



# ICON: Minimally Invasive Treatment with Maximal Results

Written by Dr. Peter Auster | February 2019

I'm *that* dentist who loves trying new products. Every. New. Product. For some reason, I waited a long while to try DMG's Icon Caries Infiltrant. Maybe it was the strange word "infiltrant." More likely, it was the fact that a different surface white spot remover I had tried was useless.

When I finally got around to using Icon, I was pleasantly surprised. The results were excellent- and profound. It spurred me on to use Icon on an extremely odd, difficult case.

The patient, a 28 year-old female appeared in our office with dark yellow stains from teeth 7-10 (figure 1). Teeth numbers 8 and 9 were grossly stained. 7 and 10 showed less volume of stain but the color was equally yellow. All other teeth were a beautiful light shade in the whitening shade range. The surface texture of the stained areas was odd- a rough scratchy surface that felt different than healthy enamel (figure 2). The patient had no obvious decay, no discomfort, and only a few small restorations. The lingual enamel was healthy- no sign of bulimia. A dental history revealed that the patient had a lemon sucking habit for many years. She would place a piece of cut lemon between her upper teeth and lips and leave it there until the flavor disappeared.

Icon is a "micro-invasive" answer for non-carious enamel lesions caused by demineralization and/or fluorosis. I emailed a photo of the front teeth to a researcher at DMG and asked if this was a case they felt Icon could fix. The office thought it would be successful and sent a representative to my office to help with the case. The patient was informed prior to treatment that the chances for success were somewhat questionable and bonding or porcelain veneers would be the next step if the results were not satisfactory. The Icon technique and guidelines for this case follow:

Treatment begins with the placement of an Optragate lip retractor and paint-on dental dam to protect the gingival tissue. A dental dam could be used in its place. It is important to remove the surface layer of the lesion for the Icon to gain access. The lesions are treated with a medium grit abrasive disc and scrubbed with Consepsus Astringent. The next step is the application of Icon etch (15% HCL) for 2 minutes. (figure 3) The etchant is rinsed off for 30 seconds and dried with oil/water free air. For complex cases like the one portrayed, this procedure is repeated 2-3 times (etch, rinse, and dry) and inspected after each process to see if surface discoloration has diminished.



Figure 1: Preop smile



Figure 2: Retracted Preop



Figure 3 : Etchant/dam/optragate



The next step is the application of Icon-Dry (99% Ethanol) for 30 seconds. This is a good time to observe the esthetic response. If the lesion has decreased significantly (figure 4), it is time to move on to the next step. If not, repeat the etching process. The treatment was repeated one more time for this case.

Once the tooth is desiccated, the infiltration procedure can take place. Icon Infiltrant (the resin matrix) is applied with the operatory direct light turned off. The infiltrant is applied for 3 minutes to allow full penetration of the surface. This material is continuously placed to insure that the surface remains wetted for the full 3 minutes. (This can be increased to 5 minutes in complicated lesions). Excess material can be removed with cotton pellets. The contacts are flossed and the teeth are each light cured for 40 seconds. At this point the rubber dam or paint on dam/Optragate are removed.(figure 5) The restoration is now treated like a composite restoration and polished with polishing cups and discs.

The treatment for the patient with lemon erosion damage was clearly successful and one could say, life changing. (figure 6) It is now a year later and the stain has not returned at all. The author has not seen a comparable product on the dental market that treats mild to severe stains without a far more invasive and expensive approach (full facial bonds or veneers). We have seen great success in post-orthodontic decalcification as well.



Figure 4: Icon dry



Figure 5: Post-Icon



Figure 6: Final