

## Silver Diamine Fluoride (38% SDF)

Silver Diamine Fluoride (SDF) 38% has pH of 10 and is 25% silver, 8% ammonia, 5% fluoride, 62% water with a fluoride concentration of 44,800 parts per million (fluoride varnish is 22,600 ppm, OTC toothpaste is 1,100 ppm). SDF is a clear antimicrobial liquid that can be used to stop or slow the progression of tooth decay. SDF can also be used to treat tooth sensitivity. Studies show that SDF is most effective with repeated applications when being used to arrest decay. Initially we will treat each cavity with SDF twice in the first month, and then every 6 months to 1 year thereafter, as needed.

SDF **DOES NOT** restore teeth to their normal function nor to their original esthetics. In most cases it is used as a temporary fix. Most often we use it to buy time, while we wait for your kiddo to grow old enough to allow us to complete dentistry safely. Future fillings or crowns will be needed to restore teeth and to mask discoloration.



Before and After SDF Application

## Risks related to SDF:

- SDF will stain decay and other compromised enamel black permanently. Healthy tooth structure will
  not stain. Dark black discoloration, along with surface hardness, is an indication that the decay has arrested.
  Stained tooth structure can be covered down the road with a filling or crown when patient cooperation
  allows.
- SDF that comes in contact with skin/gums will cause temporary brownish discoloration that lasts approximately 1-3 weeks.
- 3. SDF that comes in contact with clothing will permanently discolor that spot black.
- 4. SDF placed on teeth with restorations (fillings) can discolor the restoration.
- 5. SDF placed on teeth with demineralized lesions (white enamel) can discolor these lesions.
- 6. If harmal habits are not changed, new cavities can form around the SDF-treated portions of tooth.



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## The Procedure Of Treating a Tooth with SDF:

- 1. Dry the affected area
- 2. Scrub a small amount of SDF into the affected area
- 3. Allow SDF to dry 1 minute
- 4. Cover SDF with fluoride varnish



SDF effectiveness increases when the cavity/lesion is in direct contact with the SDF applicator brush. Effectiveness is also increased if the SDF is allowed to remain in contact with the decay for at least 60 seconds.

SDF effectiveness in arresting dental caries is up to 90% with one-time application, and according to research conducted by AAPD almost 70% after 2 years with once or twice application. Anterior teeth typically have higher rates of arrest than posterior teeth.



Follow-up evaluation 2-4 weeks after the initial application is recommended to determine if the caries have been arrested. If not, reapplication of SDF might be indicated.

When caries are not restored after SDF therapy, biannual reapplication shows increased caries arrest rate versus a single application.

**Alternatives**: No treatment (Risks of no treatment include continued deterioration of tooth structure, possible pain, infection, and early loss of teeth). Depending on the extent and progression of decay, placement of a filling, crown, or extraction of the affected tooth may be necessary. This may require advanced treatment modalities such as general anesthesia.