



CRITICAL APPRAISAL OF TRADITIONAL DENTISTRY –
PART 1: “TREATING PERIODONTITIS”

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Foreword

The article series beginning here acknowledges the successes and describes the known failures of traditional dentistry as well as the damages it can cause. The purpose of these publications is to delineate the current limitations and the still possible areas of application for the individual fields of dentistry. This aims to facilitate rational decisions on when affected teeth, groups of teeth, or complete dentitions should no longer be treated.

To the benefit of patients, the use of the modern technology of the Strategic Implant® or Corticobasal® implants would replace large parts of periodontal treatments.

Keywords: Corticobasal® implants, osseofixation, immediate loading, periodontitis treatment, bone function, recurrence, elongitis

1. Introduction

Periodontology is the dental specialty that deals with the health and interactions of the periodontal apparatus, including the gums, the desmodontium, the root cementum, the alveolar bone, and the dentin of the root. The goal is to recognize, treat, and prevent inflammatory diseases such as gingivitis and periodontitis, in order to preserve the natural teeth in the long term.

1.1 Unequal Availability of Modern Periodontal Treatment Techniques, Including Socioeconomic and Healthcare Policy Contexts

Modern Periodontal Treatment Techniques - Progress for the Few. Periodontology has developed significantly in recent decades through scientific and technological advances. New minimally invasive, regenerative, and biotechnologically oriented treatment techniques now offer the possibility to preserve or re-contour even severely damaged periodontal structures. However, these innovations do not reach all patient groups to the same extent by far. While periodontal treatments are mostly reserved for privileged and high-income patients,

the majority of the population relies on classic, basic measures of periodontal therapy. This appears particularly disturbing at first glance for socially disadvantaged groupsⁱ.

Thus, it is the low-income patients who eliminate their dental problems once and for all early in life, whereas high-income patients – advised by dentists and in the hands of dentists and periodontists – are apparently still willing to pay for the (in advanced age) dubious pleasure of „their own teeth“ for a long time.

1.2 Modern Periodontal Therapy

This encompasses a broad spectrum of advanced procedures today. These include Guided Tissue Regeneration (GTR), growth factor-supported therapy (EMD with Emdogain), sound- and ultrasound-activated minimally invasive cleaning (Air-Flow-Perio), laser-assisted therapy (Er:YAG, Nd:YAG Laser), 3D planning, and

ⁱ One could look at it that way. On the other hand, simply because a complete replacement of teeth with bridges supported by modern implants is more cost-effective than preserving natural teeth – especially those with periodontal issues – low-income patients today are increasingly opting for this new treatment option as their first choice.

microsurgical techniques. These treatments are carried out in specialized periodontology centers and practices. Specialists in periodontology and oral surgery perform this work. These therapies require not only expensive equipment but also special expertise, training, and time. Accordingly, the costs of these treatments are high to very high. The question arises as to how better basic care can be provided to socioeconomically weaker patients.

1.3 Basic Periodontal Therapy at the General Dentist

Here, only the fundamental measures established in general dental care are used. These include scaling and root planning, motivational discussions on oral hygiene and plaque control, individual tooth follow-up care, and simple local antiseptics and disinfectants (E.g. Chlorhexidine and Betadineⁱⁱ).

Such treatments are limited in their strength and effect in advanced

ⁱⁱ Betadine is not widely used in periodontology because it completely eliminates plaque and (theoretically) removes the minimal protective layer provided by any remaining plaque. In other words, it works too well.

periodontitis or complex cases. Temporary results are seen only in a temporary functional preservation of the tooth, not in regenerative restoration of the periodontal apparatus.

2. The Mentality of Participants in the Dentistry Market

In dentistry, „treatment standards,“ „gold standards,“ and „accepted methods“ have been established. Various study results but also unfounded claims were used for these definitions. „Scientific results“, „gold standards“ are self-defined by various market participants and disseminated through media. Financial interests certainly played and play a role. It is important to identify the influences of (industry-funded) science and the influence of the industry itself when it comes to tracing the origin of dental „gold standards“. At the same time, certain professional groups (here, periodontists) and their professional representatives have significant influence on practitioners and often even (e.g., through experts) on insurers and courts.

The significance and purpose of these four players (industry, universities, professional representatives, and experts) for the

dental care of patients is in no way transparent. It is even questionable to what extent the real interests of patients are considered at all in today's dental care. Often, treatment goals are conveyed to patients because they are expected that they are accepted, and that patients are willing to pay for. Why specific treatments are preferably recommended is certainly also determined by the revenue opportunities of the profession. Due to pecuniary reasons, practitioners tend to apply the most expensive therapies, therapies with non-lasting results, and even therapies that are damaging the patient. This is in general not specific of dentistry: although it is well known that teeth are creating the vast majority of the problems in the oral cavity, and although it is clear that the dentition will be destroyed either by decay or by periodontal issues, the tribe of the dentists still demands for their profession that outdated methods of dentistry are used in order to “save the teeth” as long as possible. It is a proven and recognized fact that a large part of dental revenues is achieved through renewal or replacement (again and again) of the work of the predecessor colleague.

For these reasons, „modern dental medicine“ is programmed for cost explosion and at the same time for „re-dentistry,“ i.e., the recurring treatment of the same teeth and the same problems. The question must be allowed as to why the primary goal of treatments from a certain degree of destruction of the dentition is not aimed at the removal of (often all) teeth. Such treatments solve dental problems once and for all; they tackle the problems literally at the root. Moreover, today, long lasting results in oral restorations can be achieved within a few days with osseofixated implants and corresponding reconstructions. This raises the question how long or until which amount of deterioration teeth should be treated in general. A similar question must be raised regarding the treatment of periodontal disease, because this disease cannot be stopped in any case. The available treatments will only lead to more bone loss and a prolonged suffering. Patients traditionally pay high bills for treatments on teeth that are not sustainable and not goal-oriented. This basic tendency will be explained in detail in this series of articles for the individual dental disciplines.

2.1 An Unfortunate Development of State Systems

Many of the existing dental therapy concepts, established decades ago and still applied today, must be compared with contemporary biological insights and technical possibilities. This should reduce or eliminate the existing limitations in dentistry regarding prognosis, biological compatibility, and functional sustainability of the therapy offering.

In dental education (probably worldwide), there is (objectively viewed) an overall innovation backlog of several decades. Dental education is traditionally rather conservative, as only basic therapies are taught. The value of these therapies is not weighed against each other, and insights from the last estimated 20 years do not make it into the curriculum unless the medical device industry directly pays (or provides) the teachers for deviating instruction.

An example: modern plate osteosynthesis was introduced by the AO Foundation (Davos / Switzerland) around 1975 and later into traumatology and orthopedic surgery and soon this device developed to be the market-leading technology in both fields.

The previously used plaster cast was largely replaced by this. Immediate loading was enabled and established at the same time. This all was possible because cortical bone was used for the anchorage of the implants.

In the field of oral implantology, however, the “osseointegration” therapy is based on the self-healing of spongy bone towards the implant’s endosseous surface. This corresponds the technological level of the plaster cast: the resulting so-called „osseointegration“ is actually equivalent to an ankylosis. Ankylosis is a non-natural and bone-damaging connection between the spongy or cortical jawbone and the tooth or an implant’s surface, it is a sign of a disease. The excellent properties of cortical bone, known for decades, are not utilized at all in the osseointegration method due to conceptual reasons. If one considers that from around 1954 (at the instigation of Prof. L. Linkow, New York), cortically supported and cortically anchored dental implants of all kinds were used worldwide very successfully in immediate loading protocols, the „development“ of the osseointegration method in the 1990s (featuring long healing times and the need for large amounts of

autologous or augmented bone, and advocated as a big progress) can retrospectively only be viewed as an inexplicable technological setback. This method cannot be applied to many patients for technical and medical reasons alone. Rules for “patient selection” had to be developed. Especially older patients who have little bone and who have often accumulated a series of medical contraindications for the method of osseointegration over the course of their lives can almost never be treated satisfactorily with this old-fashioned method. Thus, the main customers fall through the cracks unless they want to undergo extensive bone augmentation, which the majority of older people reject, and which is especially risky for them due to their medical conditions. The osseointegration method lacks reliability and sustainability.

The technological backlog in the Western world highlighted here, has developed, among other reasons, from rigid curricula and teaching objectives that were enforced over decades of work, e.g., through the “Bologna Convention”. The goal of mutual recognition of academic degrees was also achieved almost

worldwide, but innovation was sacrificed on the path to worldwide conformity. In addition, within universities, there is no real competition in the sense of „out of the box“ thinking and progressive research and the teaching objectives are largely predetermined by manufacturer-dominated „professional societies“ and by the manufacturers of medical devices themselves. The main goals of these participants are increasing sales and eliminating competition. The health of the population is (as it naturally follows) not the goal of these market shapers at all. Strictly speaking, (what is most problematic) the interests of patients are not considered in any way in the Western world. Patients are welcomed money-bringers. If they do not inform themselves, they are merely pawns and often victims of the system.

That health politicians are supposed to represent the interests of patients has not yet gotten around to Western representatives of this profession.

Since dentists have learned periodontology as part of their training, they also practice this discipline. Knowing alternatives requires continuing education in areas that the university (at that time)

did not offer. Such continuing education is rather rejected and judged as exotic or even sectarian. As a result, patients do not receive the treatment that is (scientifically proven) more advantageous and durable. There are no guidelines on when the methods of periodontology should no longer be applied.

Example B1



***B1:** In this finding, an insurance expert from a German private health insurance company suggests periodontal treatment and tooth-retained partial dentures. At the same time, he rejects the cost coverage for the supply of upper and lower jaw with Corticobasal® Implants. The expert's behavior indicates both a lack of current specialist knowledge and an unreflective one-sided representation of the interests of the private insurance company that pays him.*

The process described above also shows that dentists in general do not know when the right moment has come, when the repair the „natural dentition“ is no longer an adequate treatment step. In such a situation, teeth simply have to be removed to avoid further damages to the masticatory system, more pain and suffering, and last but not least also excessive costs.

Corticobasal® implants (or Strategic Implant®) are modern jaw implants that offer a series of strategic advantages compared to osseointegrating implants: They can be used as a real and long lasting alternative to natural teeth, i.e., patients are no longer dependent on their own teeth or on damage-prone osseointegrating implants. With the introduction of this new, innovative type of implants, they can make the switch from teeth to implant-supported fixed dentures on osseofixated implants virtually within hours and at any time as they wish. This brings significant advantages:

- Bone augmentation is never necessary
- Unloaded healing times are eliminated
- Periimplantitis does not occur

- Implantations are possible directly in connection with extractions in one go

This innovation in the field of implantology not only represents enormous competition to various other specialized disciplines of dentistry, e.g., also to the market of traditional periodontal treatments, but here is a textbook case of true substitutionⁱⁱⁱ.

The market for periodontal treatments is said to have generated around 90 million euros in Germany in 2024, around 550 million euros in the EU. For 2025, sales growth of about 5.1% is expected in these markets. These orders of magnitude naturally generate resistance against existence-threatening innovations, as modern Corticobasal® Implants represent. Modern osseofixated dental implants finally offer the possibility of definitive and long-lasting implant supply with simultaneous

ⁱⁱⁱ Corticobasal® implants are a true substitute for all kinds of conventional dental treatments. In a true substitution, an old product (e.g. a wristwatch) is replaced by a newly developed product (here: the mobile phone), which quasi as an additional feature shows the time and has an alarm function as well. The wristwatch thus became a fashion accessory that even increased its selling price, while poor people buy cheap wristwatches or carry their phone only.

removal of all or many teeth. Thanks to modern implant technology, the preservation or retention of teeth becomes an option that comprehensively and correctly informed patients with more extensive dental damage and gaps very often reject²⁹.

3. Analysis of „Dental Periodontal Therapy“

3.1 Effects, Side Effects, and Failures in Conventional Periodontal Therapy

Established periodontology produces beneficial therapeutic effects associated with a certain improvement in the condition of the periodontal apparatus, often combined with a simultaneous deterioration of the prognosis for the substance of the jawbone. The preservation of teeth is thus accompanied by long-term bone losses. Whether the effects of the treatment are in a positive ratio to the patient's expenses depends on the accompanying circumstances. Axelson^{1,2} showed that patients after phase 1 of therapy with good cooperation and good recall could achieve excellent results over five years. If the patient's cooperation was lacking or the practice did not offer maintenance therapy, the

results over five years were poor. If the patients were in mediocre maintenance therapy, the results over five years were not good, but also not bad. Periodontal therapy is carried out when the practitioner can convince the patient, but without clear guidelines for the prerequisites for starting therapy.

The effects of a lege artis performed periodontal therapy are the removal of plaque, tartar, inflammation, reduction of swelling and pocket depths, as well as a certain (hoped-for) regain of clinical attachment. A less well-performed treatment will produce lesser or no improvements. These effects last only as long as the patient implements complete oral hygiene daily, the dentist offers and implements a full recall system, checks the results exactly annually, and the necessary maintenance therapy is carried out regularly^{3,4}.

The periodontal therapy applied in everyday practice consists essentially of an intense cleaning process above and below the gingiva, and possibly treatment with antibiotics.

According to previous observations, after therapy with poor oral hygiene and incomplete maintenance therapy, the

so-called „recurrences“ occur soon, i.e., chronic and acute inflammations that can lead to the loss of the corresponding teeth in the medium term and certainly in the long term. Much jawbone is lost before the loss of the teeth. The percentage of patients with such „recurrences“ has never been investigated under practice conditions. An estimate of how many percent of all patients in a country are in this stage will rather be negative. Several studies have shown that populations in industrialized countries are afflicted with almost permanent gingivitis and periodontitis^{3,5-10}. Due to the obvious inability of established health systems to eliminate this phenomenon predictably and permanently, various questions arise:

- Should we not recognize here that the possibilities to sustainably eliminate periodontitis are not utilized at all or do not exist to a noteworthy extent under real-life conditions?
- Would it not be more sensible to refrain from any PA treatments from a certain degree of periodontal destruction and to remove these teeth entirely to prevent further bone loss and unnecessary costs?

- Would it not be more sensible to extract affected teeth, especially after failed treatments with „recurrence“ and continued bone loss?
- Can the term recurrence really be used in view of the content of Fig. 4, i.e., is a „healing“ of periodontitis really possible?

Today, there is an implant-based alternative treatment available. During the first step of the treatment, (usually) all teeth are removed. This definitively prevents further inflammation and bone loss, and will furthermore demonstrably induce and enable bone growth. Therefore, it hardly makes sense anymore to take tooth-preserving measures in periodontally neglected and partially destroyed dentitions. In addition, any bone augmentation (for whatever purpose it is performed) is dispensable today. These questions and possibilities are relevant and real today because the treatment concept and procedure of Corticobasal® implantology or the technology of the Strategic Implant® have been available for a long time.

3.2 Are Bacteria and Plaque Really the Cause of Periodontitis and Bone Loss?

The bacteria present in the periodontally affected area are blocked by the cement layer of the root. If this protective layer is completely removed by iatrogenic processing of the root surface during periodontal therapy and especially during the repeatedly repeated „hygiene therapy,“ the bacteria can penetrate into the now exposed openings of the dentin tubules^{11,12}. In the tubules, round cocci grow along the tubule to the inner wall of the pulp cavity. This contact of the bacteria with the soft tissues of the pulp immediately causes the death of adjacent pulp cells. Upon reaching the pulp cavity, tubule-near pulp areas also begin to die. The tooth is now damaged up to the pulp, it will lose its vitality without caries being present. The practitioner notices nothing of this because no pain occurs. The necroses will no longer regress within the pulp that is undersupplied with blood. Inside the tooth, there is now necrotic and thus toxic tissue. This tissue can influence the soft tissue on the external tooth surface over time via the tubule 13. There is now a clinically unrecognizable paro-endo lesion, which may,

however, be recognized radiologically. In the process described above, bacteria play a decisive role. The processes described above occur without the need for deeper pockets or extensive exposure of the root surface. This is one of the reasons why the International Implant Foundation IF® recommends in its 9th Consensus Document the removal of periodontally involved teeth already from an attachment loss of 20% of the root surface³⁷. For a tooth with toxic tissues in the tubuli, a periodontal “treatment” can never help. The term paro-endo lesion was originally used for radiologically and clinically macroscopically recognizable connections between the apex of a tooth and the bone defect in the marginal periodontium. It is not clear whether this lesion arose from primary periodontal or endodontic reasons. This situation is therapeutically difficult to reconcile with a good long-term prognosis. This is the reason why such teeth are better extracted instead of planning an ultimately always failing, cost-intensive, and nevertheless useless endodontic-periodontal „rescue attempt“.

3.3 Osteonal Remodeling and an Increase in Activation Frequency Lead to Bone Loss, Although the Teeth and Thus the Jawbone Are Adequately Functionally Loaded

Every periodontitis-affected dentition represents a complex problem for the function of the jawbone. A distinction must be made between the processes in the alveolar and cortical bone. Due to the loss of alveolar bone, functional forces must be absorbed and transmitted by a reduced in height and deeper in the bone remaining periodontium. The lever forces occurring have been scientifically recorded. They lead in the desmodontium to such high forces that compression necroses can occur. On the other hand, the high mastication forces stimulate high mineralization of the bone surrounding the root, contributing to the formation of a bony barrier zone.

Since periodontitis usually occurs at several places in the dentition (multilocular) simultaneously or sequentially, it has comprehensive influence on the morphology and metabolic activity of the jawbone. Part of the side effects of periodontitis is the modification of the inner bone areas that are not accessible to observation.

This concentration of functional forces in the area of the inner jawbone has consequences for its mechanical structure. An adaptive bone remodeling must be expected, the internal morphology will be adjusted and the new structures must mature. This development is called the “phase for adaptation and consolidation”. Through adaptive bone remodeling, the macro-trajectory force transmission, which is not generated by the actual chewing forces, is modified and improved deep in the bone. This creates in the bone – invisible to the observer and otherwise not diagnosable in individual cases – a new, stable inner architecture. This often goes hand in hand with changes in the outer bone morphology, e.g. with atrophy. Only part of these changes can be attributed to an altered chewing pattern. The visible change in the area of the first cortical¹⁴ is often misinterpreted as „further or new flare-up of periodontitis.“ The exact cause of the progression and the underlying bone function cannot be determined.

In an existing untreated periodontitis, there is no marginal compact layer of bone and the first cortical is missing.

At the same time, a periosteum that would protect the bone from the soft tissue is missing. Both missing structure, the first cortical and the periosteum can only be rebuilt after the removal of the periodontally involved tooth, Fig. 1c.

Therefore, in every progression of the disease, a distinction must be made between a bacterially triggered „flare-up“ in the area of the affected periodontium and a „flare-up“ due to internal and external bone reorganization. Radiologically, bone loss in the area of the alveolar bone is recognizable. However, the cause of this event does not reveal itself to the observer. Since this bone loss often goes hand in hand with an increase in the depth of the pockets, which per se leads to more favorable living conditions for more aggressive germs, the therapist assumes a bacterially mediated flare-up and a “recurrence”. Therefore, cleaning as a therapy is done and, if deemed necessary, antibiotic therapy (whatever the outcome of it should be) is traditionally initiated as well.

3.4 Further Bone-Related Factors That Significantly and Negatively Influence the Success of Periodontal Therapy

Every bone remodeling follows the principles of Wolff's Law¹⁵, in the way that Roesler^{16,17} has specified in his explanatory representations of Wolff's Law: What we today call Wolff's Law was basically not correctly understood in its breadth by Wolff: only Roesler has put later all aspects valid to date together into a whole. In doing so, he focused on three concepts developed in the 19th century, namely

- the optimization of the bone's performance with regard to the lowest possible weight,
- the alignment of the trabeculae in the main direction of the load, and
- the self-regulation of the bone structure by cells that react to mechanical stimulus.

The internal organization and the external form of the jawbone can be influenced by infections. The infections induce a change in both the internal bony structures and the external form of the bone in their immediate vicinity. This is illustrated in the following examples:

- Newly formed higher mineralized bone trajectories in the depth of the bone form important, mechanically acting areas of the bone. These zones can later even take over macro-trajectory tasks. If this happens, a third cortical-like layer forms in the bone that competes with the first cortical. At the end of the process, this layer will also replace the first cortical. Inner, deep barrier areas thus influence the course of atrophy as well as the internal and external organization of the bone by melting away the first cortical, in the sequence that we are accustomed to call periodontitis or periimplantitis^{17,18}.
- As far as apical infections are present in the bone interior, these can be encapsulated by barrier zones of increased mineralization. This type of changes, i.e., the encapsulated apical infections, can persist over very long periods and thus effectively prevent the spread of the infection.
- The development of deep, highly mineralized cortical-like barrier zones, i.e., areas of higher mineralization built up at a certain distance from the resorption front of periodontitis,

indicates that infections are present in their vicinity. They are very similar to the remodeling processes that occur during periimplantitis. For there too, the first cortical is lost after a cortical-like barrier zone has formed in the bone interior.

Example B2



B2: Around the implant, a profound periimplantitis has developed. Permanent infections must be warded off by the bone. For this purpose, a new cortical (visible on the x-ray) has formed around the implant tip. What is clearly visible here is not visible in periodontitis. Barrier regions are located in the region of the root tips or periodontally affected teeth or somewhat deeper in the jawbone.

Further Aspects of Bone Neo- and Remodeling

Knochenneubildung und die lokale Verbesserung von Knochenqualität kann die Folge von Infektionen als auch die Folge von (u.a. drohenden) mechanischen Schäden in Knochen sein:

- Very rapid changes in the loading environment that are associated with an increase in the risk of fracture for the overall bone can be countered by the bone, e.g., through rapid deposition of plexiform bone. These events also occur without infections. Prerequisite is the accumulation of cracks and micro cracks. The known example in our area is the exostosis. It develops rapidly and can persist lifelong because it is quickly highly mineralized and remains so. Exostoses sit flat on the bone. Cause: Infections of the milk teeth and at the same time formation of permanent teeth, with simultaneous remodeling of the entire jaw through eruption-related jaw growth.
- If the infectious noxae do not come from the bone interior but from the rest of the organism, the periosteum has the possibility to form new bone for defense purposes also on the side

facing away from the bone (quasi outside the actual bone). A good example is the formation of new bone in the context of tuberculosis. In this type of neoformation, the slabs of new bone are usually only stalked connected to the main bone.

- Independently of this, long tubular bones thicken lifelong through depositions of additional bone substance with periosteal origin. For dentists, this circumstance is confusing or unknown because dentists only know the process of atrophy. Trigger of atrophy is the loss or strong reduction of bone nutrition and function. This process results from the fact that the bone-nourishing vessels of the desmodontium fail without replacement.

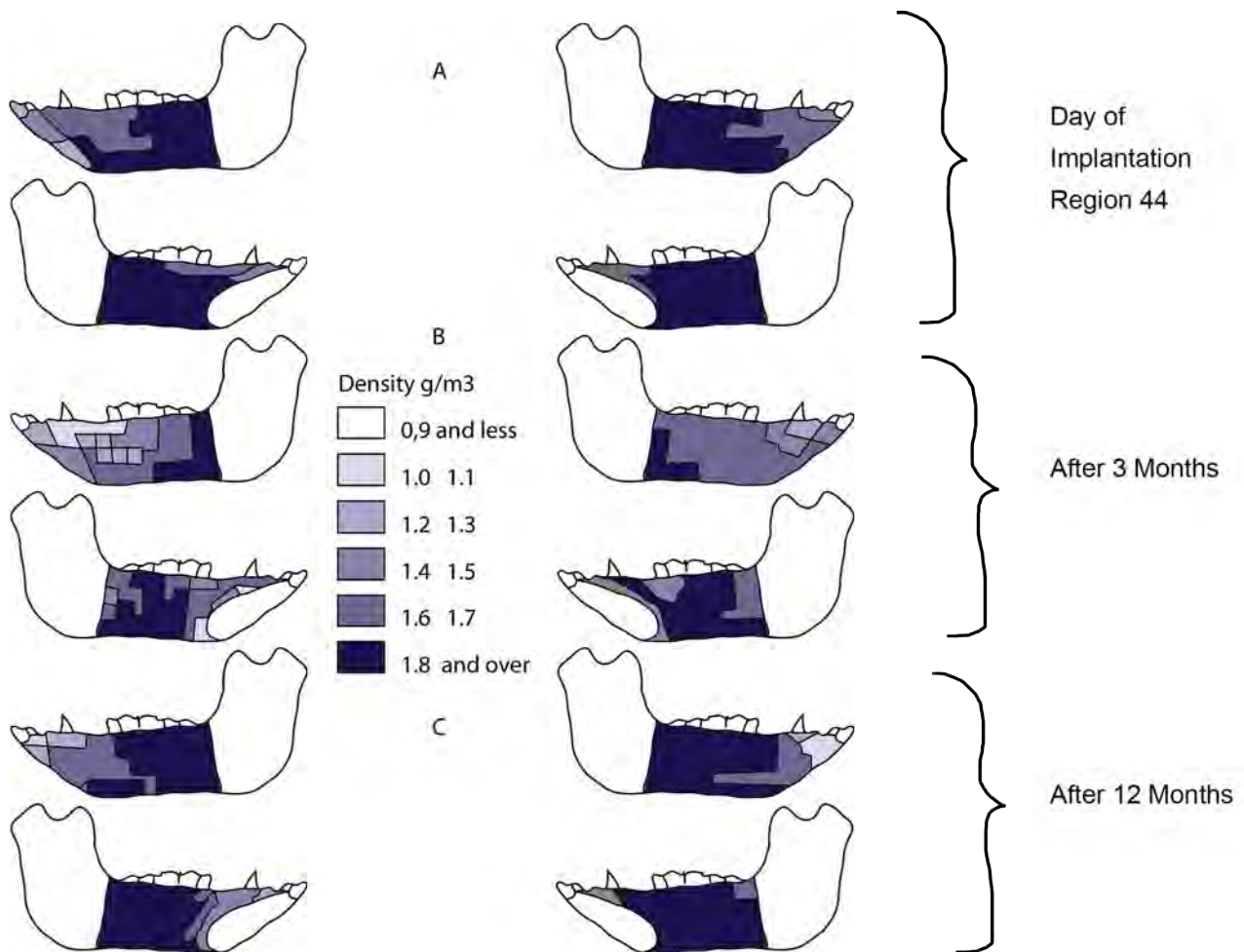
Important for understanding the very different processes in the bone is that for these bone-immanent remodeling processes, called remodeling, which according to Wolff's Law always lead to a reduction („optimization“) of the bone mass, no bacteria or no bacteria-induced bone loss and bone remodeling are necessary at all. The high bone-physiological share in the degradation (as a simple consequence of the remodeling with

an assumed constant function) of the bone substance in the context of periodontitis is unfortunately not found in the periodontal literature.

That the bacterial colonization of the exposed dentin surface described further above can push the wheel of bone degradation is undisputed. For, as in peri-implantitis, the initial degradation processes, i.e., the first tenths of millimeters of bone loss, are not associated with bacterial colonization; they are rather „bone-made,“ they are based on a body's own bone remodeling (with optimization of the bone quantity) and are not therapeutically influenceable at all. The further progression of bone loss and the development of resorption-resistant barrier zones are physiological bone reactions. These are symptoms and not an underlying disease.

It should be considered that during the intraoral dissolution of cortical bone, large amounts of minerals (e.g. Ca_xP) are released, which per se triggers a peri-implant mucositis. No bacteria are necessary for this either.

The overall extensive and multilocal breaking out bone remodeling represents a true „perpetuum mobile“ that fuels periodontitis again and again at different places in the jawbone. Every single periodontally affected tooth represents an independent start-point for the decay of the jawbone, and these starting points affect the bone of the entire jaw. Atkinson¹⁹ showed that already a local injury to the integrity of the bone leads to extensive bone remodeling in the affected extremity (here in the lower jaw).



Reproduced Fig. 1: This graph shows the mineralization of the respective cortical region on the four sides of the lower jaw of a pig. Mineralization is measured via the ash weight of the examined bone region (in g/m²). Measured on the day of implantation in region 44. The two upper jaw rows (upper curly bracket) show the initial bone density.

Controls take place after 3 (middle curly bracket) and 12 months (lower curly bracket), the results are shown with four images each of the sides of a lower jaw. It can be seen here that after 12 months, the remodeling has not yet come to a standstill, i.e., the phase of adaptation and consolidation is not completed. At the end of consolidation, it is expected that the bone density will again reach the values that existed before the start of the experiment.

The interaction of the different starting points of the bone's remodeling cannot be calculated, foreseen, or prevented. This is also a reason why periodontitis, once it has occurred, cannot be causally treated even locally. In the currently taught academic "periodontology", there is a lack of any bone-oriented diagnosis and therapy¹. The focus of this type of periodontology is directed to bacterial, however bacteria are not the origin of the disease once it has started. This is a serious deficiency in knowledge that leads to widespread and consequential misconceptions. Periodontology must urgently deal with bone physiology. This article thus closes an important gap in the understanding of the disease.

4. Is Periodontitis Curable?

Periodontitis is "incurable" in the sense that neither the practitioner nor the patient can choose nor influence the moment when the progression of vertical bone loss definitively ends, even with massive therapies of all kinds. This understanding of the processes in and on the bone suggests that the term "recurrence" should be used only with caution, as it directs the therapist's and the

patient's thinking in the wrong direction. Periodontal disease may be liberated from acute bacteria attacks; however, we have to understand that in every local area of (crater-like) bone resorption the seeds for the procreation of the disease are silently sleeping. Which crater will move on first (thereby affecting the reduction and the reorganization of the overall bone supply) cannot be foreseen. Repeatedly, new infections occur on the last 1/10 mm of the pocket and in the pocket. The narrow and unnatural spatial relationship in the depth of the pocket makes the formation of protective periosteum impossible. The excessively strong bone concavity at the bottom of the pocket leads to a very limited adaptation possibility of the bone, which would want to grow up on the affected tooth to reduce the concavity of the bone (according to the "Flexure-Neutralization Theory"²⁰⁻²²). This is also not possible due to the bacterial biofilm and the existing inflammation.

Figs. 5a-5c show that after the removal of periodontally involved teeth, the concavity problem is resolved very quickly and the overall bone is repaired. As soon as the bone is unprotected and exposed to

the granulation tissue (precisely because the periosteum is missing at the pocket bottom), it is also unprotected and exposed to high oxygen and blood supply. This inevitably leads to the leaching of minerals from the bone and further degeneration of its bone properties as well as reduction of the bone quantity. Why this is so: Here, Frost's theorem for avoiding or eliminating concavities applies²¹. Harald Frost described and published these relationships as early as 1964²⁰.

Only when massive generalized bone loss is present in a jaw area does the bone reach the tooth surface at a more favorable (approximately right) angle that supports the desmodontium in its properties and that first allows the formation of periosteum. Only from then on can the new first cortical, i.e., the former deep barrier zone, form as an effective, highly mineralized barrier against the progression of periodontitis. The bone "knew" long ago, by evaluating information about "stress and strain" at various places in the jaw, where in the overall bone of the jaw persistent and highly mineralized bone is newly and durably formed. Barrier zones are formed at a certain distance from bacterial attack.

This zone can later become the first cortical. The bone above it was already lost at the beginning of the event because the once initiated process reaches its endpoint eventually.

In practice, stopping the bone reduction process is hardly achievable also because micro-inflammatory processes flare up or progress multilocally persistently (which is often erroneously called "recurrence"). Therefore, the remodeling is moved to ever deeper layers of the jawbone, which subsequently mutate into barrier regions and mineralize higher. The hope for complete periodontal healing with existing teeth in the jaw must therefore give way to a more realistic assessment.

"Healing" means in this context: Decline of the activation frequency for the formation of new osteons to an age-appropriate level for the individual patient (see Fig. 2). This decline will be achieved at the earliest two years calculated from the last started remodeling flare-up and related to the osteons affected by this remodeling. The "phase of adaptation and consolidation" lasts about two years, which is also rather unknown in the area of traditional dental implantology.

This phase is unfortunately occasionally confused with the “healing time” of osseointegrated implants.

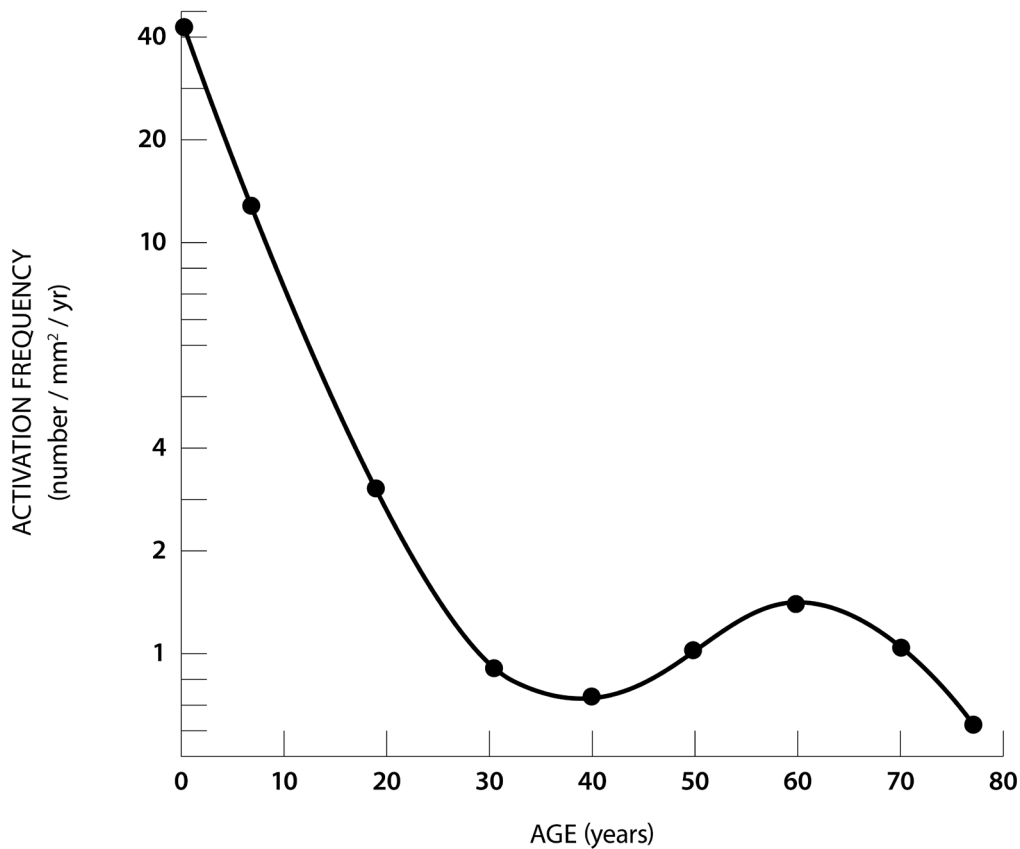


Fig. 2: This graph shows the logarithmically decreasing activation frequency for new osteons (number/mm² bone/year). The bone remodeling rate shown here concerns all bones of the individual (with the exception of the jawbones in individual cases) and is exclusively hormonally controlled. (Source: R. Bruce Martin, David B. Burr, Neil A. Sharkey: *Skeletal Tissue Mechanics*, Springer, New York, ISBN 0-387-98474-7, figure with permission of the authors).

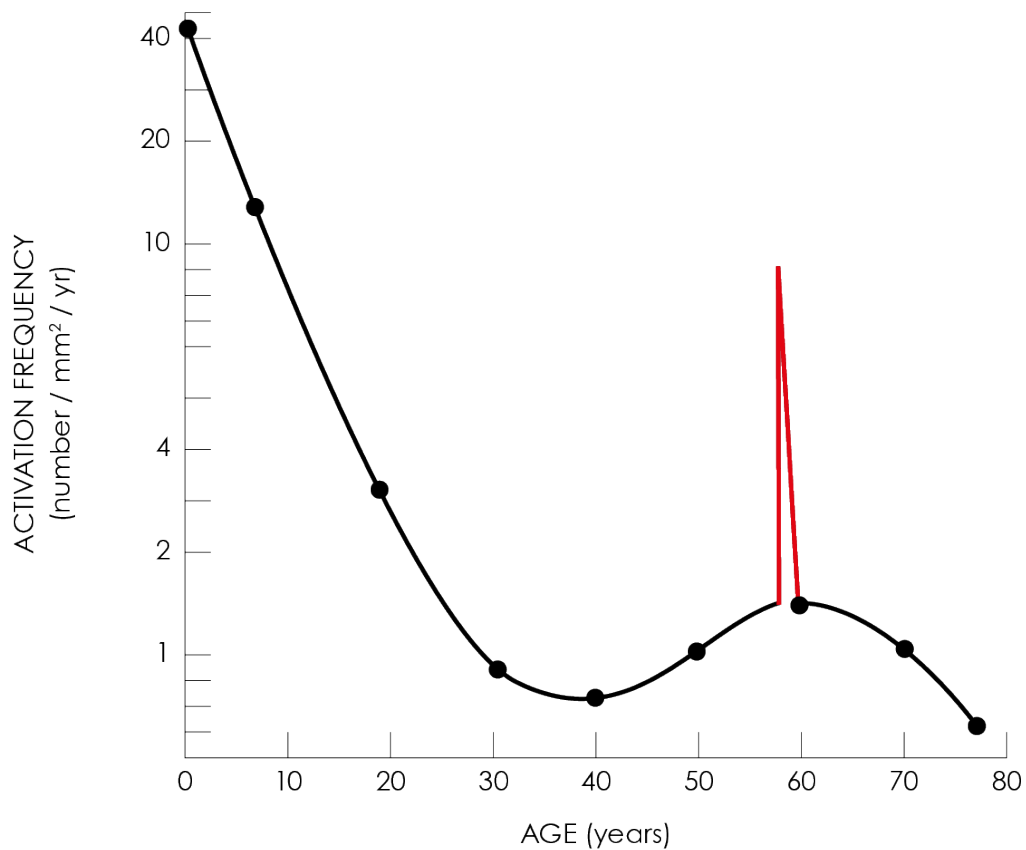


Fig. 3: After a small surgical intervention or a tooth extraction, a local increase of the activation frequency will become reality. Subsequently, the bone (after about 24 months) comes to rest again and an age-appropriate activation frequency is observed. This Fig. 3 shows the same as Fig. 1, but here the activation frequency of a single bone region is shown over the entire span of its existence. This figure shows in the area of the red spike the local drop in mineralization of the bone, so it is another way of representing the contents of Fig. 1.

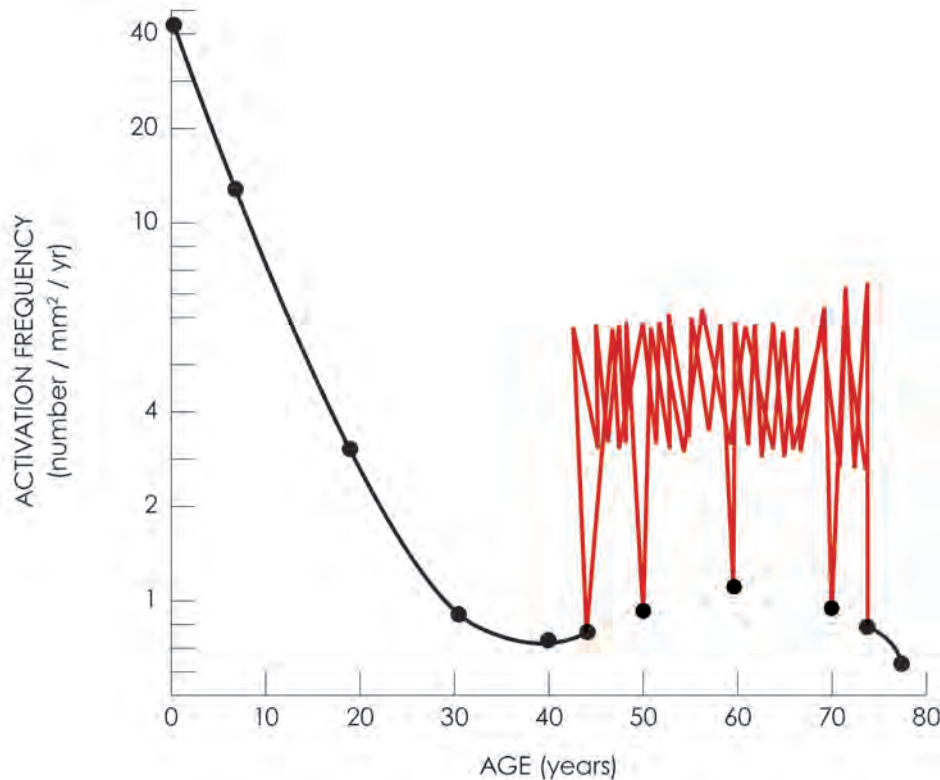


Fig. 4: In the presence of periodontitis, it must be assumed that multilocal stimuli for bone remodeling are generated in the spongy and cortical bone, which will lead to a general increase in activation frequency in the jaws. This process cannot be treated by antibiotic therapy, cleaning measures, or disinfection measures. Due to the high activation frequency, which occurs simultaneously or successively at completely different places in the jaw and each triggers comprehensive remodeling, bone loss occurs through continuous optimization of the bone quantity. This description applies equally to the nature of periimplantitis and periodontitis. While the superficial part of periodontitis (the bacterial inflammation of the pockets) can be quickly brought to “subside” after starting professional or patient-side cleaning efforts, it takes (as long as no recurrence occurs at individual sites) about two years until the high bone remodeling induced by the flare-up subsides and stability in the jaw bone returns. As a result, this means that periodontitis is effectively not curable.

This figure explains also that even if in some (or one) sites of the jaw bone, bacteria and plaque are initiating another round of bone loss, the bone is pushed through this in general towards new and strong remodeling, which by itself will push other sites into further bone loss (without bacteria and plaque necessarily being present in those sites).

The plan to treat periodontitis by removing teeth and by early insertion of conventional, (osseointegrating) implants (long before the end of the adaptation and consolidation phase) is doomed to failure from the outset for the before-mentioned reasons³⁵.

Periodontitis or implant-related bone loss can pause for longer periods at higher mineralized barrier zones in the bone, for example at the linea obliqua of the distal lower jaw³⁶. This is clinically evident in that lower first molars (in whose area this zone lies too far apically) are much more frequently affected by profound periodontitis than, e.g., lower second or third molars. These zones can be tactically diagnosed with the bone drill during the preparation of implant cavities. Such barrier areas within the bone are later often functionally used by macro-trajectory force transmission tasks which protects them from further resorption without forces introduced directly into the jaw (by the teeth) being necessary. The same conditions exist as in the development of periimplantitis^{17,18,24}.

That the bone loss reaches such a resorption-stable bone front (barrier zone) and that the bone loss slows down cannot, however, be regarded as a periodontal treatment goal or even as a treatment success.

As long as modern Corticobasal® implants were not yet available as a therapeutic means, it was of course justifiable to carry out extensive, years-long periodontal treatments to delay toothlessness and inability to chew. Today, patients must be informed that already from an exposure of the intraosseous root surface of 20%, in view of bone preservation and the unfavorable prognosis of the disease, extensive extraction and dentures on Corticobasal® implants in immediate loading are advisable. Because even if (currently) “only” 20% of the root surface is exposed or exposed to direct bacterial attack from the pocket, sooner or later more severe damages are to be expected that threaten the vitality of the tooth and thus make it the starting point for further damages.

Patients who invest so much money in an implant supply do not want to make another not insignificant follow-up investment in the retained teeth or their periodontium after a few years; they want to end the topic of own teeth forever.

4.1 Bone Healing Through Tooth Extraction and Implant Placement: The Imperative of the Hour

The bone damages caused by localized chronic periodontitis can be auto-reversible after implantation at some places in the jaws without further intervention.

This especially if the causally affected teeth are removed in time. The empty alveoli then begin to ossify quickly coronally while the Corticobasal® implants are in full function. The existing bone cavities are filled to varying degrees, a new bone line (first cortical) forms, Figs. 5a-5c as well as (for comparison) 6a-6b.

The complete healing of the bone-near inflammations caused by periodontitis is enabled if the affected teeth are rigorously removed. This is possible today without restriction of quality of life and chewing function if Corticobasal® implants are inserted simultaneously into the extraction alveoli and possibly other jaw areas (preferably in all jaw areas) and immediately put into function.

Example 1:



Fig. 5a: Tooth 37 shows advanced periodontitis and third degree mobility. Here too, the granulation area is delimited from the rest of the lower jawbone by a higher mineralized barrier cortical.



Fig. 5b: After removal of tooth 37, the granulation tissue is disinfected but left in the site. Then a Corticobasal® implant is inserted immediately. The implant is loaded in an immediate loading protocol and splinted in the context of a circular bridge. The upper jaw was treated simultaneously to enable balanced mastication function. This figure shows the healing process and the self-reconstruction of the bone after 8 months. It is clearly recognizable that the bone matrix has built up from the edges of the old bone and that it has mineralized radially. The first cortical has not yet been restored at this point, i.e., it has not yet been mineralized. The barrier cortical is already being degraded.



Fig. 5c: *This figure shows the healing of the bone severely damaged by periodontitis as well as the establishment of a first cortical at its original location after 20 months. The directed mineralization along the vertical (polished) axis of implant 37 is now clearly recognizable. This internal cortical arises because the implant is fixed in the basal cortical and because the distal lower jaw is deformed laterally and medially during mouth opening and closing. The internal cortical along the vertical implant axis is thereby stimulated to increase mineralization. The other implants visible here in the same BIPs also show such hypermineralization along the vertical axis.*

Bone augmentation was not performed even in this extreme case, as simple self-healing of the bone segment freed from the teeth could be relied upon. It is obvious that this solution is clearly superior to both conventional periodontal therapy and conventional implant therapy, especially since it enables the immediate loading highly desired by patients.

Deep bone defects also heal without direct activation of the bone by a Cortico-basal® implant (see tooth area 37, Figs. 6a-6b). With local activation of the bone by an implant in the defect area, however, they heal much more completely and much faster, Figs. 5a-5c.

That direct stimulation of the bone in the area of the extraction alveolus is important for complete bone regeneration is shown by the following example (Figs. 6a-6b), in which fixed chewing ability was achieved with the help of two lateral basal implants and one tooth, but no implant was inserted in the extraction area 37, example 2:

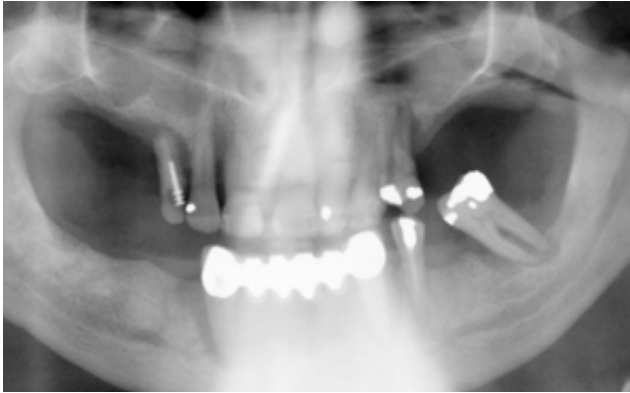


Fig. 6a: The bridge 33-34 shows degree 3 looseness at pillar 43. Tooth 37 is also loose to the same extent. Since at the time of treatment, the IF® methods for inserting Corticobasal® implants were not known, the left distal lower jaw could not be treated implantologically at that time.

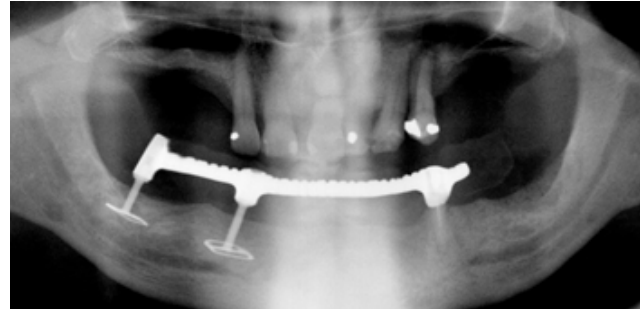


Fig. 6b: The control image exactly two years after treatment shows well-integrated lateral basal implants and tooth 45, which are held together by a metal-reinforced bridge. The extraction area 37 is inconspicuous and appears to be on the way to healing, but it is still not completely mineralized. Therefore, one cannot speak of true healing of the endo-paro defect, although two years have passed. The direct forces that an implant could impose on the healing bone site are missing.

The larger bone defect in Figs. 5a-5c heals more completely in the presence of a Corticobasal® implant with immediate loading than the bone defect in Figs. 6a-6b without implant.

Even with far lesser periodontitis-related damages, timely / early extraction is adequate because only thereby the underlying disease is effectively treated. Real healing cannot be achieved if the tooth is kept in. On the other hand, it is of course the right of patients to choose and (self) pay for a more elaborate periodontal treatment to preserve the

teeth or to persuade the private health insurance to pay. It should be considered that in the case shown above (Figs. 5a-5c), massive bone destruction occurred only at one tooth, whereas at all other teeth only very localized periodontally caused damages occurred.

4.2 Are Bacteria the Cause of Bone Destruction?

One of the basic assumptions in periodontology is that seven particularly harmful germs are present in high concentration in active pockets and that these are the

triggers of periodontal bone loss. It is correct that the body's own immune defense fights these seven microorganisms with T-cells, P-cells, lymphocytes, and possibly with macrophages, resulting in local hyperemia, i.e., an inflammation sign. This hyperemia near the bone (but not in the bone) leads to loss of minerals, whereby the previously highly mineralized bone transforms back into its organic matrix. If parts of the connective tissue matrix are still present afterward, this matrix can remineralize again (in theory). The degradation and buildup of mineralization can be followed in the x-ray image. If extensive demineralization has occurred, microorganisms will attack the matrix and then degrade it. The high resistance of bones to bacterial degradation is based on the high content of mineral salts (e.g., Ca_xP_y). In addition, infections near the (affected) bone lead to an (infection-related) local increase in mineralization around the granulation. This process is sometimes referred to as „encapsulation of the infection.“ Note that between granulation tissue and the bone a periosteum never exists.

Figs. 5a-5c show however that the complete remodeling of jawbone also occurs after the periodontally affected teeth have been removed and replaced by Corticobasal® implants. Thus, a new, mineralizable connective tissue matrix

had to form (mainly under functional aspects).

That macro-trajectory aspects play a significant role in „periodontal bone loss“ in the development of periodontitis is also evident because, e.g., regions 46/36 always show the strongest bone loss, which cannot be explained by a particularly strong bacterial infestation at this site. The lower jaw front tooth area with its own strong mechanical torqueing in function is far less affected by „periodontal bone loss“.

5. Periodontitis and Mortality

Periodontitis is mostly seen as a purely dental and often rather aesthetic problem, which, if it remains untreated, ends with tooth loss. Newer studies show a much more serious picture. People with untreated periodontitis have a significantly increased risk of dying earlier, especially from cardiovascular, respiratory, or cancer diseases.

5.1 The Underestimated Danger in the Mouth

Untreated periodontitis not only leads to gum recession and ultimately to tooth loss. It additionally leads to a chronic, systemic inflammation in the entire body. These inflammatory processes are suspected of promoting or worsening serious diseases such as arteriosclerosis,

diabetes, chronic kidney insufficiency, and dementia.

In the SHIP-Start study with 3000 patients over 13 years, it was shown that people with untreated periodontitis had an up to 40% increased mortality risk, especially when elevated inflammation values in the blood were present at the same time, such as C-reactive protein²⁵.

Other international studies confirmed this connection. An analysis from the US health database NHANES found that people with diabetes and simultaneous periodontitis had a 27% increased risk for overall mortality and a 35% increased risk for cardiovascular deaths²⁶.

5.2 Can the Treatment of Periodontitis Reduce This Risk?

The correct periodontal treatment can reduce the increased mortality risk to normal values: A large cohort study from South Korea with over 1.1 million older people with dementia showed that people who had their periodontitis treated had a significantly higher survival rate. After 17 years, 83.5% were still alive in the treated group, while only 71.5% in the untreated group²⁷. Of course, the question arises here whether a certain insight into the necessity of treatment in the treated group did not also lead to smarter other decisions in life.

Also in people with chronic kidney disease, it was shown that a lege artis performed periodontal treatment can lower the inflammation values in the blood and reduce the risk for cardiovascular complications. A systematic review²⁸ confirmed that the markers CRP and Interleukin-6 decreased significantly after periodontal treatment - two decisive risk factors for heart attack and stroke.

5.3 Why Does Periodontal Treatment Have Such a Positive Effect on the Whole Body?

A chronically inflamed gum pocket continuously releases bacterial endotoxins and inflammation-promoting cytokines into the bloodstream. These promote inflammations at other places in the body, e.g., on the vessel walls, and thus become important factors in the development of arteriosclerosis. If the inflammation in the mouth is eliminated, the immune system also calms down and the systemic burden decreases.

From a pocket depth of 5 mm and more, sarcoma cells will be regularly detected in long-existing pockets. Untreated periodontitis is therefore not a harmless dental problem, but a very serious systemic risk factor, especially for older and sick people.

The scientific data clearly show:

- Untreated periodontitis leading to desolate oral conditions increases the risk of dying early.
- A complete and well-performed periodontal treatment reduces this risk, in the best case to the level of healthy people. However, it must be assumed that only insightful patients who recognize a need for treatment and then have it carried out. These patients already have a better chance of survival due to their higher intellectual abilities.

Fig. 4 of this publication clearly shows that the term „recurrence“ of periodontitis is hardly justified. Even treated patients who are, e.g., inflammation-free (no bleeding on probing etc.) typically do not have stable bone conditions that would justify speaking of existing health. The terms „health“ or „successful treatment of periodontitis“ can only be used when the activation frequency in the bone permanently drops to age-appropriate values. **This is to be expected only about two years after completion of the periodontitis basic treatment.** The disease can count as cured only if no further / recurrent flare-ups of periodontitis occur at even a single site in one jaw.

Which is never the case for all sites over the two years period.

5.4 What Does the Correct Advice and Treatment of Patients with Chronic Periodontitis Look Like?

Above, it was explained

- why the real and definitive „healing“ of periodontitis is only rarely observed,
- why good professional and patient-owned oral hygiene is the key to oral health (which is not a new information), and
- the easier and safer way is to remove all affected teeth and to replace them with modern infection-free cortical and basal implants.

The risk factors for increased mortality thus mostly lie on the patient side in the area of compliance. As far as the dentist recognizes through observation of his patients that individual patients repeatedly appear in the practice with periodontal inflammations, increased pocket depths, and plaque-related inflammations, these patients should be suggested to part with the care-intensive and periodontally pre-damaged teeth and to switch to modern dental implants. This step must be actively taken in many patients while the periodontal event has „only“ reached

stages 2 or max. 3. The dentists' bad habit of not removing caries-free teeth on principle and considering them as „healthy or treatable or prosthetically usable“ (see example B1) needs a clear correction in view of the significantly increased mortality of patients with chronic, untreated periodontitis, and in view of a treatment concept which does not consider the use of natural teeth at all. Here we mention (just for reminder) that the best and most stable results of implant treatment are achieved:

- In circular bridges
- If no teeth are left in the treated jaw, especially not in the same construction together with implants
- If the prosthetic reconstruction of done in the ideal position of the jaws

Many teeth are effectively caries-free and yet require their immediate removal in the case described above to avoid general health damages.

6. Conclusions

The risk factor no. 1 in the oral cavity are the natural teeth. If this realization spreads, then the logically thinking patient and his dentist move towards the transition to the targeted but broad application of Corticobasal® implants or the Strategic Implant®, which today can

replace every tooth or the teeth as a whole. This is the effective variant of dentistry.

Corticobasal® implants are the long-sought alternative to long dental and periodontal treatments. They can be used in all bone conditions without bone augmentation. Through the possibility of immediate loading, they deliver therapy results very quickly. Through the final elimination of periodontitis and the safe avoidance of periimplantitis, long-lasting to lifelong treatment successes can be expected.

This modern Corticobasal® implant treatment technology (osseofixation) seamlessly replaces significant parts of “periodontal therapy”; it has a clear concept and clear rules that everyone can understand and implement. This switch from tooth repair to modern implants can be taken as an example for a “substitution” in the medical field.

Since no periimplantitis occurs around these modern implants, they can work all life long³⁰⁻³⁴.

The possibility of involving universities in the research and dissemination of the method does not currently exist, as the universities have not bothered with the development of the method in the last 15+ years and have no specialist personnel who could represent the subject of immediate loading of cortically ancho-

red implants in research, teaching, and application. However, this subject has been developed to real practice maturity especially in the last 15 years by globally networked practitioners. The same practitioners teach the subject at a few universities as external professors. In Europe, such cooperation is rare, as all professors are mainly already connected to one or more of the manufacturers of 2-stage implants.

The indication for tooth removal was set with good reasons by recognized experts in the 9th Consensus Document of the International Implant Foundation IF® (Munich) (with regard to PA involvement) at an attachment loss from 20%. The background of this determination is to be understood that the preservation of the bone around such pre-damaged tooth bed areas is associated with a poor prognosis, especially if one would extract too late. The consensus document leaves it open whether this condition was caused by an elongation of the tooth row from the bone („elongitis“), possibly accompanied by an initial increase in the vertical bone level, by bacterially induced, local-inflammatory vertical bone loss, or by bone remodeling or bone loss triggered by an unphysiologically high activation frequency, as shown schematically in Fig. 3.

Characteristics of „elongitis“ are the apparent recession of the bone at the tooth roots and the absence of crater-shaped bone loss: The bone thus still runs at right angles to the tooth surface. Triggers of circular elongitis are often erupting (elongating) wisdom teeth that lift the bite from distal, while at the same time low chewing forces are present. Modern foods support this elongation, since close to zero forces are necessary for mastication.

The goal of treatment with Corticobasal® implants is not (only) the replacement of teeth, but the permanent buildup of the patient's fixed chewing ability.

Because that is exactly what patients really need and what they want to pay for. “Natural teeth” are dispensable today for the preservation or restoration of fixed chewing ability and from an aesthetic point of view. Larger investments into the natural dentition are therefore rather questionable today. Keep in mind that restorations of teeth are rather complicated and require a lot of experience and precision, whereas the surgical and prosthetic rules of the technology of osseofixed implants are obvious and comprehensive.

This does not mean that every patient must have their teeth removed from this periodontal involvement, but patients must be informed that continuing tooth

treatments and leaving teeth in the oral cavity is associated with higher running costs, and higher medical risks compared to a comprehensive treatment with osseofixated implants.

It rather means that the practitioners are legally and therapeutically on the safe side if they remove such periodontally affected (and other unwanted teeth) early (with the informed consent of the patient). Patients do not have to waste their lifetime with useless or dangerous treatments.

After periodontally involved teeth are removed, they are then immediately replaced by Corticobasal® implants instead of accompanying patients to the final failure of their teeth. Treatment with Corticobasal® implants yields direct results and prevents further deterioration of the jawbone. Any practitioner who prefers to continue (like a habit) with traditional periodontal treatment is obliged to mercilessly inform every patient affected by periodontitis that the preservation of teeth today is merely an expensive and uncertain option and that modern implantological technologies are better and cheaper, especially if used early in life, as only this treatment liberates patients from their dental problems. In this way, prostheses of all kinds are also avoided.

A recently internationally published study from the Swiss Simpladent® clinic shows that the quality of life of patients treated in this way increases significantly. 97% of potential patients to whom this therapy was suggested opted for the treatment variant that includes total extraction. 100% of the patients reported that they would opt for this treatment again²⁹.

A long-term observation on very large patient clientele (1680 complete jaw implantations with more than 17,000 Corticobasal® implants) proved that Corticobasal® implants are far superior to osseointegrated implants (of all kinds and brands) in terms of health and success. Those modern implants are nowadays used already in young and middle-aged patients (range of age 23-87 years)³⁰.

Corticobasal® implants are also far superior to osseointegrating implants because they do not generate periimplantitis³⁰. During their last years in function, patients are often suffering from pain and infection due to "periimplantitis". We can conclude from this that osseointegrated implants show severe disadvantages which prevents their use nowadays. Osseofixated implants can last forever from a technical and medical point of view, even if the prosthetic construction (as far as it does not consist of full zirconia from the beginning) is periodically replaced (after years) due to wear.

Reservations that exist with conventional osseointegrating implants regarding the extraction of teeth with a life expectancy of eight or more years (due to the known low durability of osseointegrated implants) and their high complication frequency do not need to be considered when using the technology of Corticobasal® implants and the Strategic Implant®. In planning the complete switch to implant-supported dentures (in an immediate functional loading protocol) desired by many patients as an elective procedure, there are thus no concerns or restrictions when using modern implants, as they have always existed and exist with osseointegrating types of implants. The aforementioned implant technology has also overcome the problems that lead to many failures and disadvantages in the All-on-4 technology. For one thing, many users of the procedure overlook that „All-on-4“ is performed with conventional implants, i.e., these implants, at least some of them, will sooner or later fall victim to periimplantitis. The implants used in the „All-on-4“ technology are old-fashioned 2-stage implants with rough surface, and these implants come with all the well-known disadvantages of implants designed 20 or 30 years ago. Furthermore, it is often not correctly stated that the All-on-4 treatment requires a lot of bone in width (since thick,

conventional implants are used in this procedure), which is why it can only rarely be carried out on patients. There is a significant rate of deselected patients, which appear in none of the statistics. The ITT principle is violated in all of these published papers and hence their scientific value is nil⁴². The original „All-on-4“ technology (allegedly) gets by with only four implants in the anterior jaw area. This very large, often decisive disadvantage of the All-on-4 technology (which often leads to fractures or other technical problems) is that the area of the jaw where the greatest chewing forces occur is the distal area of the jaws, no support by implants is given⁴¹. This concept does not regard the rules of the „supporting polygon“.

The well-advertised „better solution“, the „All-on-6“ treatment, has other risks as increased occurrence of periimplantitis (on up to 80% of the implants), since periimplantitis occurs more frequently and earlier („early onset PI“), as soon as more than five conventional implants per jaw are inserted and used in an immediate loading protocol⁴⁰.

The long durability and unproblematic handling of completely smooth implants (e.g., Corticobasal® implants) was, however, scientifically proven decades ago^{38,39}.

Nevertheless, the dental industry managed to push through and keep rough surfaces, and therefore we see with this old technology many damages in our patients. Hence, we have decided long ago to avoid all risks and to remove 2-stage implants in any case – even if they look good at the beginning of our treatment. By doing this, we also respect the differences in elasticity which have to be taken into consideration if the older 2-stage implants are combined with osseofixed implants.

The missing durability of osseointegrated implants and their tendency to show periimplantitis is deemed so normal in the profession of conventional implantologists^{iv} that even court experts (so far) have never tried put the blame on the treatment provider for choosing the wrong implant brand. Oral implantology is a red-light district of dentistry.

Summary

The authors conclude that against the background of the modern possibilities of Corticobasal® implantology (the same is true for the technology of the Strategic Implant®), periodontal therapies are dispensable in many clinical situations,

^{iv} A car with so many severe faults as osseointegrated implants show (without having any advantage) would not be sellable at all.

since today modern, safe, immediately effective, as well as sustainable methods for rehabilitating desolate dentitions exist thanks to the development of Corticobasal® implants. The dentitions damaged by dental treatment can be easily and excellently reconstructed functionally and aesthetically by the modern implantological method of „osseofixation.“ This occurs in competitively short time, without long suffering periods for the patients. It spares the practitioner the pursuit of medically no longer sensible treatment paths. The patient is spared multiple costs and multiple suffering.

The goal of treatment with Corticobasal® implants is not simply the replacement of teeth, but the permanent buildup and preservation of fixed chewing ability. To achieve this strategic treatment goal, „natural“ teeth are not necessary today. The financial and health risks associated with natural teeth can be safely and easily avoided today.

From our experience and considering the analysis of existing literature, early tooth removal is much more indicated than the recurring repairs of „natural teeth“. Natural teeth are an option with significant risk; therefore, their preservation (actually a risk preservation) is for rich people: rich patients and rich dentists.

Those persons, which are affected by periodontal disease, wishing to have eternally beautiful and fixed teeth at affordable conditions (and almost without any problems) switch in time to Corticobasal® implants or to the „Concept of the Strategic Implant®“.

Overall, the modern implant therapy described here is far cheaper and more effective than ongoing re-dentistry and it allows choosing the aesthetic result. An early switch to implants is much cheaper anyway than years-long / lifelong periodontal treatments as well as other treatments on teeth.

The treatment with this modern implant concept is rightly called a „holistic approach.“ A complete treatment and elimination of ALL PROBLEMS is the aim. Due to the excellent long-term results, it is easy for our patients to part with their risky teeth and to make the switch to implants early.

We consider “dentistry” as it is done today around the world to be a predominantly symptomatic: “therapy”, where symptoms are cured (e.g. decayed teeth) and not the cause. The teeth are the cause of the problems, and hence only their removal helps to solve the problem for good. Naturally, all members of the dental profession (dealing with teeth) are opposing any therapy that really helps and solves problems for good.

To summarize this in short: simply because the complete renewal of the dentition through bridges on modern implants is cheaper than preserving the natural, especially the periodontally damaged teeth, low-income patients today should decide first of all for this reliable treatment path.

In our case, periodontal treatment becomes superfluous and it is replaced by modern cortical and basal implants. The older alternative, the “periodontal treatment”, does not even have a defined success criterion. Nobody noticed this for decades. Which is amazing.

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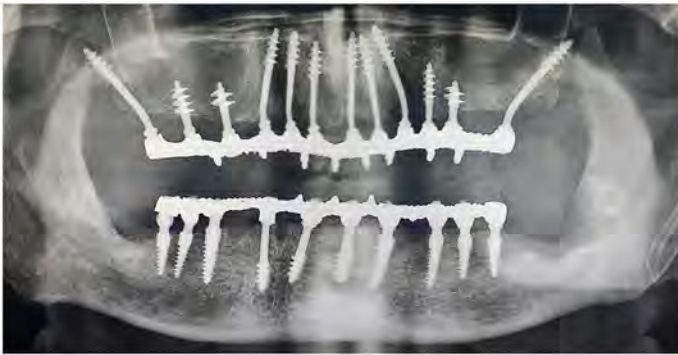
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16 Advantages of Osseofixation

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Conventional Implantology



1 Inspection Diagnostic procedures Treatment plan

2a **Surgery 1**
Tooth removal

2b **Surgery 2**
Bone augmentation/sinus-lifting
(necessary in up to 80% of the cases)

2c **Surgery 3**
Implant placement
(adequate bone healing provided)

2d **Surgery 4**
Placement of gingiva former

2e Impression taking

3 Trying of the bridge frame
(5-10 days after impression taking)

4 Delivery of bridge (4-24 months after implant placement)

Total

Treatment duration: 4 - 24 Months
Number of appointments: 7 - 12

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Inspection
Diagnostic procedures
Treatment plan

1

Removal of teeth, Implant placement, Impression & Bite taking

2

**Step 1 and 2 may be done in the same (first) appointment.*

Trying of a sample bridge and aesthetic & functional corrections (if required) **0 - 1 days** after implant placement

3

Delivery of bridge (**1 - 3 days** after implant placement)

4

Control of occlusion and mastication

5

Total

Treatment duration: 2 - 4 Days
Number of appointments: 4 - 5

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