

Why we need to do CEREC inlays and onlays



GERBER DENTAL GROUP
BURLEIGH HEADS

Your back teeth are designed to do the 'chewing' and need to be strong. Because they are subjected to so much pressure from our daily lives, they have a greater risk of cracking or breaking if they are weakened by large fillings or root therapy. Large white fillings in the back teeth can now be done using a more durable computer designed ceramic material called a "CEREC". These restorations always require more equipment, skill and time compared to normal plastic or composite fillings, and while they are more expensive than plastic fillings, it is definitely worthwhile investing in a CEREC restoration because of its increased strength and its wide range of advantages over plastic composite fillings.

When a filling is very wide, or very deep, certain problems arise that may make it almost impossible to get a good quality result without taking an impression and constructing a restoration outside your mouth, on a replica model of your teeth such as the CEREC computer. There are two types of ceramic restorations – inlays and onlays. An 'inlay' fits inside the tooth and looks like a normal filling, but an 'onlay' covers part of the top of the tooth, the 'cusp', as well as filling the hole in the middle of the tooth. The reason we do these CEREC restorations is to avoid the problems associated with tooth colored plastic or composite fillings that are done directly in the mouth. These problems include:

Shrinkage Cracks

When the composite filling is cured (hardened with the blue light) it shrinks quite a lot. As it shrinks, it often pulls in on the tooth and cracks the remaining thin enamel, which is brittle, like glass. The crack can often be seen in the smile, half way up the side of the tooth.

Ceramic is computer designed and milled to fit your tooth. There is virtually no shrinkage stress with this method and therefore no cracking of your tooth structure due to shrinkage. When the filling is made on the replica model, shrinkage occurs there, without a problem, and the fine void is later filled with dental cement.

Food Traps

White plastic fillings don't compact down into the cavity like ceramic, so it is quite possible that a fine gap will be left between the teeth that catches food, especially fibrous foods like meat and celery. Food traps range in severity from mildly annoying, to ones causing considerable pain, by compressing food onto the gum. Unless you thoroughly and constantly clean them out, they can cause decay by

fuelling the acid producing bacteria and can also cause redness and bleeding in the gum. Infection in the gum can occur and permanent bone loss can result. The decay caused by food traps is in the worst possible place, usually very deep, where it is hard to fix properly and close to the nerve. This sort of decay often causes nerve death requiring root canal therapy. If you have an existing food trap, do not put up with it, get it fixed! Ceramic inlays and onlays are made in a way so that they are slightly wider against the adjacent teeth and therefore fit tighter, with no gap, stopping food getting caught, (you can still floss through the contact area). We simply can't make large white fillings in the mouth as tight as inlays or onlays with any sort of predictability.

Gum Disease

Restorations need to be sealed perfectly to the edge of the tooth cavity and should blend in without ledges or gaps. Fillings deep below the gum are often impossible to get a collar around and even if this is possible, the "wedging" process distorts the correct, smooth shape of the filling causing a plaque trap. Ledges and defects harbour food particles and plaque, which can and often do, cause gingivitis and gum disease resulting in the permanent loss of bone around the tooth. After a few years this problem can insidiously and painlessly lead to severe infection around the tooth (periodontal disease), abscess formation and/or loss of the tooth. Inlays and onlays are designed on a computer where the gum can be "cut away" to give perfect access for precision joint edges and smooth, natural, disease free contours.

Weaker Restoration with higher wear rate

Chipping and cracking of white plastic fillings is a significant problem. Composite filling material is much weaker than ceramic and we are unable to guarantee its' longevity. Composite fillings may need replacing every 3-5 years and each time this occurs, more tooth structure needs to be removed, weakening the tooth and increasing the risk of tooth cracking or root fracture. Ceramic restorations are much stronger, and if looked after properly, should have a life span of 20 years.

Inlays and onlays V's Crowns?

You may be wondering why we are doing an inlay or onlay instead of a crown. It depends on the individual tooth. If, in the judgement of your dentist there is enough strong tooth structure left worth preserving, an inlay is indicated. If there is a weak cusp (a cusp is one of the small 'mountain peaks' on top of your back teeth), it may need covering to avoid it splitting off later. In this case an onlay or a crown would be recommended. There's no point in doing an inlay today and have the cusp crack off the next month. If the tooth is very heavily filled or badly broken, a crown is indicated. There are different types of crowns – some are more prone to crack than others, some look more natural than others and some require less natural tooth to be removed.