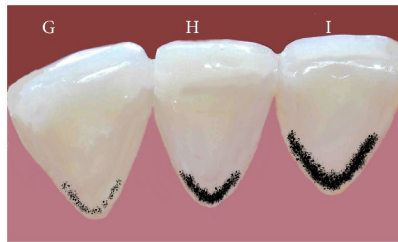
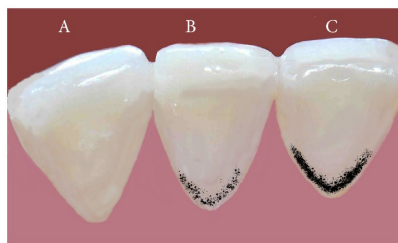


Black Tooth Stain (Black Dental Plaque)

Black tooth stain (BS) is a characteristic extrinsic discoloration and can appear as a 1-mm-wide complete or incomplete black line on the teeth near the gum line. BS is a form of dental plaque (other colors of dental plaque include white, yellow, brown, orange and green). BS arises from the interaction in the saliva or gingival fluid between hydrogen sulfide (produced by bacteria in the periodontal area) and iron. They are firmly attached to the tooth and are difficult to remove with



conventional toothbrush and toothpaste. Once the dentist is able to clean them off with some scaling, dedicated and consistent oral hygiene can reduce the rate at which these stains reappear, but will not likely prevent them from forming again.

Published studies show prevalence from 2% to 18%, equally affecting females and males. This pigmentation is a relatively common phenomenon in children, where it may occur at any age, even as early as 2 years old.

The microflora found in these black stains has a lower cavity-causing tendency than non-discolored dental plaque. In patients with BS, their saliva tends to have a higher calcium concentration and higher buffering capacity. Factors such as dietary habits and iron supplementation are believed to contribute to the formation of the black stain.

Although its development is not fully understood, early published literature suggests that BS is a black insoluble ferric compound, formed by the interaction between hydrogen sulfide produced by bacteria and iron. A recent study published confirms a higher level of iron in BS when compared to standard plaque.

BS without cavitation of the tooth surface pose little threat to the health of the tooth, as they do not necessarily lead to tooth cavitation.

Currently, the main therapeutic approach is frequent dental cleanings, however if the stains occur in pitted or cavitated areas of the teeth they might not be completely removable with cleaning instruments. BS tends to reform again despite good personal oral care, but the quantity and size of these stains may be less when the bacterial load in the saliva is better controlled.