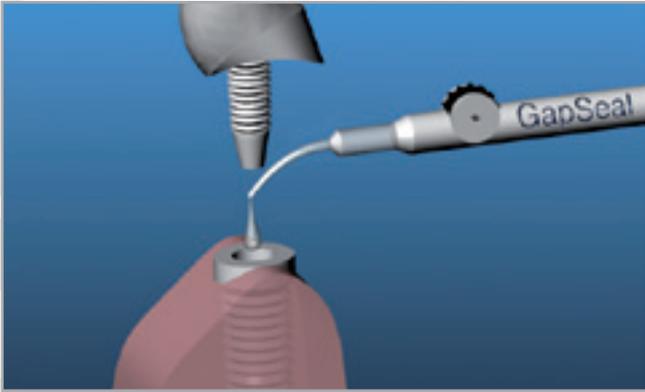


GapSeal® - Questions and Answers



Protective Sealing of Hollow Spaces in Implants



Currently peri-implantitis is the predominating subject in implantology. Leakages between implant parts, mesostructure and suprastructure are known as "microleakage" occurring in gaps and hollow spaces found in the assembled implants. Consequently, we have to recognise that re-infection from these areas is a deciding factor for the development of peri implantitis.

How do micro gaps and hollow spaces occur in assembled implants?

Regardless of design and due to manufacturing constraints there will always be a micro gap between the implant body and assembly or abutment. The gap is enormous from a microbiological point of view. According to the mechanical principal "accuracy of fit is impossible", there has to be a gap between the individual components. Due to production-related reasons further hollow spaces are found in implants.

What size of microgaps are we looking at?

Even the most accurate trimming of a titanium surface has a roughness of $1\mu\text{m}$, so at least $2\mu\text{m}$ in the case of two sides. Studies show that gaps between $14\mu\text{m}$ and $160\mu\text{m}$ can be found in implant assemblies. This applies to all dental implant assemblies.

Which germs accumulate in hollow spaces?

Germ spectrum: It has been established that bacteria, fungi and viruses, which are proven causes of peri-implantitis, are found in a magnitude of less than $1.5\mu\text{m}$. In the case of viruses this is reduced by the factor of 10.

What are the main reasons for the accumulation of germs and the resulting re-infection?

The resulting re-infection causing peri-implantitis is caused by many factors. The interior of assembled implants are contaminated with germs, due to the size of microbiological gaps and hollow spaces, the capillary forces, the micro movements between implant and abutment and the formation of a bio-film. Furthermore, humid climate, ideal temperature and favourable breeding ground are ideal conditions for the growth of germs.

How does GapSeal work?

GapSeal® seals gaps and hollow spaces in implant assemblies. It prevents the transfer of germs between the oral cavity and the interior of the implant assembly.

How sterile is the application of GapSeal?

The GapSeal tips are delivered sterile, in blister packs with an applicator. While the tips are for single use only, the autoclavable applicator is for repeated use.

How many treatments can be carried out with a single GapSeal tip?

One tip is sufficient for 2 – 3 implants per patient.

How is GapSeal applied?

The applicator and the adjustable tips make it easy and safe to reach implants in any quadrant inside the oral cavity.

When should GapSeal be applied to implants?

GapSeal® should be applied in the first operation in order to immediately protect the interior space against contamination. Peri-implantitis in infections have even been observed in the covered wound healing.

Is it beneficial to use GapSeal at a later stage?

In order to benefit from its positive properties, it is advisable to use GapSeal immediately. However, it is also advisable using it retrospectively if the interior of the implant has been cleaned with alcohol.

Can GapSeal be used in cemented suprastructures as well?

GapSeal® should always be used to seal implants, even for cemented suprastructures. However, the mesostructure must be thoroughly cleaned first.

Is it possible to re-apply GapSeal and if so, when should it be re-applied?

GapSeal® needs to be removed (e.g. with alcohol) and re-applied when changing the screws or the suprastructure, and for recall appointments.

Does GapSeal cure, causing shrinkage gaps?

GapSeal® is a high-viscosity material, which never hardens. Unlike curing substances, it does not cause shrinkage gaps.

Does GapSeal wear or wash off?

GapSeal® does not wash out as it is extremely stable and keeps its high-consistency under physiological conditions. The material is hydrophobic.

How can GapSeal be removed from build-up components?

In case GapSeal needs to be removed from assemblies in order to cement a suprastructure, a thorough prior cleaning is required. Otherwise, the cement would not grip. It is recommended to first mechanically remove the GapSeal with cotton pellets and to then finish it off using a cotton pellet saturated with alcohol.

What should be done with the excess GapSeal material?

Excess GapSeal should always be removed. This can easily be done with a cotton pellet.

How should the instruments best be cleaned?

It is advisable to clean the instruments by wiping them with alcohol.

Are there any harmful effects or health risks associated with GapSeal?

The material is completely safe. It has been thoroughly tested for numerous biocompatibilities confirming to the Medical Device Directive 93/42/EEC.

Are long-term studies available?

GapSeal® has been tested in evidence-based clinical studies for over 18 years. Studies are available on request.

GapSeal® Set (applicator + 10 tips)	REF 152 041
GapSeal® Refill Pack (10 tips à 0.06 ml)	REF 152 040
Applicator (autoclavable)	REF 152 042

