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**Why SDF and SMART are necessary in today's world:**

- 1) Only 50% of all children with paid-for benefits via Medicaid and private insurance utilize the benefits they already have (2013). Reasons cited: too expensive, too invasive, bad previous experiences of children and parents to dental care (because drilling out all decay scares patients away). SMART is non-threatening, non-invasive, and a-traumatic. As such, SMART is well accepted by dental phobics and their children.
- 2) If used in the Medicaid-enrolled population in the US, SDF used alone can potentially save state Medicaid programs between \$15 and \$330 per caries-related visit, saving state Medicaid programs millions of dollars. ("EVALUATING POLICY DECISIONS IN HEALTH SYSTEMS, for the Degree Doctor of Philosophy in the H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, August 2017")
- 3) Bacterial diseases of the human body, including dental caries, cannot be treated effectively by surgical means alone. Surgical management as an only treatment option is contraindicated when the treatment goal - before any other goal - is the establishment of a measurable reduction in the disease. SMART reduces the disease while also addressing the problem with leaving open cavitation.
- 4) A non-traumatic technique like SMART is needed that simultaneously treats and controls *the disease itself* in a minimally invasive way that provides time for *the symptoms of the disease* to be treated when time, money and behavior allow in a way that prevents the disease from progressing.
- 5) The caries pathogen is not a bacterial species but is rather a dental plaque biofilm that is pH mediated and gene regulated (2010, Takahashi). Caries is completely dependent on the management of that oral biofilm and each individual's biofilm is as unique as a fingerprint (Dr. Bill Costerton, 2010). SF and G, the materials/medicines used in SMART are anti-microbial and as such appear to have a positive, however, still to be measured, effect on oral biofilm.
- 6) It is difficult to alter patient habits concerning diet and home care but it is easy to affect anti-microbial intervention via the application of SDF and GI, both of which slow down bacterial destruction.
- 7) Applying antimicrobial liquids (like silver nitrate or SF) alone do not address cavitation. Open, arrested cavitation will still trap substrate (food) and can lead to food impaction between teeth, a situation often miss-interpreted by patients as a toothache when, in reality, it's a gum ache. SMART addresses cavitation in a way that restores tooth function to help prevent food impaction into areas where decay has broken through between teeth.
- 8) In many populations around the world and including in America, an affordable, safe, non-traumatic technique that is free from the use of needles and drills is needed for arresting caries in as many teeth as possible in one appointment while simultaneously desensitizing pain and filling cavitation in a way that helps to prevent future caries lesions throughout the mouth. SMART does exactly that.
- 9) SF antibiotic liquid interacts well with GI to slow down the caries bacterial process and together as SMART they can both help to re-mineralize decayed tooth structure.
- 10) General anesthesia used to treat children for dental needs does not equal 100% safety. Sedation with an anesthesiologist offers a false sense of security. Dental disease in youngsters does not justify the risk of anesthesia and/or aggressive surgical treatment approaches. So, why not focus on ways like SDF applications and SMART to AVOID sedation and general anesthesia?