



## Dental implants – inspired by nature

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## Dear reader,

Anyone who loses teeth wishes for a good substitute. They should look as natural as possible and, of course, restore the function of your dentition. If a single tooth is missing, the resulting gap can be filled by an implant with an appropriate implant abutment and mounted crown. This does not require a healthy tooth to be ground down.

Conventional partial and full dentures are often regarded as being foreign objects. In many cases, they lead to pressure sores and limit the perception of taste, touch and temperature. This makes people feel less confident when talking, laughing, eating, and kissing. Necessary adaptations of the prosthetics are the consequence.

Dental implants can remedy this situation, since restorations with dental implants also include replacement of the tooth's root. This serves to preserve the jawbone,

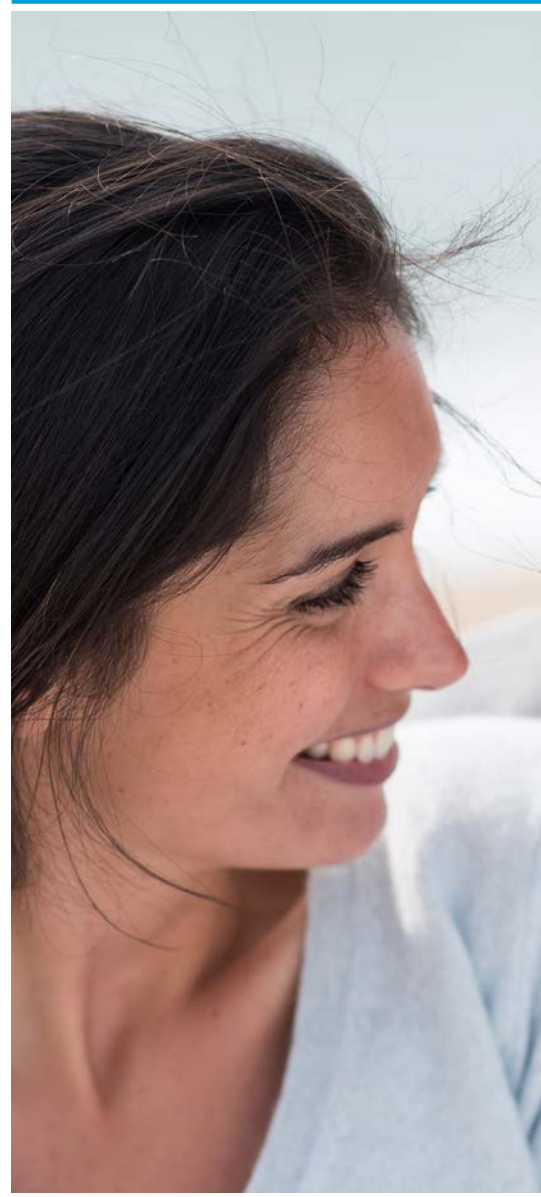
which forms the basis of the entire dentition. For this reason, dental implants offer an excellent opportunity to replace lost teeth and regain appearance, vitality and well-being.

The decision-making process for a restoration with implants poses a number of questions. As a leading manufacturer for dental implants, Camlog is a competent partner for your dentist. We have summarized all the important information about implant-supported restorations for you in this brochure. This provides you with information in advance and enables you to ask specific questions during the consultation with your dentist or implantology specialist, allowing you to then decide together on the best treatment solution in your case.

For reasons of easier readability, gender-specific differentiation has been omitted in part in this brochure. Corresponding terms always apply to all genders in the interests of equal treatment.

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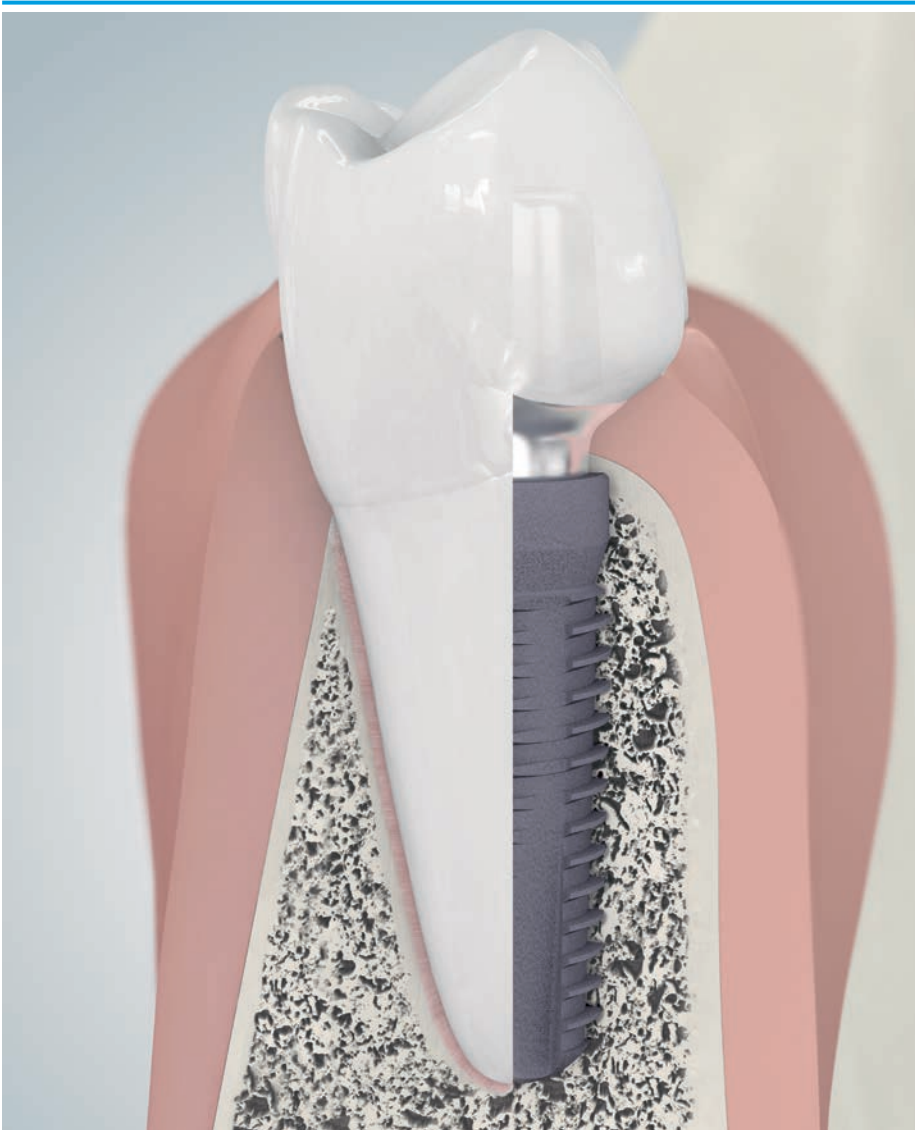


## Solutions after tooth loss for a better quality of life

Your appearance and your smile are an important part of your quality of life. Healthy, beautiful white teeth underline your attractiveness and vitality. However, teeth can be lost for a number of reasons. This loss not only affects your appearance, speech and eating, but can also lead to problems of the entire organism. Tooth gaps can be closed both functionally and esthetically in several ways and with different materials. A scientifically recognized treatment option for gaps is the restoration with dental implants. The reason being, that dental implants replace the natural root of the tooth – in form and function. The bone grows firmly around the dental implant and anchors it in the jawbone so that a new, custom-made, natural looking tooth replacement can be mounted on it.

The first titanium implant was inserted in a patient by its Swedish inventor in 1965. The patient wore the implant until his death in 2006. The current implant forms have been in use since the 1980s and have now been inserted millions of times.

Treatment therapy with dental implants was scientifically recognized by the German Association for Dental and Oral Medicine (DGZMK) in 1982 and is now standard therapy in the surgical practice. Camlog also offers appropriate dental implant lines for different types of therapy. The decision about which type of implant is best in your case depends on your individual situation and the preferences of your dentist.



A natural tooth (left) can be replaced by a dental implant with implant abutment and implant crown (right) to resemble nature. The healing time of an implant, in other words, the time until it can be fully loaded, lies between 3 and 6 months, depending on the situation.



A CAMLOG® Implant in its original size.

## Dental implants - an invention modeled on nature

In the case of tooth loss or also a poorly fitting denture, your dentist will suggest the possible treatment alternatives for replacement in your case following a detailed preliminary examination. For secure and reliable anchorage of individual crowns, bridges, or dentures, dental implants are often the ideal and esthetic solution. Depending on your individual situation and your preferences, your dentist will explain to you the benefits and drawbacks of various solutions for an esthetic and functional dental restoration. You will then decide together what is the best restoration in your case.

As a rule, dental implants are inserted in the jaw in an outpatient procedure under local anesthetic. To ensure high stability for wearing the denture, your dentist will evaluate the healing time individually for each patient. After a few weeks or months, an implant-supported restoration, such as a crown or bridge, is placed on the implant.

Ingenious side effect of a dental implant: Once the bone has grown around the implant and is firmly anchored in the jaw, it trains the jawbone. When you chew, the dental implants transmit physiological stimuli to the bone through the dental implants - just like a natural tooth. This is a critical factor for preserving the jawbone.

After an individual consultation, many patients choose dental implants. If your dentist does not perform implantations, he or she will consult a specialist dentist, oral surgeon, or orthodontic surgeon. A treatment plan will be discussed in detail and you will be referred for the implant placement. It is also helpful to incorporate the dental technician early in the procedure so that the best possible and esthetic treatment outcome can be achieved.





Gaps in the tooth row can be closed in different ways - with a cemented bridge, a removable partial denture or with the aid of a crown restoration on an implant.



In the case of a bridge, the adjacent teeth on both sides need to be ground to close the gap. The replaced tooth is not connected to the bone. Without bone training, the gingiva and bone can degenerate over time.



Implant restoration to replace a central incisor. The dental implant helps to preserve both the bone and gingiva in the long term.

## Fixed solutions, whether for small or large gaps or for edentulous jaws

A fixed dental restoration in the form of crowns or bridges can be inserted using dental implants to restore small or large tooth gaps or if all posterior teeth are missing. The restoration is either cemented onto abutments that are inserted into the implants or screw-retained in the implants. Without implants, natural and healthy teeth would have to be ground to insert a bridge to replace a tooth, or the dental technician would have to fabricate a removable denture.

On this and the following page, you will find an overview of different restoration options giving examples of different situations with dental implants. Both fixed and removable restorations are illustrated here. Conditionally removable bridge constructions, that is to say screw-re-

tained solutions, also increase the quality of life in patients with lower bone volume. These restorations can be removed by your dentist during check-up appointments, for example for cleaning.

Most of these restorations are also possible for the upper jaw as well. However, due to the stability of the upper jawbone, more implants are needed for certain reconstructions than in the lower jaw.





This "saddle area" (three missing teeth) can be closed with two or three implants.



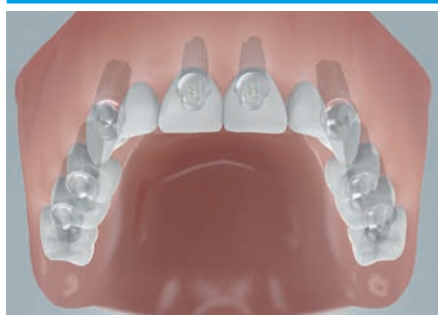
Bridge on two implants to close the saddle area with three missing teeth.



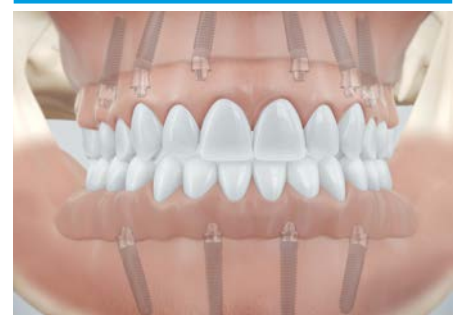
In this example, a free-end situation was restored with four implants.



Six or more implants are placed for a fixed bridge restoration in the edentulous mandible.



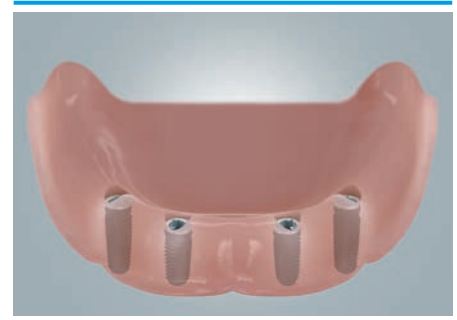
A bridge restoration can be realized on eight implants in the upper jaw. The bridges can be cemented, screw-retained or designed removable.



Depending on the initial clinical situation, so-called conditionally removable restorations are also possible in the edentulous jaw.



For edentulous jaws, various solutions are available to stabilize or anchor dentures.



Four implants are often sufficient to stabilize the denture in position.

## Removable solutions for fully edentulous jaws

Dentures can be stabilized in edentulous lower jaws with the help of four dental implants. This makes poorly fitting dentures and the use of adhesive cream a thing of the past.

This stabilized denture almost fully restores the chewing function while positively affecting both speech development and esthetics. There are several options for anchoring the denture. Not all these solutions are suitable for maxillary restorations. Due to the softer bone structure in the maxilla, more implants are required there to

provide secure anchorage.

Inserting the denture on locators is very simple. These function like press buttons, which is why the denture clicks audibly onto the implants when inserted.

Telescopes or bars work on the same mechanical principle as a telescopic rod, the parts of which grip one another using slight friction thanks to precision manufacturing. This adhesive force keeps telescopic and bar dentures in the mouth.



In this example with four telescopic



Secure anchorage with Locator® press buttons.



Fixation with a bar.



Telescopic crowns on six implants can reduce the denture base as demonstrated in this example.



Denture restoration in the lower jaw. All the types of restoration shown greatly improve the wearing comfort of a full denture.



## Fully customized implant treatment - but with a standardized procedure in five steps

Every implant treatment consists of five steps – regardless of whether only a single tooth needs to be replaced or whether extensive restoration is required. The therapy is customized to your particular situation but the work is performed using a standardized procedure.

### Overview of the five steps

1

Consultation

2

Pretreatment

3

Implantation

4

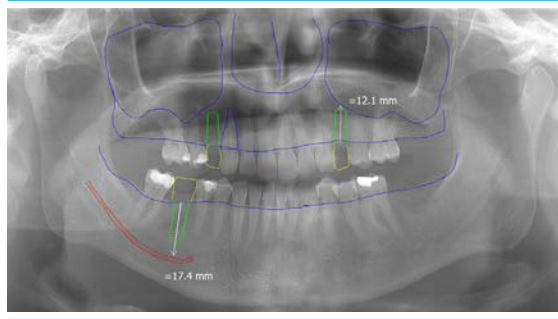
Insertion

5

Care



Once the diagnosis has been made, your dentist will explain the different treatment options to you.



Tooth and bone structures are clearly identified in the prepared X-ray image.



Digitally recorded data offer advantages in the diagnosis and planning of your dentition.





## Consultation

To decide on suitable treatment, your dentist will make an assessment of your personal initial situation. To this purpose, X-rays will be taken and situation models made, and maybe special functional tests will be carried out, too.

Digitization has found its way into many dental practices and offers advantages both in diagnostics, planning as well as workflows. For example, X-rays taken using digital volume tomography (DVT) or computer tomography (CT) can be used to assist in dental diagnostics. Digital technologies also facilitate individual patient-oriented case planning. The reason being that imaging techniques can be used to depict bony structures precisely. Using the images the later position of the implants can be planned on the computer. In some cases the restoration is already designed virtually. This can give you an idea of

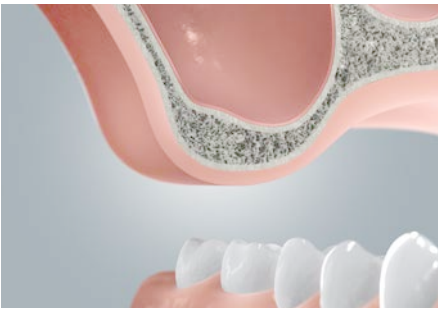
your future dentition and appearance in some situations.

During these examinations, your dentist will also inform you about alternative treatment options and discuss which pretreatments are necessary. Oral health is the top priority here. Caries and any gingival pockets should therefore be treated or eliminated.

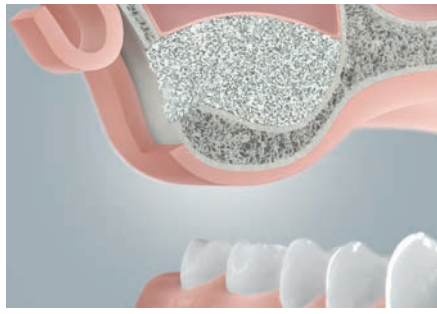
By actively helping to maintain your oral health, you can contribute considerably to the success of your subsequent implant restoration. The practice team will provide you with helpful guidance on care.



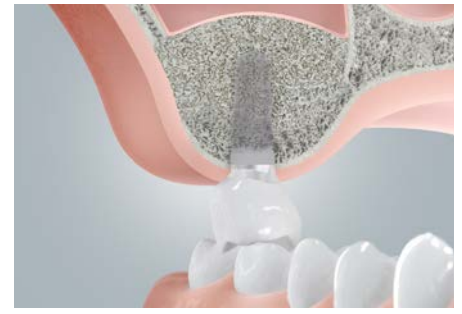
### Example of bone augmentation before implant placement



In the region of the maxillary sinus, the bone loses significant height in the upper jaw. To create a sufficiently stable foundation for insertion of the implant, the bone can be augmented with substitute materials using special techniques.



Bone augmentation in the upper jaw: The mucous membrane of the maxillary sinus is lifted and the cavity is filled with bone substitute material. This procedure is called sinus floor elevation. After the augmentation, there is enough bone available to hold an implant.



The bone replacement material is converted into bone by biological processes and provides a base for a long-term stable implant restoration.

### Example of bone augmentation during implant placement



The missing bone volume must be increased to provide all-round anchorage for the implant in the bone.



In case of marginal bone loss, bone augmentation can be performed at the same time as implant placement. This procedure saves having an addi-



The substitute material converts to stable bone during the healing phase of the implant.

# 2

## Pretreatment

### Pretreatment

In addition to eliminating caries and other oral diseases which could affect the long-term success of an implant restoration, it is important to have healthy and sufficient bone available for the placement of an implant. When teeth are lost, the jawbone recedes through natural biological processes. However, an implant should be placed in the physiologically optimal position so that the chewing forces can be absorbed and transmitted into the bone. If bone is lacking here, your dentist has different options for augmenting the bone and thus create a stable bony foundation. Smaller bone defects can be augmented with the patient's own bone. In the presence of major deficiencies, substitute materials are often used, which are manufactured under strict, specified and constantly monitored processes in sterile conditions. Donors for the replacement material are cattle, pigs or horses. Some practices also use human material or artificially manufactured products. As with the bone substi-

tute materials, Camlog offers science-based products in cooperation with BioHorizons in the form of membranes and matrices for achieving healthy, strong and esthetic gums around teeth or implants.

Depending on the bone structure, augmentation can be performed at the same time as implant placement. How and to what extent bone augmentation can be performed, which material is used and over which treatment period this is converted into autologous bone, depends on your situation. Interventions for bone augmentation are however necessary to enable stable long-term implant restoration on a healthy foundation. Your treating dentist will explain the processes involved to you in detail.

# 3

## Implantation

### Implantation

Even if in Germany alone, over one million implants are being placed every year and implantations can today be regarded as routine interventions, one should not forget that an implantation is a surgical procedure. Modern anesthetic and implant techniques ensure that surgery is as stress-free as possible. The length of the intervention can vary considerably and depends on the number of implants as well as the individual situation.

The first stable connection with the bone is already established the moment the implant is inserted. It is important to have as much bone surrounding the implant well perfused with blood as possible. During the weeks following implantation, bone growth cells attach to the implant surface from all sides. This process is referred to as osseointegration.

**Your dentist will explain to you what needs to be observed prior to and after implantation. Following implantation, your practice team will hand you your personal Camlog implant passport. This documents the quality implant used for you in a traceable manner giving all the necessary information to identify the product. It certifies the use of a high-quality medical device. Further information is available on [patients.camlog.com](https://patients.camlog.com)**



The jawbone is exposed.



A drill hole for the implant is placed in the bone using special drills.



Healing of the inserted implant.



Camlog dental implants are available in different types, shapes and dimensions. In addition, various substitute materials and dental prosthetic components are available to your dentist.



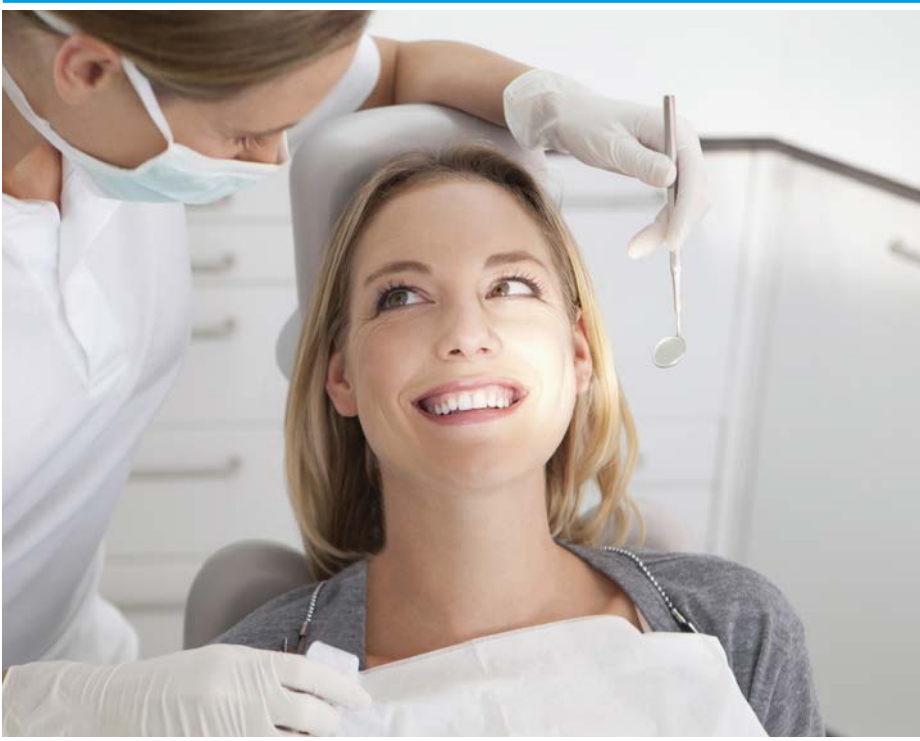
Shaping of the gingiva for a natural-looking treatment result.



The intermediate piece (abutment) is inserted into the implant so that the crown can be mounted.



The final implant restoration with an example of a single-tooth reconstruction.





## Insertion

After the dental implant is inserted, it takes a few months until the bone cells are joined to the implant and it has healed. If needed, you will be given a temporary solution. In the meantime, your new teeth will be fabricated by the dental technician. Intermediate steps, so-called try-ins, may be necessary to obtain the best functional and esthetic treatment outcome; your practice team will keep you informed about this.

Depending on your individual situation and wishes, different solutions for designing your new teeth on implants are possible. Implant restorations can be designed in the form of a single tooth, a bridge or a whole row of teeth in the upper and lower jaw. In the case of an edentulous jaw, there are several options for securing

dentures, the advantages and disadvantages of which your practice team will explain to you.

After checking the function and the esthetic outcome, your new dental restoration can be inserted. Now the new teeth are fully functional and can be loaded and, of course, worn with pride.



## Care

Like natural teeth, implant restorations also need to be thoroughly cared for. As the implant is firmly anchored in the jaw, the care measures are focused on the transition areas of the gingiva to the prosthesis and the prosthesis itself. Good cleaning and regular check-ups ensure the long-term success of an implant restoration. Gingival inflammation and gingival pockets may occur if implant-supported prostheses are not sufficiently cared for or cleaned of plaque. This means that the implants are less well protected and can be damaged in the long run. Avoid this risk by regular care!

Next to daily oral hygiene with a toothbrush and other aids for cleaning interstitial spaces, professional cleaning

in the dental practice is the best investment for the durability of your implants.

Let your dentist and his practice team give you comprehensive advice on dental care, cleaning aids and their use. Regular check-ups, at least once a year or as instructed by your dentist, help to ensure the long-term success of your implants so that you are pleased with your implant restoration for a long time.









## A dental implant is of lasting high value

Dental implants are a long-term investment in your health and your quality of life. Implants may last a lifetime if well cared for. They are part of you and they unobtrusively, effectively, and reliably perform their work 365 days a year.

Dental implants restore chewing function fully. Dental implants add to the preservation of the jawbone, which would otherwise degenerate without an implant. In case of tooth loss, implants are only “true” and “complete” replacement for teeth.

The costs of implant restorations are made up of the costs for materials and the fees for surgery, dentistry and the services of the dental technician. They depend on how elaborate and extensive restoration with implants is. When the wearing time is considered, an implant resto-

ration is often no more expensive than everyday necessities, for example, a daily newspaper.

The bonus of quality of life and preserved structure due to dental implants is of permanent high value. Compare the costs and the long-term benefits with other alternatives.





All Camlog products are manufactured by ALTATEC GmbH, a company of the Camlog Group in Wimsheim, Baden-Wuerttemberg, Germany.



Dental implants from Camlog are high-precision medical devices. The manufacturing process is monitored throughout.



All products are manufactured, inspected and packaged in a clean room by qualified professionals.

More information  
about dental  
implants and  
Camlog can be  
found on our  
website.



[patients.camlog.com](https://patients.camlog.com)



## Dental implants from Camlog stand for quality Made in Germany

The manufacturers of medical devices bear great responsibility. Camlog is a leading manufacturer of dental implants and a reliable partner for dentists, oral surgeons, orthodontic surgeons, and dental technicians.

We pay particular attention to the processing of materials compatible with the body, the achievement of excellent manufacturing quality and conducting full product inspections for the safety of patients, dentists, surgeons, dental professionals and dental technicians.

The Medical Devices Act places high demands on the safety and functionality of medical devices. Camlog also makes the quality promise to only develop and manufacture products that comply with state-of-the-art technology and scientific research as well as the relevant standards for medical engineering.

This consistent attention to quality is reflected by the successful certification of our quality management system in accordance with ISO 13485. The high product

quality is also confirmed by CE certification. Sustainable production and compliance with environmental laws are part of our corporate philosophy. We implement this with a certified environmental management system according to EMAS.

All Camlog products are manufactured in Wimsheim, Baden-Wuerttemberg, by qualified specialists, quality "Made in Germany". The implants are made of pure titanium. This material is extremely stable and is highly biocompatible.

Uncomplicated handling, high precision and reliability are hallmarks of all Camlog products. This is our contribution to achieving predictable and reproducible, functional, esthetic, and long-term stable treatment outcomes.

CAMLOG® is a registered trademark of CAMLOG Biotechnologies GmbH.  
Locator® is a registered trademark of the Zest Anchors LLC company.

The best people to contact for all questions about dental implants are your dentist and the specialist surgeon with their practice teams.

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