

# Characteristics and Therapy of Tooth Decay

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## Commentary

**Received:** 29-May-2023, Manuscript No. JDS-23-100536; **Editor assigned:** 31-May-2023, Pre QC No. JDS-23-100536 (PQ); **Reviewed:** 14-Jun-2023, QC No. JDS-23-100536; **Revised:** 21-Jun-2023, Manuscript No. JDS-23-100536 (R); **Published:** 30-Jun-2023, DOI:10.4172/2320-7949.11.2.004

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**Citation:** Wang Y. Characteristics and Therapy of Tooth Decay. RRJ Dent Sci. 2023;11:004.

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## DESCRIPTION

The disintegration of teeth caused by the acids produced by bacteria is known as tooth decay, commonly referred to as cavities or caries. The cavities can be any colour, ranging from yellow to black. Symptoms could include discomfort and trouble eating. Complications may include swelling of the gums surrounding the tooth, tooth loss, and infection or the development of an abscess. Cavities are brought on by bacterial acid that dissolves the enamel, dentin, and cementum, the hard tissues of the teeth. The bacteria that live on the surface of the teeth create acid when they digest food particles or sugar. A diet heavy in simple sugars is a risk factor since simple sugars in food are these bacteria's main source of energy. Caries develops when mineral breakdown exceeds buildup from sources like saliva. Conditions that cause less saliva, such as diabetes mellitus, Sjögren syndrome, and several medicines, are risk factors. Antihistamines and antidepressants are two drugs that reduce salivation. Other factors that contribute to dental caries include lack of access to dental care, poor oral hygiene, and receding gums that expose the teeth's roots. Dental caries can be avoided by brushing your teeth frequently, eating a low-sugar diet, and taking tiny doses of fluoride. It is advised that one brush their teeth twice a day and floss once a day. Fluoride can be obtained from a variety of sources, including toothpaste, salt, and water. By reducing the quantity of specific germs she might pass on to her children, treating a mother's dental caries may reduce the danger for her children. Screening might lead to earlier identification. Depending on the degree of damage, different treatments can be employed to bring the tooth back to full functionality or the tooth may be extracted. There is no known way to regenerate teeth back.

Dental explorers, particularly sharp-ended explorers, have been advised against using to identify cavities by several dental researchers. The pressure from the dental explorer may result in a cavity in circumstances where a small region of the tooth has started demineralizing but has not yet cavitated. Since the carious process can be stopped before a cavity forms, fluoride treatment may be used to stop caries and remineralize the tooth surface. A restoration will be required if there is a cavity to restore the missing tooth structure. Pit and fissure caries can occasionally be difficult to identify. The outer surface may remineralize after bacteria have penetrated the enamel to the dentin, especially if fluoride is present. On X-ray radiographs, these caries, sometimes called "hidden caries," will still be apparent, but a visual inspection of the tooth will reveal enamel that is unbroken or hardly punctured. Dental fluorosis, tooth developmental abnormalities such as hypo mineralization and hypoplasia, and dental caries are among the differential diagnoses for tooth decay. Early caries are characterised by demineralization of the tooth surface, which changes the optical characteristics of the tooth. A diagnostic tool for early carious lesions may be available thanks to technology using Laser Speckle Imaging (LSI) techniques.

In general, early treatment is more expedient and affordable than late treatment for significant deterioration. To manage pain during or after treatment or to ease anxiety during treatment, local anaesthetics, nitrous oxide ("laughing gas"), or other prescription drugs may be necessary in some circumstances. Large chunks of decaying material from a tooth are removed using a dental handpiece (or "drill"). When the decay in the dentin is close to the pulp, the dentist may occasionally use a spoon, a dental tool for delicately removing decay. Instead of the standard dental drill, some dentists use lasers to remove dental cavities. Air abrasion, which uses pressurised air to blast small abrasive particles at decay (akin to sand blasting), is another option to drilling or lasers for minor cavities. After the cavity is removed, the missing tooth structure needs some kind of dental repair to restore the tooth's function and appearance.