

Key Facts About Fluorosis

1. Mild forms of fluorosis are likely to be over-reported.

- “Very mild fluorosis is often misdiagnosed and thus may be over reported because there are other conditions that appear similar.”¹
- “. . . it is possible that the increase in reported fluorosis by dental professionals is partly due to confusion in the differential diagnosis of very mild and mild fluorosis versus early caries such as white spot lesions, or white spots resulting from use of amoxicillin.”²
- Researchers report “a strong possibility that other Developmental Defects of Enamel (DDE) rather than excess intake of fluoride are being misdiagnosed as fluorosis.” In fact, a deeper investigation in one country revealed that 27% of what was initially labeled as “fluorosis” was actually enamel defects (DDE).³

2. Experts agree that fluoride products—not fluoridated water—are the primary source of fluorosis.

- Two-thirds of the fluorosis identified in fluoridated communities could be explained by children’s having consumed fluoride toothpaste during the first year of life.⁴
- A Brazilian study showed there were only two factors that were statistically significant as causes of fluorosis:
 1. young children who ate toothpaste, and
 2. the amount of fluoride applied to a toothbrush.⁵
- A research review showed that when it comes to dental fluorosis, toothpaste is “usually the main contributor, regardless of the presence of [fluoride] in the water supply.”⁶
- Critics often point to higher fluorosis rates among African Americans than among whites. Research shows that fluoride toothpaste exposure is a likely reason for this disparity:
 - A study in Indianapolis found that 95% of African American children used a full strip of paste covering the toothbrush, while only 55% of white children used a similar amount.
 - In addition, this study revealed that black kids were more than twice as likely to use a fluoride rinse.⁷

Notes

¹ Carey, CM. Focus on fluorides: Update on the use of fluoride for the prevention of dental caries. *J Evid Based Dent Pract* 2014; 14 Suppl: 95-102.

² Ibid.

³ Sabokseir A, Golkari A, Sheiham A. Distinguishing between enamel fluorosis and other enamel defects in permanent teeth of children. *Peer J* 2016; 4:e1745. doi: 10.7717/peerj.1745.

⁴ Pendrys, DG. Risk of enamel fluorosis in nonfluoridated and optimally fluoridated populations: considerations for the dental professional. *J Amer Dent Assn* 2000; 131: 746-55.

⁵ Celeste, RK, Luz, PB. Independent and Additive Effects of Different Sources of Fluoride and Dental Fluorosis. *Pediatr Dent* 2016; 38(3): 233-8.

⁶ Ibid.

⁷ Martinez-Mier, EA, Soto-Rojas, AE. Differences in exposure and biological markers of fluoride among White and African American children. *J Pub Health Dent* 2010; 70: 234-40.