WHAT’S NEW IN DENTISTRY TODAY?
SDF
Silver Diamine Fluoride

What seems new is really old treatment updated.
We still have to brush and floss.
We still have to reduce sugar and bad dental foods.
We still do not have any Dental Magic Wands.
So........... Let’s take a peek!
MY BACKGROUND IN DENTISTRY

- I spent 40 years practicing general dentistry in a private practice setting.
- I also spent those 40 years treating children insured by Medicaid.
- I had a leadership role in the New Hampshire Dental Society for 16 years and 4 years as a delegate to the Annual American Dental Association’s House of Delegates.
- Presently I am partnered with the Vermont Office of Oral Health to teach and promote the use of Silver Diamine Fluoride (SDF) to dental professionals and provide lectures to the general public.
DISCLAIMER

- Research on SDF (Silver Diamine Fluoride) and SMART (Silver Modified Atraumatic Restorative Technique) is ongoing.
- This information is current up to approximately May of 2018.

DISCLOSURE

- I have no financial connection to anyone or any business entity related to this subject and I am not an expert. I’m just a cranky old dentist.
Teeth are the most survivable biologic substance on Earth. SO WHY ALL THIS DECAY IN THE MOUTH??

Dental caries is the most common and pervasive disease known to humanity. It is does not discriminate!

Dental decay is on the increase. All data collected over the last 40 plus years shows this to be true.

I can speak to it anecdotally from my 40 years of practice. Yes it is increasing and more pervasive.
WHAT IS DECAY?

- Decay is caused by a bacterial infection consisting of more than one type of bacterium.
- It involves a complex “BIOFILM” comprised of bacteria, saliva components, the acidic byproducts of the bacteria’s metabolism, and other minor factors/ingredients.
- Despite significant effort in the 1970s, and because of this slowly emerging complex picture of a BIOFILM, it was not possible to create a “DECAY VACCINE.”
- Dental decay is a SYMPTOM, not a disease! This may seem subtle but is very important to understand.
- The amount of decay in someone’s mouth gives us an idea of the severity of this BIOFILM disease.
MORE FACTS ABOUT DECAY

- As one would expect, there are high-risk population groups.
  - Immigrant populations
  - Minority populations
  - People living in poverty
  - People with disabilities

Eighty percent of all decay is found in only twenty percent of the population. 80% in 20%
The infection that causes decay is a communicable disease.

Caregivers can infect their babies and toddlers with the bacteria and start the decay process.

Mothers “INOCULATE” their children with bacteria.

The “WINDOW OF VULNERABILITY” is 19 to 31 months.

Diet and junk food (yes, even those sports drinks—total crap!) are a huge factor today.

A ten-fold increase in high fructose corn syrup in processed food today, ergo, lots more decay!
OKAY...WHAT’S NEW, WHAT’S OLD

Let’s think this way, “MEDICALLY MANAGING DECAY.”

The present and accepted treatment modality today for decay is SURGICAL REMOVAL OF THE SYMPTOM.

In other words, “drilling out the cavity.” After you get a shot of novocaine.

Remember, drilling out the cavity does NOT cure the disease.

Today, at best, all we can do is manage the disease as we have in the past.

But maybe we can go one step farther and go after the bacteria causing the decay.
“SDF’……TO THE RESCUE!!!!

- What is this SDF stuff? SDF is an acronym for SILVER DIAMINE FLUORIDE.
- Silver Diamine Fluoride (SDF) is a combination of silver nitrate and fluoride.
- Silver nitrate was the original treatment for decay prior to the 1920s.
- The “Dental Drill” was invented in the 1920s and silver nitrate was used to lesser degree.
- In the 1950s we invented the “High Speed Drill” and silver nitrate faded away in the USA.
DOES THIS MEAN NO MORE SHOTS OR DRILLING?

- No. Using SDF arrests decay by “salting” it with silver phosphate and fluoride. It also continues to prevent further decay from spreading.
- BUT we must remember that the decay has damaged the tooth structure and this needs to be repaired.
- SDF does not “restore the tooth back to original form and function.”
- Realistically using SDF with certain types of filling materials will allow the tooth to function adequately until a permanent filling is placed.
SDF ORIGIN

- In the 1960s/1970s, Dr. Mizuho Nishino, earned her PhD in Chemistry in Japan. Her focus was optimal action of silver nitrate plus fluoride on dental decay.

- Thus the birth of SDF.

- It has been used in more than 6 developed countries for over 40 years to treat and arrest decay.

- A conservative estimate of more than 6 million teeth have been treated WITH NO REPORTED ADVERSE EFFECTS.
SDF APPLICATION

- You do not need any novocaine and you do not need to drill the teeth.
- A major secondary advantage to SDF: it will desensitize the teeth extremely well.
- My experience: it allows care extended to those patients who were not tolerant of conventional treatment modalities.
WHERE CAN THIS BE DONE?

- Any dental clinic setting and, also, clinic settings with limited dental equipment. If desired, this can be done by M.D.s and their staff in their medical offices.

- I learned about SDF from a pediatric dentist who practiced “Jungle Dentistry” in Third World Countries.

- When there’s an SDF will, there is an SDF way.
SILVER: A BUG-KILLING AGENT

- Silver is used in many areas of medicine to prevent infection and protect hospital workers.
- It can be found impregnated in O.R. surgical gowns and masks.
- It is used by obstetricians to disinfect the umbilical cord on newborns.
- Still used, by law in most states, as a preventive for neonatal conjunctivitis in newborns.
- SDF: think of it as an “ANTIBIOTIC LIQUID.”
SDF-RELATED DENTAL PROCEDURES

- Please understand this isn’t quite as simple as it appears. This is why formal training is imperative to optimize the decay-arresting abilities of SDF.

- We combine SDF with other dental materials to enhance its effect.

- It can be covered with fluoride varnish. This helps to hold the SDF on the decayed area.

- We can also combine it with a filling material called “GLASS IONOMER.” This is a 1-step procedure to really optimize the SDF. The GLASS IONOMER also acts as a fluoride reservoir to continue to prevent new decay.

- When we combine it with GLASS IONOMER we call it a “SMART.” This means “Silver Modified Atraumatic Restorative Technique. Yea, really a mouthful!”
ARE THERE ANY NEGATIVE SIDE EFFECTS?

- There are no harmful side effects.
- If you are allergic to silver then it cannot be used.
- The decay will take on a permanent black, charcoal-like, stain. This is a reservoir of silver phosphate and fluoride that is continually released to prevent recurring decay.
- ONLY DECAY IS STAINED. NOT ANY OTHER PARTS OF THE TOOTH!
- There can be a temporary gray stain on surrounding gum tissue for 2–14 days. It always goes away.
Despite the black stain on the cavity, we found almost 100% acceptance for treating children and older adults.

My experience was that after clearly explaining and illustrating the harmless black stain effect, patients were very happy to have this painless and cost-effective choice for treating their children, older parents, and even themselves.

I had only one case of this treatment choice being rejected because of aesthetic outcome. So after treating her 4 year old daughter conventionally (3 novocaine shots and drilling) the mother stated she wished she hadn’t exposed her daughter to the physical and psychological trauma and stuck with the SDF option. I rest my case.
SCRIPTING AND ROLE PLAYING: WHY?

- Unknown and brand new ideas need easily understood explanations. Think “8th grade level.”
- Close the knowledge gap, remove myths and inaccuracies fomented by non-scientific sources.
- Bolster your credibility.
- Increase patient confidence.
- Increase likelihood of patient acceptance.
- Reduce post operative misunderstandings.
**THIS MEANS EVERYBODY!!!!!!**

- Everyone on the staff must be able to answer questions about SDF.
- It is very important that you DO NOT overlook the front desk.
- When people call to ask questions, the “Front Line” is the front desk.
- Everyone should be completely familiar with Informed Consent form and basic SDF Facts.
- Get a “SDF Fact Sheet.” with 8th grade reading level and understanding. Pictures speak a 1,000 words!
- Have script cards at front desk.
SO, THAT’S THE SDF STORY

- Most important about the SDF story is that it must be thoroughly understood.
- This understanding includes all of my profession, dentistry, but also the medical profession, and the general population.
- We have the potential to make a major impact on the dental decay epidemic.
- Education and understanding is the key.
Billing Codes and Informed Consent
LET'S TALK BILLING CODES

**Code: D1354**: Pays $15 per tooth, can apply 2 times per life of tooth. Must wait 120 days before second application.

**Code: D2940**: “Protective restoration.” Pays $60. This is the SMART part. Use Glass Ionomer. Most research indicates use of Fuji Nine or Fuji Forte. I always used Fuji one. You want to talk Fluoride amounts?

**Code: D1352 (TWO)**: Pays $70 Preventive resin restoration. Only for moderate to high caries risk permanent teeth.

**Code: D1206**: Pays $18 Fluoride varnish for moderate to high risk patients. More frequent than 6 months.

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- **D2941** - Interim therapeutic restoration (primary dentition); SDF/G.I. with intent to place a future restoration (not covered by VT Medicaid).

- **D3120** - Indirect pulp cap. SDF first then G.I. on top. Deep caries situation.

- **D1351** - Sealant. Try this new idea. Use SDF first, then use G.I. sealant material.
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BEST RESOURCE
www.mmclibrary.com

- http://www.mmclibrary.com/ (Medical management of Caries-MMC)
- Go to “HOME” PAGE.
- Go to “ARTICLES”.
- Pick from “General Microbiology”, “Oral Microbiology”, “Science”. Check others as well.
- Please look at other sections of “Articles” and the whole website.
- This is your best resource for all things SDF.
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Contact information; Q&A time

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- IT’S MILLER TIME!!!
THANK YOU!