.com/topics/3944/oral-health-and-dental-care-in-the-us/. Accessed August 27, 2019; Gupta N, Vujicic M, Yarbrough C, Harrison B. Disparities in untreated caries among children and adults in the U.S., 2011-2014. *BMC Oral Health.* 2018:18(1):30. Available at: https://doi.org/10.1186/s12903-018-0493-7. Accessed September 16, 2019.

Total and Untreated Childhood Caries

Age, y	Total Caries, %	Untreated Caries, %
2-5	18	9
6-11	45	15
12-19	54	13

Source: Fleming E, Afful J. Prevalence of total and untreated dental caries among youth: United States, 2015-2016. *NCHS Data Brief.* 2018;(307):1-8.

The discoloration can go all the way around the teeth and from top to bottom. "Cavities can start in any area that hasn't been cleaned properly and where plaque is left behind," Dr. Cohn explains. "It can be as extensive as every single tooth. Obviously, the goal is to prevent this. The orthodontist or dentist who's doing orthodontic work must monitor the patient's oral hygiene. If a patient is not taking proper care of his or her teeth, action should be taken before white-spot lesions appear, like prescribing fluoride varnish, using any number of the preventive tools we have for cleaning the teeth, or, perhaps, prescribing xylitol. But many times, that's not the case, the damage is done, and we're left with unsightly, unhealthy teeth, and then we need to help the patient with that."

Causes of White-Spot Lesions

- Dissolution of apatite crystals
- Loss of calcium, phosphate, and other ions
- Demineralization of tooth substrate
- Fluorosis
- Hypomineralization (decrease in mineral content in the enamel)
- Hypomaturation (a hereditary condition in which enamel is soft and often stained but of normal thickness)
- Hypoplasia
- Genetic defects
- Exposure to drugs, chemicals, and radiation

Sources: Bartlett JD. Dental enamel development: proteinases and their enamel matrix substrates. *ISRN Dent.* Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3789414. Accessed August 27, 2019; AlShehri A, Kwon SR. Etiology and management of white spot lesions. *J Multidisciplinary Care Decis Dent.* January 2016. Available at: https://decisionsindentistry.com/article/lesions-0116/. Accessed September 10, 2019.

The damage to the patient's teeth was extensive and Dr. Cohn says her expectations were pretty low. However, she asked the patient's father if he was willing to let her use the Icon treatment, and they agreed to give it a try. "We had nothing to lose, and best-case scenario, it would do what the company said it would," Dr. Cohn says. "And it did! We performed the procedure and the results were beautiful—exactly what was supposed to happen. That changed me from a skeptic into an Icon user and believer and, I suppose, ultimately a promoter."

Smooth-Surface Icon Protocol

The Icon process is not difficult, but it is a different approach from traditional restorative dentistry, and there is a bit of a learning curve, according to Dr. Cohn. But she confirms that the results and benefits outweigh both of those concerns.

If the lesion has been active for several months or longer, Dr. Cohn likes to abrade the surface enamel before starting treatment. She uses an abrasive disk, such as a Sof-Lex (3M) disk, to roughen the surface, which allows for better penetration of the hydrochloric acid gel (Icon-Etch).

For topical cariogenic white spots, DMG advises etching the area 2 millimeters beyond the lesion site. At the discretion of the practitioner, a larger smooth-surface area can be etched and infiltrated if that would create the best esthetic result.

Some lesions may require additional applications of the Icon-Etch and Icon-Dry, as well as the infiltrant. "When we get to the point of applying the ethanol, which is the Icon-Dry step, that's when we really see whether we're getting a good result," Dr. Cohn advises. "When the Icon-Dry is penetrating, you're getting a preview of what things are going to look like. You should start to see the white-spot lesion masking away. If you don't, then you should etch again.

"You can repeat the Icon-Etch 3 times," Dr. Cohn continues. "However, we need to be aware that the Icon-Etch is hydrochloric acid and can remove tooth structure if you're not careful. We want to avoid creating a depression in the tooth. After re-applying the Icon-Etch and the ethanol, you can see if the white spot has disappeared before trying again."

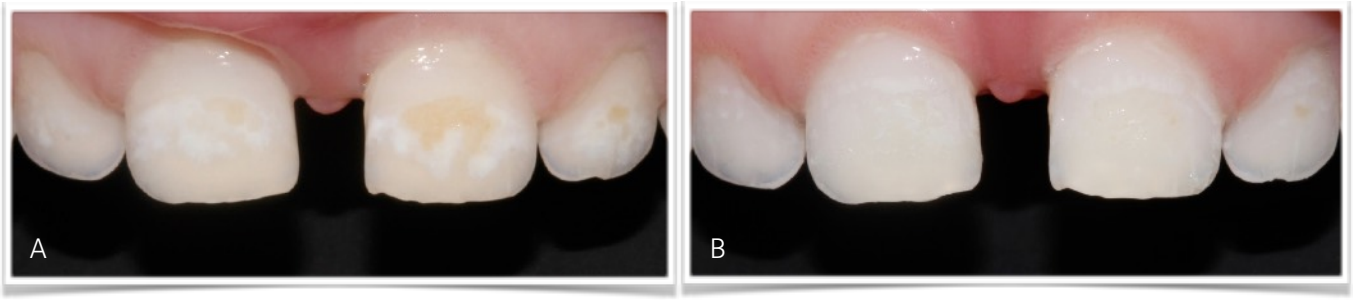


Figure 1. Before (**A**) and after (**B**) Icon (DMG) treatment of a 3-year-old patient's primary dentition with enamel hypoplasia, decalcification, and defect.

Dr. Cohn shares other tips for difficult-to-treat lesions in which the carious lesion is deep within the tooth. "When I'm applying the infiltrant using the applicator tip included in the kit, I like to rub it in," Dr. Cohn says. "Keeping the sponge continually wet while rubbing the infiltrant into the lesions feeds the liquid into the lesion and promotes uptake into the tooth structure. If it's not wet, it's not uptaking. If you're not seeing a change in shade, you can allow the infiltrant to penetrate longer than the usual 3 minutes, until the lesion starts to disappear."

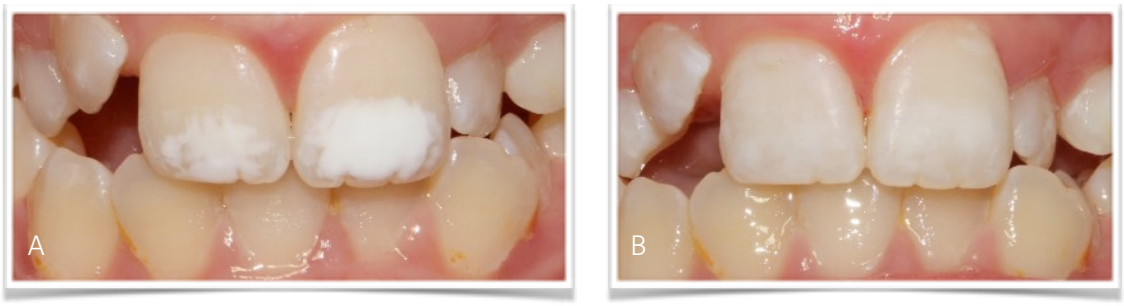


Figure 2. Before (**A**) and after (**B**) Icon (DMG) treatment of a 9-year-old patient with a mixed dentition case of molar-incisor hypoplasia.

Dr. Cohn says once a dentist gains experience with the protocol, it is possible to treat most cases in under 15 minutes. Cases that are less straightforward may take a little longer, she notes, but using Icon increases the chances of successful esthetic and therapeutic results. "It's not a difficult procedure at all," she says. "I think people shy away from it because they're just unsure of who it will work for. Really, it's a 'you've-got-nothing-to-lose procedure' that has a very satisfying result. It's not complicated, in fact, it's almost like sitting and watching paint dry—because it kind of is!"

Figure 3. Before (**A**) and after (**B**) Icon (DMG) treatment of a 13-year-old. **B**. White-spot lesions 3 years postoperative after orthodontic treatment, obtained at age 16 years.

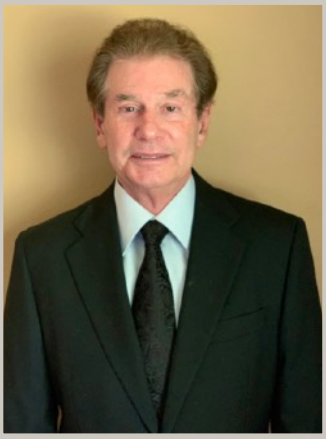
Using Icon Interproximally

Richard Chaet, DDS, MS, is a retired pediatric dentist. He volunteers at St. Vincent de Paul Virginia G. Piper Dental Clinic in Phoenix, Arizona, and Chandler Care Center Children's Medical and Dental Clinic in Chandler, Arizona, where he teaches senior dental students pediatric dentistry. When Icon came on the market, he and his partners at Affiliated Pediatric Dentistry & Orthodontics in Scottsdale, Arizona, decided to start using it on interproximal lesions.

"As soon as we heard about resin infiltration, I became interested in using it because I'm a very conservative dentist and I do not like to do surgical restoration of incipient lesions," Dr. Chaet says. "Quite frankly, after reviewing the literature, it seemed logical to me. Infiltrating an incipient lesion with a resin seemed like it was a no-brainer."

At that time, Dr. Chaet told patients with incipient lesions that he wanted to try a new procedure and assured them that if they got a cavity or if the product did not work, they would not be charged if they subsequently needed a restoration. "I made it clear to them that they had nothing to lose," Dr. Chaet says.

Dr. Chaet treats his patients as he would his own children. "If this was my child, I would not restore those teeth. I would do resin infiltration because once you surgically restore a tooth, it becomes susceptible to recurrent caries. In this technique, there's no drilling. The resin infiltrates the tooth all the way to the depth of the lesion, approximately 500 or 600 micrometers. If you think about it in 3-dimensional terms, it's covering that whole surface. There is no margin for caries to re-attack. You've basically sealed that entire surface and protected it from getting caries."



Dr. Richard Chaet earned a DDS degree and an MS in oral pathology at the University of Illinois at Chicago and his certificate in pediatric dentistry and another MS degree at the University of Iowa in Iowa City, Iowa. He is a diplomate of the American Board of Pediatric Dentistry and fellow of the American Academy of Pediatric Dentistry. He also was a consultant and examiner for the American Board of Pediatric Dentistry. He has chaired the Council on Clinical Affairs of the American Academy of Pediatric Dentistry and served on the council for over 15 years. Dr. Chaet is a consultant to the Arizona State Board of Dental Examiners. He was a founding partner in Affiliated Pediatric Dentistry and Orthodontics in Scottsdale, Arizona. He retired from his practice in 2016 and has been volunteering at St. Vincent de Paul Virginia G. Piper Dental Clinic in Phoenix, Arizona, and Chandler Care Center Children's Medical and Dental Clinic in Chandler, Arizona, where he teaches pediatric dentistry to fourth-year dental students from A. T. Still and Midwestern Universities. Dr. Chaet can be reached at rchaet@cox.net.

Figure 4. An incipient lesion on the distal aspect of tooth no. 4.

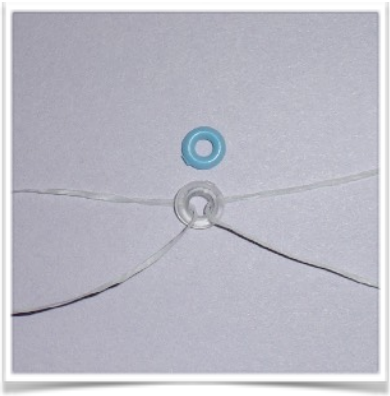


Figure 5. Orthodontic separators with floss on the larger one ready for insertion between teeth nos. 3 and 4.

Figure 6. MiniDam (DMG), which was used for this case.

Figure 7. After the separator is removed (**A**), a large space has been created to easily place foil packet and observe the tooth surface to make sure it is not cavitated.
B. MiniDam (DMG) in place.

Figure 8. Acid application.

Figure 9. Resin application.

From the beginning, Dr. Chaet and his colleagues kept a spreadsheet on everyone they treated so they could follow up on patients. “That’s how we know the success rate of this product,” Dr. Chaet says. “In our practice, the success rate has been 98% for anything in enamel. For lesions that break through into the dentin, they are about 70% successful. That’s because once the lesion has penetrated the dentin, it’s already cavitated.”

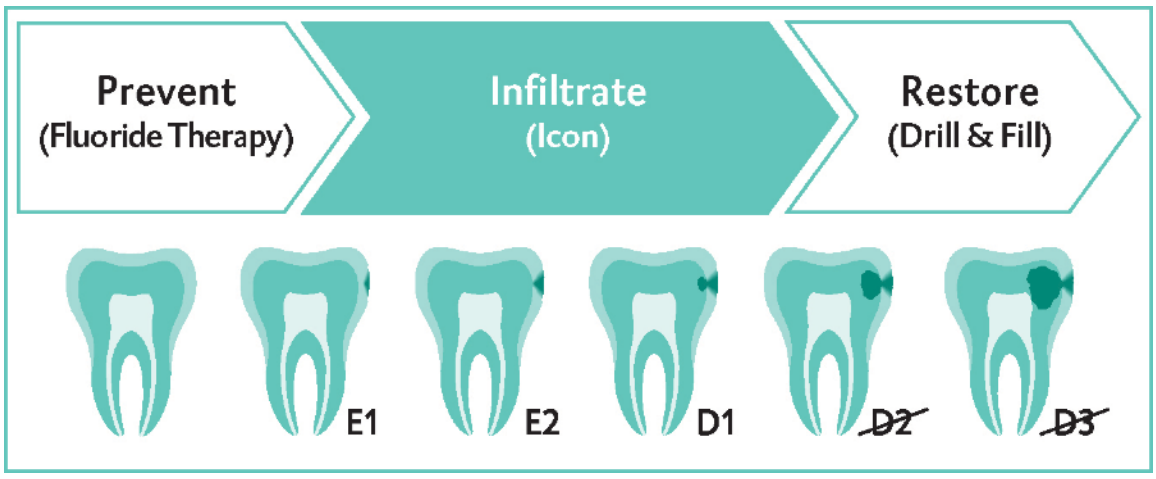
Proximal Protocol

Dr. Chaet prefers to use orthodontic separators to move the teeth farther apart. "They are really helpful for 2 reasons," he says. "It is very easy to make enough space to get the product in between the teeth. Also, if you use a larger separator, you can actually see whether lesions are cavitated, which is a huge advantage."

Dr. Chaet says it takes 2 to 3 days for anterior teeth to move sufficiently and 5 to 7 days for posterior teeth. He does not perform the abrasion step Dr. Cohn often includes. "You don't worry about cosmetics around proximal lesions," he says. "We just follow the normal prep steps. If there's a little bit of a brown stain like at the distal of a tooth, those teeth are going to come back together and the minor discoloration won't be noticed."

Dr. Chaet uses a rubber dam with flat clamps for almost every case, although he sometimes uses the MiniDam (DMG) for maxillary teeth. He finds it is not necessary to administer local anesthetic or even apply topical anesthetic for most patients.

"It's extremely easy to do," Dr. Chaet says of the Icon protocol, "especially when you use separators. Each tooth surface takes about 10 minutes, and our staff can easily sit with the patient to hold the apparatus in the mouth freeing up my time."



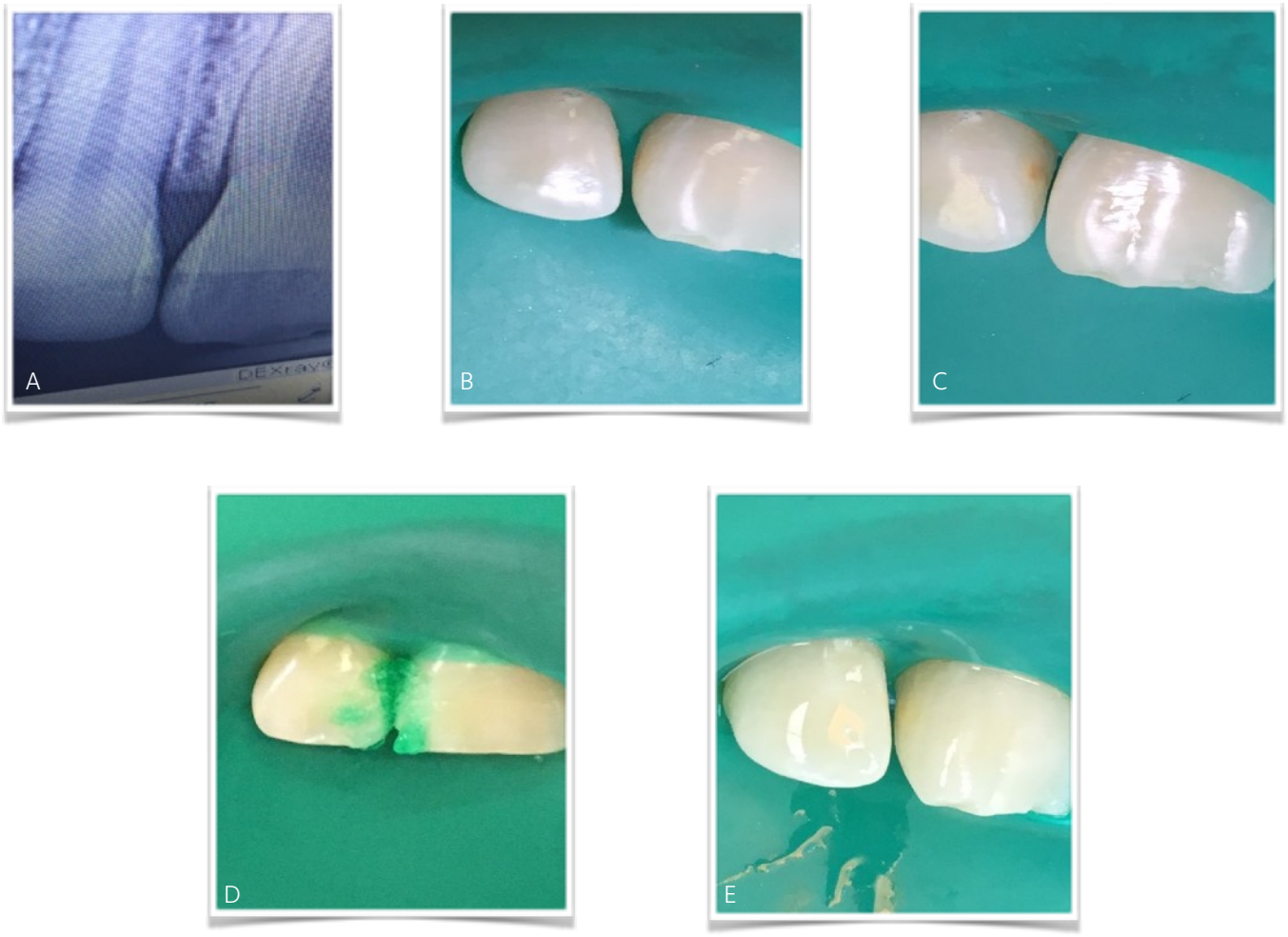


Figure 10. Incipient lesions on mesial aspect of tooth no. 7 and distal aspect of tooth no. 8 (**A**, **B**, **C**). Placement of an orthodontic separator created space large enough to make sure lesions were not cavitated. Placement of acid etchant (Icon-Etch) (**D**) and resin infiltrant (Icon-Infiltrant) (**E**). If the lesions are cavitated, restore with normal composite, which is easier to do because access to the lesions has been created.

How to Choose the Right Case

As every practitioner knows, no 2 cases are the same, even if they are similar. There are some approaches and helpful tips Icon users have learned through experience that will help ensure the success in a variety of situations.

Initially, Icon was developed to treat interproximal demineralization only. When it was observed that the resin changed the look of the enamel as a result of light refraction, indications were expanded to include treatment of smooth-surface white-spot lesions. Today, Icon resin infiltration is also used to treat mild to moderate fluorosis, hypoplasia, and molar-incisor hypomineralization.

"These are very different types of lesions, and Icon has been shown to be very effective for all of them, but we can't always predict which patients may have a less-than-ideal result," Dr. Cohn explains. "This is because the depth of a lesion is not always known. If it is superficial or close to the surface of the enamel, the result will be better. If a lesion, fluorosis, or molar-incisor hypomineralization is deep in the tooth, it may be more difficult for the material to penetrate to that depth. We can use different methods that allow it to penetrate deeper, but it can be a little confusing at the beginning to diagnose patients for suitability."

Dr. Chaet says he uses Icon interproximally only on permanent teeth because placing a rubber dam and keeping teeth dry during the procedure is difficult in young children.

"As in any dental procedure, case selection is important," Dr. Chaet says. "Most of the patients we treat are teenagers with only a few incipient lesions who are at moderate risk for caries. I have also treated several high-risk patients with multiple incipient interproximal lesions with excellent long-term results. That being said, these high-risk teens may be more susceptible to an occasional failure; no treatment is 100% successful. Also, we try to place patients receiving resin infiltration on a more frequent re-care schedule of 3 times a year as well as placing them on a fluoride gel brushing regimen."

Adult Orthodontic Treatment Statistics

The American Association of Orthodontists reports that 1 in 4 orthodontic patients is older than age 18 years.[1]

In 2018, the American Association of Orthodontists reports that the average number of adult patients per member was up 7% from 2016, an all-time high. An estimated 1.61 million adults are receiving orthodontic treatment from orthodontists.[2]

Adult orthodontic patients range in age from 18 through 90 years, with many in the 50 through 70 years age range.[3]

References

1. American Association of Orthodontists. Adult's guide to orthodontics. Available at: https://www.aaoinfo.org/_/adult-orthodontics/. Accessed September 19, 2019.

2. American Association of Orthodontists. Economics of orthodontics survey results highlight specialty trends. Available at: https://www1.aaoinfo.org/economics-of-orthodontics-survey-results-highlight-recent-specialty-trends/. Accessed Sept 19, 2019.

3. Helfenbaum W. What to know about getting braces after 50. Available at: https://www.nextavenue.org/getting-braces-after-50/. Accessed August 19, 2019.

Defining Case Success

There is a differentiation between the definitions of "working" in the case of Icon treatment.

"Damaged enamel refracts light differently from sound enamel, which is what causes the difference in the shade when enamel has sustained damage from acid," Dr. Cohn explains. "The process of Icon treatment creates porosities that fill in with the infiltrant. After light curing, the infiltrant has the same refractive index as healthy enamel. It looks like healthy enamel, and we have not changed anything besides making it refract light differently and giving the tooth structure more strength."

Dr. Cohn has found that often over time Icon-treated teeth continue to look better and better. "Even if initially lesions were not quite 100% masked out, as time goes by and the teeth rehydrate you see much less difference in the opacities, even years later."

Dr. Cohn also points out that lesions are not always white. "Sometimes they're a darker spot. In traumatic fluorosis cases, the lesion is often yellowish,' she says. "It's not always white discoloration that we're trying to match to surrounding tooth structure."

Dr. Chaet notes that some dentists have mentioned not trying resin infiltration because they are concerned that the resin is not radiopaque. "After treatment, you basically cannot see it. In Figure 11, for example, 4 years posttreatment you can see there's no change if you look between the arrows. But if this patient went to another dentist and didn't mention having Icon treatment, that dentist might want to restore those teeth. The only downside for an Icon patient is if the resin is mistaken for cavities."

Figure 11. A radiograph showing the resin-infiltrant treated distal aspect of tooth no. 20, distal aspect of tooth no. 30, and mesial aspect of tooth no. 31 (**A**). The 4-year follow-up reveals no progression of the caries (**B**).

If a patient moves or changes dentists due to insurance plans after having resin infiltration, Dr. Chaet says the responsibility falls on the patient to inform a new dentist. "I remind them to say, 'I had this treatment years ago, and my dentist told me you need to see copies of my records and x-rays before you do any fillings in between my teeth.' They don't even have to remember what it is called," Dr. Chaet says. Although the Icon Proximal (DMG) kit includes an identification-type of card that dentists can fill out for patients, Dr. Chaet says they may not remember to keep it with them.

Considerations for Ensuring Case Success

"Because Icon is a light-cured material, it is hydrophobic, Dr. Cohn explains. "It is necessary to keep an absolutely dry field with this material. If it gets wet during placement or before you cure it, it will fail." When she first started performing the procedure 10 years ago, she used rubber dams for isolation. "Over time, other isolation methods have been developed to keep the area dry, such as DryShield (DryShield) and Isodry (Zyris)," she notes. "Isolation systems are often less intimidating for the dentists to use in addition to providing airway protection, which is paramount when treating children."

Another important part of the protocol is protecting the gingiva. "You have to keep the hydrochloric acid gel from contacting the patient's oral tissues," Dr. Cohn advises. "You have to be very aware when you're using it."

An additional key factor to consider for success, Dr. Cohn cautions, is to turn off ambient lights, the dental light, and remove headlamps after placing the infiltrant so the light does not inadvertently or prematurely start the curing process.

Diagnostic and Treatment Guidelines

- Assess patient's oral health history and caries risk
- Assess oral hygiene status and fluoride exposure
- Assess nutrition and sugar consumption
- Clean the teeth
- Assess tooth surfaces for lesions
- Determine stage of caries activity
- Obtain radiographs, compare with previous radiographs if possible
- Apply spacers if caries is proximal
- Use a rubber dam, MiniDam (DMG), liquid dam, or gingival barrier for isolation. Do not use a rubber dam made of thermoplastic elastomers.
- Clean surfaces with polishing paste
- Follow Icon (DMG) instructions for use
- Repeat as necessary

Source: Effenberger S. Hints and tricks for daily practice. User Reports Studies. Icon Scienc Book, 3rd ed. Hamburg, Germany: DMG; 2011. Available at: https://www.dmg-america.com/fileadmin/DMG_America/User_Reports_Studies/ICON_SCIENCE_BOOK_3RD_EDITION.pdf.

Treatment Costs and Dental Procedure Code D2990

In 2013, the American Dental Association assigned the infiltration technique an individual code—D2990—that can be used for both interproximal and facial lesions.[7]

"This was a big breakthrough because they don't give out new insurance codes that often," Dr. Cohn says. "We have a code in Canada as well that was introduced just a little later. A new insurance code is a big deal, it gives validity to the procedure."

Insurance companies can be slow to adopt and may not cover a procedure code, Dr. Cohn continues. "But that doesn't mean we're not supposed to use it. I tell my patients in advance that this may not be covered by their insurance so they know they may not be reimbursed."

Both Dr. Cohn and Dr. Chaet (before he started volunteer service) have fee-for-service practices. They each charge a fee for infiltrant treatment that is the same as their fee for composite resin restorations.

"We explained that if it was cavitated, our fee would basically be the same," Dr. Chaet says. "They understood that if it was cavitated, we had to restore it. If it wasn't, we could do the resin filtration. This way, there was no fee difference, and I didn't have to talk to the parent again or do another treatment plan. It was fair for the patient either way."

Final Words

Dr. Chaet considers resin infiltration to be a win-win situation for the dentist and the patient. "The benefits of using resin infiltration far outweigh not offering it to your patients," he says. "It not only matches tooth enamel once it is light cured, you're not drilling the tooth. You're catching it before it becomes cavitated. That's fabulous!"

Dr. Cohn says that while the procedure may push clinicians out of their comfort zone initially because it is not a traditional modality, one has to appreciate the results. "In some of these cases, it can be life changing. When a patient of any age comes in with white spots or mottled-looking teeth from whatever reason, it's a big deal. Other kids at school are not always so nice to their peers and classmates. I've had more than 1 child come in seeking help with the appearance of their teeth because they are being teased or bullied because of it. If you can make a lesion disappear, with very little effort on your part, it's a really nice thing to do. It's a nice feeling. Also, for clinicians, it's a fun procedure to perform. I love to see the transformation right before my eyes."

DMG Supports Arizona Clinic Serving Uninsured, Low-Income Children

Dr. Chaet volunteers in the Care Center Children's Medical and Dental Clinic in Chandler, Arizona, which provides no-cost dental care to children in need 5 days a week with funding from the Foundation of the American Academy of Pediatric Dentistry. The clinic relies on product donations from dental manufacturers, especially those that support minimally invasive treatment for children who are fearful of having their teeth treated.

"DMG supplies Icon to the clinic," Dr. Chaet discloses. "I don't receive any remuneration from them, but this makes it possible to block the progression of early caries less invasively in many patients who have zero dollars. The patients at the clinic are getting resin infiltration because of DMG."

Icon Resources

Visit #IconbyDMG. DMG's growing Instagram hashtag gallery is designed for patients and clinicians to see before and after treatment photos.

» https://www.instagram.com/explore/tags/iconbydmg/top/?hl=en

Podcast with Dr. Richard Chaet – Resin Infiltration: Using Icon to Halt Caries Lesion Progression:

» https://dmg-connect.com/podcasts/dr-richard-chaet-resin-infiltration-using-icon-to-halt-caries-lesion-progression/

DMG America on YouTube:

» Smooth Surface Enamel Treatment Using Icon with Dr. Carla Cohn: https://youtu.be/W9JDApfs6vc

» Icon White Spot Lesion Treatment - Step 1: Enamel Preparation (Steps 2 and 3 follow this video): https://youtu.be/WHAtnmeGi8k

» Icon Proximal Resin Infiltration with Dr. Leandro Hilgert: https://youtu.be/RuXDarEE-iA

Click here to listen to a Podcast with Dr. Chaet

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The cited references in this e-book do not reflect ADA views and policies.

Disclosure: Dr. Chaet volunteers in the Care Center Children's Medical and Dental Clinic in Chandler, Arizona, which provides no-cost dental care to children in need with funding from the Foundation of the American Academy of Pediatric Dentistry. The clinic relies on product donations from dental manufacturers, such as DMG.