

GC products for

MINIMUM INTERVENTION

Minimum Intervention or MI, is the modern 'medical' approach to the management of caries disease.

Its' principles are very simple:

- **Identify** and assess any potential caries risk factors at the earlier stage possible.
- **Prevent** caries from occurring by eliminating or minimising these risk factors.
- **Restore** the tooth in a conservative way when surgical repair is needed, by using bioactive materials which help to reform demineralised enamel and protect against further damage.

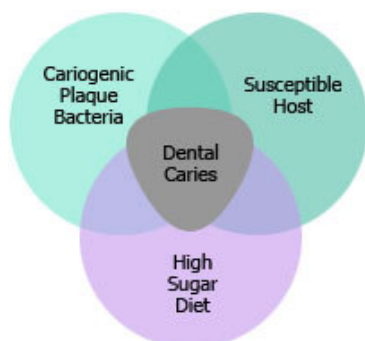


Completing the picture of Minimum Intervention

This approach is in contrast to the traditional surgical approach of drilling and filling that only treats the symptoms of the disease and not the cause and there is little or no emphasis on prevention.

To implement Minimum Intervention effectively, all three elements need to be integrated fully into the treatment plan. GC offers the complete picture of Minimum Intervention for caries management in the 21st century.

IDENTIFY *Assess the caries risk factors at the earliest stage*



Dental caries is an infectious disease which requires a susceptible host and the presence of cariogenic plaque bacteria that are sustained by a high sugar diet. This leads to an increase in acid in the mouth and then a demineralisation of tooth enamel and eventually caries.

This process of course is a natural one, but saliva is nature's primary protection system against it. Saliva reduces friction on enamel, flushes bacteria and food away from the teeth, helps neutralise the

acid and replenishes the ions which remineralise the enamel. It is when this system is inadequate, that caries can take hold.

This part of the approach is designed to gather information about your clinical history, lifestyle, dietary habits and oral hygiene practices. Oral examination by the dentist should identify any existing caries and teeth at risk as well as any infections etc. There are several diagnostic tests that make it possible to quickly check for cariogenic bacteria, they are;

- GC Saliva-check buffer
- GC Plaque Indicator kit
- GC Saliva-check Mutans

GC Saliva-Check Buffer

Usually your saliva protects the teeth from attack by neutralising the acids that are produced after eating and drinking. Saliva normally provides a protective barrier against sensitivity, erosion and decay. If your body fails to produce enough saliva, or it is of poor quality, the saliva may not be able to neutralise the acids in your mouth which can lead to severe dental problems. GC's Saliva Check Buffer kit is designed to monitor the levels and quality of your saliva.



Saliva-Check buffer checks:

- Flow rate, viscosity and consistency of non-stimulated saliva. This will provide information about how the patient's lifestyle may be consequently affecting their oral health.
- pH of the patient's resting saliva. This will determine whether acid levels may be dangerously high, hence possibly causing erosion or caries problems.
- Quantity of stimulated saliva a patient can produce. This enables identification of any major salivary gland diseases.
- Buffering capacity (quality) of stimulated saliva. This will establish the effectiveness of the saliva in neutralising acids in the mouth.

GC Plaque Indicator Kit

Identify plaque acidogenicity and age within 5 minutes.

Advantages:



- Clearly visualized in red, orange and green.
- Provides a total picture of sites where plaque accumulation exists.
- Differentiating between mature plaque blue whereas newly formed plaque is disclosed red.

GC Saliva-Check Mutans

The *Streptococcus mutans* bacterial species plays a leading role in the initiation of dental caries.

GC Saliva-Check Mutans uses a very specific process that is not reliant on bacteria growth, which means incubators or other devices are not needed. Therefore, accurate results are available in just 15 minutes.



PREVENT *Prevent caries by eliminating or minimising the risk factors*

Once any possible caries risk factors have been identified, it is then possible to prevent these from becoming a serious dental problem. Depending on the diagnosis these could involve:

- A change in diet and lifestyle.
- Increasing the oral hygiene, particularly the use of fluoride-containing products, plaque disclosure products and antibacterial mouthwashes.
- Regular check-ups including bacteria and saliva tests.
- Professional tooth cleaning.
- Correcting mineral imbalance in the oral environment. This is a new preventive option made possible by the introduction of CPP-ACP (Recaldent™) which delivers extra freely available calcium and phosphate ions to the enamel.
- The use of preventative products such as
 - GC Dry Mouth Gel
 - GC Tooth Mousse
 - GC MI Paste Plus
 - GC Fuji Triage

GC Dry Mouth Gel

Dry Mouth Gel is a unique, sugar free product that comes in four delicious flavours (Mint, Lemon, Raspberry and Orange). It is designed to help relieve dry mouths and provide long lasting comfort and a soothing effect for patients.

This transparent gel comes in a compact tube that will easily fit into either a pocket or handbag, meaning it can be used whenever and wherever it is needed. All that is required is for you to apply a generous amount of the gel with a clean finger over the teeth and tongue.



Dry Mouth Gel might help with the following conditions

- Mouth breathing during sleep
- Drug-induced dry mouth
- Sjögren's syndrome
- Radiation treatment
- Long standing conditions that can impair salivary flow
- Denture wearers for tissue protection and lubrication

GC Tooth Mousse



Tooth Mousse contains calcium and phosphate, the major minerals teeth are made from. These minerals are carried in a special milk-derived protein and are therefore available in their soluble form. This means that

Tooth Mousse can protect teeth like saliva and replace the minerals lost by eating and drinking.

Tooth Mousse can be useful if:

- You suffer from a dry mouth (although not as effective as GC Dry Mouth Gel)
- You are susceptible to dehydration from sporting activities etc.
- You currently have orthodontic bands or brackets or have just had them removed.
- You have had your teeth whitened.
- You are pregnant and your mouth acid levels are higher than normal.
- After you teeth have been cleaned or polished.

Tooth Mousse can be applied into a pre-formed holder and placed in the mouth. Alternatively squeeze a small amount of Tooth Mousse from the tube onto your finger and apply it over the surfaces of the teeth. If you are in the middle of orthodontic treatment, apply Tooth Mousse around the areas where the bands and brackets are attached to the teeth.

GC MI Paste Plus



MI Paste Plus has all the benefits of GC Tooth Mousse, with an added 900ppm of a unique, patented form of fluoride in a product designed for high-risk patients. It has the same delicious flavours as Tooth Mousse and can also be applied in the same ways. It is not recommended for young children.

It is particularly effective if:

- you suffer from aggressive caries and loss of tooth structure, from dental erosion and accelerated tooth wear following head and neck radiotherapy
- you are pregnant
- you are having or have had orthodontic treatment
- you have an acidic oral environment and gastric reflux
- you have poor plaque control and high caries risk (which can be determined by your dentist using the methods of identification detailed above.)

GC Fuji Triage

As soon as molars start erupting, you can now protect them from the increased risk of caries by using new GC Fuji Triage. Ideal surface protector which can be applied quickly and easily to coat the tooth surface, so protecting them from acid attack and the development of caries

Procedures in the surgery can take half the time.

It releases very high levels of fluoride and creates a strong, acid-resistant layer. GC Fuji Triage is also ideal for root surface protection and the prevention and control of hypersensitivity.

RESTORE *Restore the teeth in a conservative way, using bioactive materials*

Whether caries damage needs to be restored after the identification stage, or it has arisen after preventative measures have been taken, the MI restoration process is quite different from the traditional approach as it aims to restore and, if possible, protect at the same time.

Advantages:

- the adhesive properties of the new MI filling materials means that healthy tooth can be left untouched, meaning less drilling!
- Better sealing means that bacteria can not get under the filling to damage the tooth surface.
- In the future, bioactive restorative materials may also help to remineralise enamel and protect against further damage
- This can be achieved through the use of GC glass ionomer cements.

GC Glass Ionomer Cements

One of the important areas of research at GC is to develop restorative materials that have a positive effect on the tooth surface. A desirable joint between the tooth and the restorative material needs to form a tight seal with no sensitivity and have a high durability so it will not break down or leak. It also needs to work so that the underlying tooth surface is repaired and strengthened over time. Finally it is important that there is a strong adhesion so the filling acts as a stress absorber meaning it will not be affected by shrinking, finishing or polishing stress and thermal stress. All of this is provided by GC Glass Ionomer Cements.



Glass Ionomer Cement offers the ability to give a chemical adhesion between the restoration and the tooth, therefore allowing a strong and long-lasting chemically fused seal to take place.

The fluoride content will further reinforce and protect the tooth against secondary caries