

Tooth Wear – Short and Stumpy!

Tooth wear has become more prevalent in our modern society. It is not only a problem for the elderly but can affect children, young adults, and older people. Besides looking noticeably shorter, worn teeth are sometimes discoloured and can be sensitive to cold, hot or sweet foods and drinks. As they do not show much, if any, of their teeth when they smile, people with worn teeth can give the impression that they have no teeth at all. Besides not being aesthetically pleasing, it may also be more difficult to pronounce certain sounds and eat with shortened teeth. Sometimes it's not just the length of a tooth that wears down, but the neck of the tooth near the gum can also wear, leaving sensitive notches and grooves.



Short front teeth with discolouration



Notching and grooving near the gum

For many people, tooth wear is not simply part and parcel of aging. Their teeth have worn down significantly more than what we can attribute to simple wear and tear through normal use. It was thought that overuse of the teeth occurred with the height of teeth being ground down from clenching and grinding as a result of stress. Repeated vigorous scrubbing of the teeth with a hard tooth brush every day would explain notches and grooves at the necks of teeth near the gum.

However, we now know that this overuse of the teeth is only part of the problem. Sound, healthy teeth will not wear down very easily by tooth-to-tooth clenching and grinding or with toothbrushes no matter how hard the bristles or how hard we brush. Enamel is the hardest substance in the body and not easily worn down. If the enamel is softened, however, then it is much more susceptible to being worn away. The other part of the tooth wear problem is acidity in the mouth which leads to softened enamel.

Normally our mouths function at a pH close to neutral and our teeth being hard, mineralised structures are stable in this non-acid environment. When we eat, the bacteria in our mouths use the food and produce acids as a by-product causing the pH in our mouths to become acidic. As a result, the very superficial layers of enamel begin to soften and dissolve. If we clench and grind and brush aggressively, the softened enamel now wears away quickly. Only fractions of a millimetre of enamel may be worn at any one time which can only be seen at a microscopic level, but a few fractions per day over many months or years will result in significant loss of tooth structure with shortening or grooving of the teeth.

The good news is that as easily as enamel can dissolve in acid, it can also reform on the tooth in a neutral or alkaline environment. This is done through saliva. Saliva contains calcium and phosphate and can replace lost mineral in the superficial layers of enamel. The main issue is that there is a limit on the amount of repair that can be done. Saliva can only fill in the porous parts of the enamel but cannot build up a worn down tooth back to normal proportions. Hence, it is very important to catch abnormal tooth wear at an early stage before the tooth structure is lost forever.

acidity (pH) of common drinks
the lower the pH, the stronger the acid.



The reason why tooth wear occurs in some people more than others comes down to the acidic environment of their mouths as well as the protective response of their saliva. Someone who consumes a lot of acidic food and drink, such as lemon and lime and other citrus fruits, cola and other fizzy drinks, sports drinks, wine and salad vinegarettes, expose their teeth to more acid and are at greater risk of tooth structure loss due to acid erosion. Someone who suffers from dry mouth and whose salivary glands don't produce enough saliva is more at risk of severe tooth wear as they have less protective tooth remineralisation from their saliva. Some people miss out on the repair from their saliva as they do not consume enough water while others are very active or consume too much caffeine, a known diuretic, and are dehydrated.

Talk to your dentist at Central Brisbane Dental if you are concerned about abnormal tooth wear. In the early stages of tooth wear, simple measures including changes to your diet, chewing sugar free gum to stimulate your saliva or the use of high mineral content oral hygiene products may be all that is needed to address and prevent the problem.