

# Treatment Option Menu:

## No Treatment

One option when an individual has tooth decay is always **No Treatment**

Some factors to consider when choosing this option:

- Age of patient
- Time until tooth is lost
- Extent of decay
- Presence or absence of symptoms (pain/infection)
- Willingness to maintain excellent oral hygiene and adopt a diet low in sugar

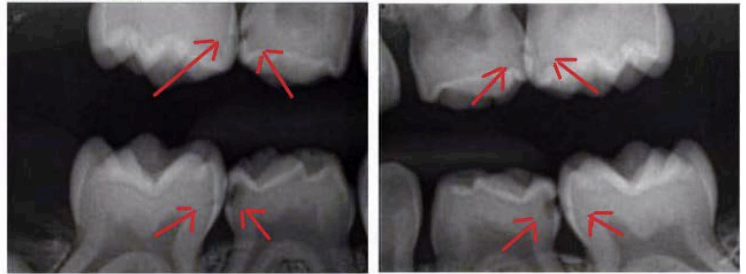
### Pros:

- Inexpensive in the **short term**
- May be able to avoid/delay treatment **IF** the cavities are small, close to being lost, and the child maintains good oral hygiene

### Cons:

- Cavities will typically continue to enlarge
- Treatment may become more difficult and expensive
- Child may experience pain and/or infection
- Space is often lost in the back of the mouth as the teeth migrate forward into the space and increases the need for orthodontics (braces)

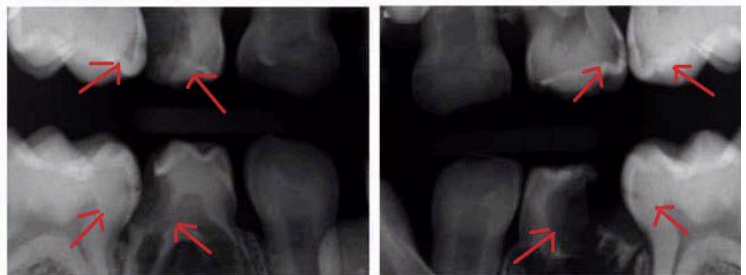
April, 2016



May, 2017

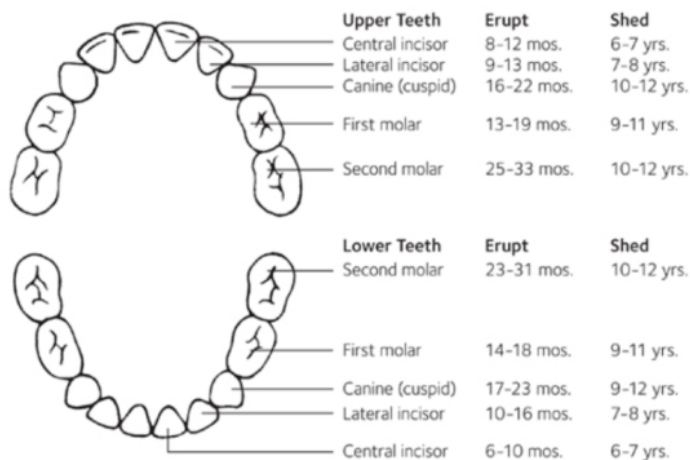


August, 2018

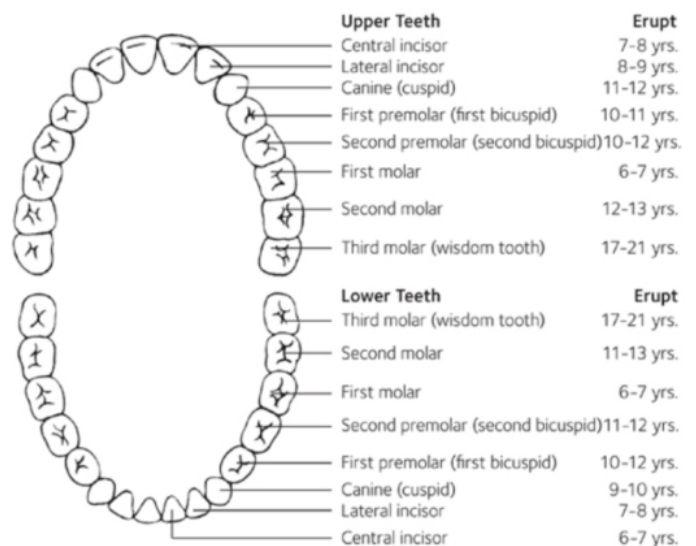


Progression of tooth decay (arrows)

## Baby Teeth Eruption Chart



## Permanent Teeth Eruption Chart



## Nitrous Oxide/Oxygen (N<sub>2</sub>O) – also known as “Laughing Gas”

### Pros:

- Relatively inexpensive
- Very safe with a long history of use in dentistry
- **For patients who are willing and able to breathe the gas through their nose:**
  - Reduces or eliminates anxiety
  - Reduces patient movement
  - Enhances patient cooperation
  - Helps reduce pain
  - Increases tolerance for longer appointments
  - Reduces the gag reflex
  - Helps block the dental odors
  - Helps block the patient’s vision of what is going into their mouth

### Cons:

- Only effective if the patient is calm enough to breathe through the nose and isn't crying
- Small chance of nausea and vomiting
- Headache and/or slight disorientation may occur following treatment if 100% oxygen is not administered for 3-5 minutes



## Papoose Board

A papoose board is a protective device used to immobilize patients to protect them and the dental team from injury. It is utilized when the patient is unable to cooperate for dental treatment.

### Pros:

- Inexpensive
- May help avoid sedation
- May allow emergency treatment to be completed



### Cons:

- Potential for psychological trauma and long-lasting fear of dental procedures
- Potential risk of injury to the patient and the patient’s mouth (lips, cheeks, tongue, etc.)
- Possible poor quality of dental treatment which may require retreating in the future

## Silver Diamine Fluoride (SDF)

SDF is a clinically applied treatment that controls active dental caries and aids in preventing further progression of the disease. SDF has a dual mechanism of action resulting from the combination of its ingredients. The silver component acts as an anti-microbial agent killing bacteria and preventing the formation of new biofilm, while the fluoride acts to prevent further demineralization of tooth structure.

### Pros:

- Inexpensive
- Quick, easy, painless
- Helps relieve sensitivity
- May help avoid sedation
- May help delay/avoid dental treatment for those who cannot cooperate for treatment, are not candidates for sedation, and special needs patients



### Cons:

- The silver in the SDF permanently stains cavities black
- Cannot be used to treat teeth with large cavities that have extensive pulp (nerve) involvement or infection
- Does not restore teeth back to function and the teeth may continue to break down
- Difficult to apply between teeth if the tooth hasn't broken down
- SDF is a non-invasive treatment for cavities ... not a cure

## SMART Treatment

Silver Modified Atraumatic Restorative Treatment (SMART) is a minimally invasive treatment option for cavities treated with Silver Diamine Fluoride (SDF) by placing Glass Ionomer Cement (GIC) over the treated tooth

### Pros:

- Minimally invasive (no shots and minimal to no drilling)
- Relatively aesthetic
- Durable

### Cons:

- Glass Ionomer Cement may not mask the entire black scar from the Silver Diamine Fluoride
- Large cavities may require a full coverage restoration (crown)
- Difficult to apply between teeth without drilling if the tooth hasn't broken down
- Requires some cooperation by the patient
- SMART is a non-invasive treatment for cavities ... not a cure



## SDF + Hall Crown

A Hall Crown is a technique of applying a crown (stainless steel on the back teeth and either a resin faced stainless steel crown or a resin crown on the front teeth) on a baby tooth to seal the decay (cavity) and help stop it from progressing. The tooth does not need to be made numb, does not need to be drilled, and the process only takes a few minutes. This technique is often done in conjunction with Silver Diamine Fluoride (SDF).

### Pros:

- Minimally invasive (no shots and minimal to no drilling)
- May help avoid sedation
- Helps prevent pain and/or infection
- Durable

### Cons:

- Space is needed between the teeth to place the crown
- Can only be utilized on teeth that do not have extensive decay into the pulp (nerve) involvement and have no infection
- May require restraint (papoose board) if the patient is uncooperative



# The Hall Technique

Sealing tooth decay with stainless steel crowns



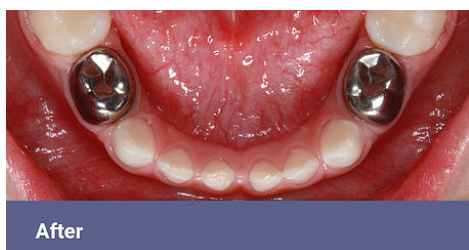
## What is a stainless steel crown?

Stainless steel crowns (**SSC**) are metal caps used to restore badly decayed baby (primary) teeth. SSC's are:

- Are the same size and shape as a tooth
- Typically last the life of the tooth
- Are easy to clean
- Contain only safe metals
- Cover and protect the entire tooth

## What is the Hall Technique?

The Hall Technique is a process of applying a SSC on a baby tooth. The Hall Technique seals decay and helps stop it from progressing. The tooth does not need to be made numb, does not need to be drilled, and the process only takes a few minutes.



## Will crowning a tooth stop the decay?

A Hall Technique crown covers and protects all of the tooth surfaces. The crown seals any tooth decay and helps stop it from progressing.

If the body is unable to fight off the bacteria inside the tooth, there is still a chance that an infection can occur. It is recommended that **Silver Diamine Fluoride** be placed prior to the placement of the SSC to help kill the bacteria.

## How is it applied?

Separators (elastic bands) are placed about 1 week prior to the appointment to help separate the teeth. A SSC is sized and fitted on the tooth and child helps to finish cementing the SSC by biting down on it.



## What happens afterwards?

After a Hall Technique crown is placed, your child may find that biting feels different. This feeling will return to normal in a few days. Their gums may also feel tight at first but this will go away quickly.

Your child's gum may look blue around the tooth with the SSC. This is just the color of the metal sitting under the gum. It is important that your child still brushes their teeth.

Avoid giving your child sticky foods as they may pull the crown off the tooth.

## How can I help my child take better of their teeth?

Make sure your child brushes their teeth twice a day with a fluoride toothpaste, flosses at night, and has regular dental check-ups.

Try to have your child minimize snacking between meals, cut down on the amount of sugar in their diet, and drink more water and milk instead of juice and soda.

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- Virtually free of the needle and minimizes the use of the drill
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- Able to get you and your children back to your day sooner
- No numbness = no lip, cheek, tongue biting
- Less need for sedation



## Oral Sedation

With oral conscious sedation, the patient is given medication by mouth which can cause amnesia and sleep and make it easier for the child to have treatment completed. Unfortunately, the medication has to go through the stomach then through the liver before reaching the bloodstream and there is no guarantee that patient will go to sleep. However, 2 out of 3 patients have short term memory loss even if they have a difficult experience. Because the patient may be awake and struggling through treatment, protective stabilization (papoose board) is used immobilize the patient to help prevent injury.

### Pros:

- Allows for improved quality of treatment over physical restraint
- Provides short-term amnesia (memory loss) in 2 out of 3 patients
- Increases the chance that the patient will sleep for some or all of the procedure
- Lower cost per visit than IV sedation

### Cons:

- There is a chance the patient will remember what has been done and have long lasting psychological trauma as a result
- Local anesthesia is required which may result in the patient biting his/her lip, cheek or tongue
- Possibly decreased quality of restorative treatment depending upon the success of the sedation
- Usually unable to obtain x-rays because the patient is still moving which may result in incomplete diagnosis
- May require multiple oral sedations depending upon the extent of treatment required

## IV Sedation

While the child is being held by the parent, the anesthesiologist gives the patient a small injection in the upper arm to help them fall asleep so an IV can be started. After all of the monitoring devices are attached, the patient is put to sleep, any necessary x-rays are taken, and the restorative treatment is completed. Once the patient is awake enough that the monitors can be removed, he/she is brought out to recover with the family.

### Pros:

- The patient won't remember anything between falling asleep and waking up with the family
- All of the treatment will be completed while the patient is asleep
- Local anesthesia is not required (except when teeth are being removed) because the patient will receive pain medication through the IV
- X-rays can be obtained ensuring that all needed treatment will be completed while the patient is asleep
- The quality of the restorative treatment is often better than it would be with oral sedation where the patients may be moving and struggling

### Cons:

- The cost of IV Sedation is more than Oral Sedation because a trained anesthesiologist is there monitoring the child the entire appointment just like they would do in the hospital or surgery center



# Gary D. Sabbadini, D.D.S., A.P.C.

## Dentistry for Children & Young Adults

*Diplomate, American Board of Pediatric Dentistry*

*Fellow, American Academy of Pediatric Dentistry*

*Fellow, International College of Dentists*

*Fellow, Pierre Fauchard Academy*

### IV Sedation in the Dental Office with our dental anesthesiologist, Dr. Tom Lenhart

<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Surgeries are scheduled quickly by our office</li> <li>• Surgical time with IV Sedation in the dental office is much less than in the operating room</li> <li>• Any treatment changes/additions are communicated to the parent during surgery and the treatment options and financial arrangements are worked out = <b>no surprise dental charges</b></li> <li>• No pre-operative physical is needed prior to surgery (Done by Dr. Lenhart)</li> <li>• Parents are able to be with their child before and after surgery</li> <li>• Parents will receive regular status updates during their child's surgery</li> <li>• Dental appliances are able to be fabricated and cemented before the child wakes up (no second visit required)</li> <li>• The child will only have post-operative nausea/vomiting about 20% of the time</li> <li>• The child will have a minimal sore throat after surgery</li> <li>• No insurance involvement</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Out of pocket anesthesia cost can be higher</li> <li>• Any anesthesia/medical insurance billing is coordinated by the family</li> </ul>

### Surgery Center/Hospital Operating Room

<b>Advantages</b>	Medical insurance <u>may</u> cover some or all of the anesthesia cost
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Most dentists charge an additional fee to go to the surgery center/operating room (<b>Minimum of \$500 +</b>)</li> <li>• It may take several months to schedule surgery based on the availability of the surgery center/hospital</li> <li>• <b>Any changes/additions to the dental treatment will be added to the dental bill after surgery is completed</b> and without the parent's knowledge because there is no means of communicating with the parent during surgery = <b>increased dental bill</b></li> <li>• The dental surgery time or day can be changed or moved because the space is needed by a medical surgery (sometimes on the day of the surgery)</li> <li>• The child spends much more time before and after surgery in the surgery center/hospital</li> <li>• A pre-operative physical is generally required for the child</li> <li>• Parents may not be able to be with their child before and after surgery</li> <li>• Parents will not be able to communicate with the dentist or anesthesiologist to find out the progress of the surgery</li> <li>• Dental appliances requiring fabrication (space maintainers) will need to be cemented at a separate appointment</li> <li>• The child will have post-operative nausea/vomiting almost 100% of the time</li> <li>• The child will have a very sore throat after surgery</li> </ul>

**If you have any questions, please let us know. We are happy to help.**

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# SDF TREATMENT

Silver Diamine Fluoride (SDF) is a non-invasive treatment option for cavities, using a topical medicine that is painted on the tooth instead of a more invasive surgical (drill and fill) approach

## SDF Treated Incisors

Before



After



## SDF Treated Molar

Before



After



### Pros

- Quick, easy, painless
- Relieves sensitivity
- Remineralizes your natural tooth structure
- Prevents biofilm adhesion
- Avoid or delay more invasive restorations
- Arrests 80% of cavities when applied twice yearly

### Cons

- Permanently stains cavities black
- Cavities (holes) that trap food may still require a restoration
- Not an option for deep cavities
- 20% of cavities continue to grow
- SDF is a treatment for cavities, not a cure

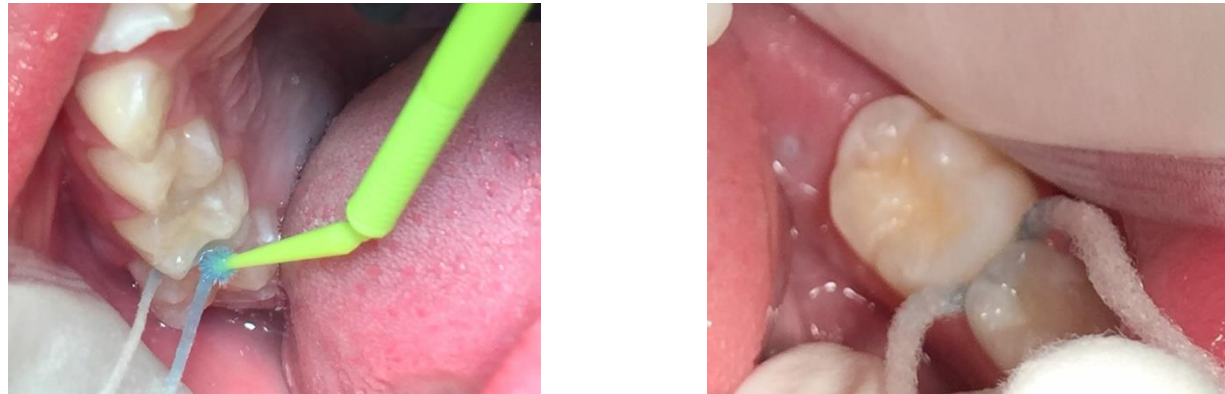
\* Proper diet and oral hygiene, including daily flossing, are critical for long-term success



# SDF + Floss Treatment

Silver Diamine Fluoride (SDF) is a topical antimicrobial and remineralizing non-invasive treatment option for interproximal lesions (decay between the teeth)

## SDF Application to Interproximal Surfaces with Spongy Floss



## Clinical Appearance of SDF Treated Small Interproximal Lesions



## Clinical Appearance of SDF Treated Extensive Interproximal Lesions



### Pros

- Quick, easy, and painless
- Non-invasive
- Remineralizes your natural tooth structure
- Prevents biofilm adhesion
- Arrests 80% of lesions when applied twice yearly
- Avoid or delay more invasive restorations

### Cons

- Permanently stains decay black
- 20% of lesions fail to arrest with SDF treatment alone
- Not an option for deep cavities
- Lesions between molars are the most likely to grow and may require a restoration

\* Proper diet and oral hygiene, including daily flossing, are critical for long-term success

# SMART Treatment

Silver Modified Atraumatic Restorative Treatment (SMART) is a minimally invasive treatment option for cavities treated by Silver Diamine Fluoride (SDF) using Glass Ionomer Cement (GIC)

## SMART Treated Incisors

Before



After



## SMART Treated Molar

Before



After



### Pros

- Minimally invasive
- Aesthetic
- Durable
- Biocompatible

### Cons

- GIC alone may not mask the entire SDF black scar
- Larger lesions may require a full coverage restoration
- SMART is a treatment for cavities, not a cure

\* Proper diet and oral hygiene, including daily flossing, are critical for long-term success

## Silver Diamine Fluoride (SDF) Treatment



16 month old patient has SDF placed which arrested the decay



Patient has teeth restored 4 months later when old enough  
to be treated under IV sedation