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A LOGICAL APPROACH TO UNDERSTANDING AND SOLVING THE LARGE MAJORITY OF THE PROBLEMS IN THE ORAL CAVITY AND TO LIMIT THE COSTS FOR FIXED TEETH IN THE 2ND HALF OF PATIENT'S LIFE.

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A logical approach to understanding and solving the large majority of the problems in the oral cavity and to limit the costs for fixed teeth in the 2nd half of patient's life.

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Abstract

In today's dentistry conventional oral implants are used to replace missing teeth. Due to long healing time and frequent complications, this conventional (2-stage) implant approach is however avoided by the patients, it is presently their "last resort".

Modern Corticobasal® implants however, using the proven method of osseofixation and providing an almost unlimited field of usage, have turned out to be a game changer not only in the field of implantology, but also in general dentistry. They allow to install fixed teeth in an immediate loading protocol and independently of the bone supply in the jaws. Hence today patient are free to utilize their natural teeth or to opt for their removal and replacement at any time in their life.

This article provides an in-depth and unsparing analysis of the situation in the dental part of the healthcare system and shows a very bright prospect how the patient's situation can be changed for the good in the future. Tremendous changes in the quality of life and the costs of any healthcare (system) will be possible as

soon as the principles and aims of dental treatment will be adjusted to the new technical and medical possibilities.

Dentists tend to see their main task in saving (natural) teeth whatever it costs, although this is **not** the primary aim of patients as long as they are equipped with fixed teeth. We also know that dentists overestimate the long-term results and the "advantages" of tooth-saving procedures.

This article shows a way out the dilemma of the dental part of the health care system and of lengthy, painful and expensive tooth treatments. Such treatments were justified as long as no true alternative had been invented/available. Now that we have such an alternative to teeth (and to conventional oral implants), treatment principles and options are changing rapidly. The dentulous patient with really carefree fixed teeth has become the reality.

1. Introduction

While in many societies private organisations are expected to work effective

and to donate masses of taxes to their governments, governmental organizations (the longer a country exists) tend to waste those assets one way or another. In very few countries we see declining private and government debts. A larger and larger part of the population becomes thus employed in state organisations which are not subjected to measurements regarding their effectiveness and value to the society. Logically more and more assets are poured into the health system where only few sections of treatment providers are guided to work effective. Dentistry has so far not seen and significant transition to effectiveness. This article explains how modern dentistry can work very effective and produce affordable and accepted results by consequently eliminating the main problem-makers in the oral cavity (the teeth) in the right moment of a patient's life.

99.99% of the problem which we find in the oral cavity are stemming from the teeth, and tooth-related problems are the reasons why patients see a dentist again and again.

Few patients suffer from non-tooth-related diseases, such as cancers and infections, but the main source of life-long problems are the teeth. With every repair of a tooth, tooth substance gets less and the quality of the tooth substance goes down.

Secondary infections stemming from teeth happen e.g. frequently in the maxillary sinus¹. A large part of the population is affected by tooth-derived sinus problems.

During life aesthetics of natural teeth deteriorates and patients see an indication to major crownings to get this aspect treated. Nevertheless too often their wishes do not come true after such treatment, because the underlying reason is often the unfavorable (e.g. vertical) tooth position and visible unnatural transition between the teeth and the patient's gums. This leads frequently to a lack of social

¹ Without having any evidence for their claim, dentist have transferred the fact that many sinus problems are derived from teeth to the unproven idea that also oral implants create max. sinus problem. This may have even been true for rough surfaces 2-stage implants with big diameters, but the opposite was shown for thin and polished Corticobasal® implants. Such implants neither lead to max. sinusitis nor do they support existing infections or max. sinusitis from e.g. respiratory tract

acceptance of those individuals and their self-esteem suffers. Hence problematic teeth and even natural signs of an aging dentition are creating other medical and psychological problems in the population

Treatments done on teeth show good long-term results in young age, but the older the patients gets and the more teeth are missing the shorter the results of dental treatment will last.

As we know that 99.99% of the problems in the oral cavity are connected to the presence of teeth and hence only the removal of teeth will solve the patient's problems finally.

Thanks to Corticobasal® implants today we have the option to take all teeth out at any moment.

Comparison to general medicine:

Just as infected appendices are removed and not modified or repaired, also teeth should be removed as soon as a certain amount of decay or other problems are noticeable. This statement refers to defects in individual teeth as well as to the

amount of missing or unstable teeth. Typically this the right moment for the shift from natural teeth to a fixed dentition on implants (from medical, social and economical point of view) will be somewhere between 35 and 55 years.

2. Socio-economical aspects

In some societies/countries, for traditional reasons, treatments of teeth are offered extremely cheap. In such societies dentists work just above the poverty line and this is actually exactly what the states wants them to do. The reason for this situation is a strong output of dentists from universities, with relatively weak education regarding the later practical work, and regarding the social and economical aspects of the task to be a dentist. Hence a lot of postgraduate education will be necessary to fill the voids and the deficits compared to other countries. Typically the same university Professors will try to occupy this field of postgraduate education. But are they really able to teach other/more modern topics (based on their own experience) than in the university?

The university education (including the subsequent internatura) aims at developing a dentist out of a school-leaver. And at keeping the patients safe from maltreatments.

Traditionally universities are good in teaching subjects where the content does not change even over decades: such as anatomy. But they are unable to adjust their plan and focus of teaching in fast changing subjects such as oral implantology.

One example is the Republic of Serbia, where the output of the national universities is more than 300 dentists per year. This is too much for a country with hardly 5 million inhabitants and already 7000 legally working treatment providers and at least another 2000 non-legal clinics. Competition is strong, prices for dental services are low, many dentists have to leave the country or change profession. To overcome the problems, treatment providers should invest in the technology of the future: the technology of the Corticobasal[®] implant. That is easier said than done because this field of stomatology requires a fully new education (which is

not available free of charge) in specialized private schools. Knowledge about this subject is not offered in universities for reasons which we will explain later in the article.

Such type of dentists preferably live in an environment of a likewise medically uninformed population. In such populations ancient beliefs about teeth prevail, the population got used to continuous repair of teeth from youth on, and this is supported through influence of media. Most patients do not realize that the repair of teeth is a never-ending story, they are made to think that this torture is unavoidable. Their brain is programmed in this direction by the dentists, parental and school education, even by some religions, and of course by media.

For those countries the Corticobasal[®] implant technology offer a good chance to change the oral-health situation in very short time.

3. Implants with and without medical problems are on the market

Oral implants could be understood as a general alternative to teeth. But most of the available oral implants do not qualify as such an alternative:

3.1 Conventional (2-stage) dental implants which have dominated the markets during the last 20 years **carry significant inborne medical problems¹ ", and the procedure of incorporating them is a lengthy one.** Often bone augmentation is part of the treatment plan and this procedure carries enormous risks and it causes additional expenses. This limits the use and the acceptance of conventional 2-stage implants use in the population. Today many patients rather continue with endless tooth repairs and even with dentures, because they fear the side effects and problems which such types of implants create often.

With the help of biased universities and strong media support, manufacturers of such 2-stage implants (which are from technical point of view fully outdated) have managed to keep the devices on the market. Such implants are clearly not

able to serve patients to the end of their life. So why should we place them?

3.2. Modern, single piece Corticobasal[®] implants are not providing these side effects: they do not cause Peri-Implantitis^{III}, they do not cause bone loss at all. Nevertheless the crestal bone level around the implant and between these implants is floating according to the functional demand. Bone loss as a result of extractions should not be considered to be implant derived. They work (as a rule) in immediate functional loading protocols. These implants and their technology of application ("Osseofixation") does not demand any bone augmentation. This makes them unique and at this time the medical contraindication connected to the devices mentioned in 3.2 do not apply to them.

Here we can conclude that osseofixed implants are a feasible alternative to teeth, and of course they are also a feasible alternative to conventional oral implants (in cases of complication and after those implants have failed).

4. Financial and administrative consequences

We know today that the technology of the Corticobasal[®] implant is an extremely successful and affordable single-step intervention. Typically all teeth (in an arch or in a segment) are removed and in the same appointment all required implants are inserted. After 2-3 days the new fixed teeth are fixed to the implants, usually they are cemented because complications are rare. After this technology became available extensive repair of teeth, especially in the aging dentition, must be questioned. **The medical need nor an indication to “save” teeth is simply not given any more after modern implants for osseofixation have become available.**

As teeth require highly precise treatments, the effort which is spent on these treatments is in many countries enormous. Skills and materials used must be adequate for these treatments.

The price which the patients pay for dental treatments depends however on the amount of dentists per 100.000 inhabitants more than on anything else. In countries without a compulsory state

tariff prices for treatments go up, with the number of working treatment providers going down.

Lets look at a few aspects of dental treatments which makes the procedures expensive without really providing help:

4.1. No more root canal treated teeth

It will mean a drastic change of paradigm, but the refusal to carry out root canal treatments will be a crucial first step to a change in the situation. Dentists by themselves will not walk this step, because they (think that they) lose money. It looks like implantologists will have to walk this step. Today more and more dentists refuse to perform root canal treatments, because science shows that the root-treated tooth spreads life-long toxins into the body and harms the carriers of such teeth in various aspects. Root canal treatments may therefore impose a long-term liability problem to dentists performing this kind of “treatment”.

The dental industry tries hard to keep negative information about side effects of root canal treatment out of media, but (thanks to internet) patients are more

and more informed and get organized against dangerous root canal treatments. An unbiased analysis would reveal that root canal treatments should take place only after the patient has signed a warning letter which thinking individuals would never sign.

4.2. No more perio-treatment

Bone loss along the vertical axis of the teeth (or elongation of teeth without their surrounding bone) give indication for early removal of teeth in order to avoid long-term infections of the gums and in order to preserve the jaw bone. 54% of the population experiences at a time the step-by-step destruction of the periodontal soft and hard tissues. The periodontal attack circulates around and between the teeth and affects them in different levels. 1st lower molars and 1st and 2nd upper molars are preferred areas of manifestation of the disease. Hence this disease is a severe threat to the most important teeth which a patient uses for chewing.

We know today that invasive and less invasive treatments of the gums and the periodontal region will anyway not

stop the disease, whereas invasive treatments (e.g. open flap procedures) tend to increase the speed and severity of the bone loss. The IF consensus document No. 1 (<https://www.implantfoundation.org/en/1-consensus-on-corticobasal-implants-version-5-2021>, see point 10) states that indication for extraction of a tooth is given if 20% or more of the root-surface has lost attachment to the bone.

Would this rule be followed strictly, bone augmentations would be unnecessary even in the field of the old 2-stage implants.

Bone loss if to a large extend the result of too late tooth removal and of too long and repeated periodontal “treatment”.

4.3. No more departments of “geriatric dentistry”

The most simple and straightforward way of performing “geriatric dentistry” is creating fixed teeth on Corticobasal[®] implants. And if “natural” teeth are removed early (between 35 and 55 years), every patient would have enough bone. The prosthetic device with least complications is by far a fixed circular bridge on

Corticobasal[®] implants. All removable partial devices connected to teeth create constantly corrective interventions and expensive alterations. 30% of the population between 65 and 74 years of age do not have any teeth at all (according to WHO data).

While removable dentures might be able to fix the aesthetic aspect, as they give the illusion of teeth being present. But they give hardly a real chewing possibility and patients live in constant fear that their dentures might fly out of the oral cavity. Many patients remove the dentures if they want to eat.

We also have to consider that the elderly population rather often has to stay in hospitals and later in old-people-homes, where loss of dentures and mixing up dentures between the inhabitants of these institution is a daily and embarrassing problem. Fixed bridges will avoid this problem and increase the self-esteem and quality of life of this group of patients.

5. Treatment plans set up for the method of oral osseofixation, aim at maximum patient safety and maximum reduction of chances for complications, and not at a maximum number of teeth saved.

We understand today that dentists and modern implantologists have a completely different view on the indications for tooth removal. And this is not because implantologists WANT to place implants (whatever it takes), but because the responsibility which modern implantologists take is much higher than the responsibility of dentists:

If a treated tooth fails, the responsibility is very likely to remain with the affected patient, while if an implant fails, automatically the implantologist get into the focus of patients and their lawyers.

This has created a situation where implantologists are setting up treatment plans which hardly ever will fail, and in such plans there is absolutely no place for unreliable, aged and further aging teeth. They are too much prone to complications.

The high success rate for the **Method of Osseofixation** has led to a situation where clinics not only offer e.g. 4 or 5 years of full guarantee for implants and prosthetic workpieces, but they also offer (after this period) a payed full or partial insurance directly to at least selected patients. E.g. for such patients which have been reliable regarding cleaning and keeping appointments. Hence long-term costs for their implant restoration becomes foreseeable both for patients and for insurance companies.

This situation is diametral different from the field of 2-stage implantology, were lawyers recommend to indicate to patients (before the treatment) that such implants have a maximum expected usage period of seven years.

6. A severe drop of traditional dental treatments will save our societies billions per year

In order to calculate the changes in treatment necessity in societies where the switch from the treatment to Corticobasal® implant treatment is offered or even funded, a simple calculation is now displayed and explained:

In Germany (and we take this country now as an example) 55.000 dentists treat 83 Million inhabitants: 1.509 patients are "available" for every dentist.

Lets assume that 50% of the patients are below 45 years of age, all others above. Lets also assume that the group of the older patients will receive a full jaw implant treatment instead of further repairs of teeth. In this case 755 x 2 jaws have to be incorporated into this group of patients. A well working clinic for Corticobasal® implants manages to restore 4 jaws per day with these implants (which is realistic given the fact that treatments are done fast and reliable) on 210 annual working days, and hence 840 jaws per year are incorporated into this group of elderly patients. After 1.8 years all patients of this group of the elderlies are

equipped with fixed teeth to the end of their life. The local dentist has to switch to part-time working hours (estimated 33%) during which he will do fissure sealing, fillings and 1st crowns, etc. for the group of younger patients.

After 3.6 years of working solely with Corticobasal[®] implants in the group of the elderly, two regular dental offices are not required any more. In Germany this means that a total of 18.500 dental offices would be required, and they would easily manage to treat a population of 83 Million inhabitants satisfactory.

7. The amount of necessary oral hygienists will not decrease

While the amount of dentist-work will dramatically decrease within a few years, the amount of maintenance and cleaning of the workpieces will rather increase, but this workload will be shifted to cheaper workforce.

An estimated number of 8.000 oral hygienist (which will demand much lower costs for their education, and which would work in much cheaper and less

equipped offices) would be required to keep the oral cavity of 41.5 million patients above 45 years of age hygienic.

As we know that this outcome is possible, individual funding for poorer patients to get Corticobasal[®] Implants is a worthwhile investment of societies, because we know that this single intervention will lead to a situation where this patient will hardly ever have necessity for seeing neither a dentist nor an implantologist anymore. The high survival rate of implants and prosthetic constructions allows even investment into zirconium bridges which will never show any wear and which can be produced (thanks to modern digital production) cheaper than constructions which contain metal.

8. Tremendous impact on state funding for dental universities (dental schools of medical universities)

We will now continue our assumptions and calculation: Would 1.000 implantologist start working simultaneously this way, every 3.6 years 2.000 regular dental offices would be not necessary any more, and hence after 6.1 years the first Ger-

man dental university (dental schools in medical universities) would become unnecessary. The speed of the possible reduction of these dental schools in medical universities would increase with every year, leading to a situation that after approximately 15 years an estimated 40% of the 16 German dental universities would easily manage to educate the necessary amount of stomatologists. In countries with less than 5 million inhabitants, even one dental school would be too much.

Furthermore not every of the left over universities would require all departments as they do today: one or two periodontal departments and one of two endodontic departments somewhere in Germany would be sufficient to teach the subjects online and yet sufficiently for all of Germany, e.g. in a 2-week-course system. The super-sclerotic system of universities (worldwide, including the problem of the mutual recognition) will make it however difficult to create such changes.

9. The quality of life increases nevertheless

Studies show that patients who dared (or were simply forced) to undergo an early switch from their own (run down or ailing) dentition to Corticobasal® implants report about a severe increase of their quality of life: No more tooth-derived problems, no more infections, most patients have forgotten that they have implants after a few years.

10. Costs per meal calculation and associated considerations

If a full mouth restoration for a 45 year old patient costs for example 20.000 Euro (incl. four years of guarantee) the next 25 years of full guarantee (for implants and bridges) at a price of 800 Euro per year for two jaws will sum up to another 20.000 Euro. Total costs for two fixed jaws on Corticobasal® implants are therefore 40.000 Euros.

The costs for cleaning the bridges is excluded here, because good cleaners manage to keep their construction clean (especially if zirconium is chosen as bridge material) whereas patients which

decide to neglect this duty sure have more costs for the cleaning but typically not for maintenance.

This brings the costs for having a fixed and functional dentition per meal to 1,21 Euro (partly inflation adjusted). That is the price for this part of the quality of life, tasting the food which we eat, etc.

One might consider this price per meal as too cheap or too expensive, but at least, for the first time in the history of mankind, the costs of fixed teeth can be calculated for the patient!

In other words: if someone is ready to invest 1.21 Euro per meal into fixed teeth, all the other advantage like young and healthy appearance, avoidance of TMJ problems, full possibility to taste the food, etc. will come for free.

It is interesting to compare this amount to the approx. 100 Euro which a person pays for the dental part of an obligatory health insurance in Germany which does not pay implants at all and where more than 40% of the population end up with removable dentures.

11. Self-determination of patients, and personal responsibility

Of course no patient can be forced to have all their teeth removed at 45, just because those teeth require significant treatment and because it is clear that this need for treatment will continue and even increase in the future.

However, in many countries where the statutory health insurance companies dictate the treatment, the terms “appropriate” and “sufficient” will have to be redefined or massive performance restrictions will have to be implemented. Anyone who does not want to remove their teeth will sooner or later have to bear the associated risks themselves: the risks of keeping teeth in general or of keeping teeth which we know will sooner or later fail will remain with the patients. The “convenience” of keeping on to your “own/natural teeth” will then turn into an expensive decision for many. Natural teeth bear enormous natural risks, whereas modern Corticobasal[®] implants do not bear any inborn risks!

In an (so far unpublished) analysis on 81 consecutively treated patients we have

found the following results: All patients opted for full extraction of all of the remaining teeth and they requested fixed bridges in the upper and lower jaws. On average 6.57 teeth in upper and 7.38 teeth in lower jaw were extracted: totally 1130 teeth were extracted during the treatments. We conclude from this that patients come to us primarily to get rid of their teeth, some come primarily to improve aesthetics (especially the “gummy smile”) by removing their teeth and adjusting the bone and soft tissue level. 100% of these patients say in the interview after 24 months and more that they “would immediately do it again”. Many say in the study that “this was the best thing they ever did in their life to improve their overall situation and their health”. These are clear statements which we have to respect.

It is the mission of dental chambers to insist that “all teeth must be saved”, even if we see from this analysis that many patients do not want their teeth saved. Out of this the authors conclude that dental chambers represent the interests of dentists but not the interests of the general population, and that is time to install

“Chambers of Implantologists”, as only such chambers will apparently represent the interest of (probably a large part) the population.

At the same time it has to be respected that many patients do not consider the removal of all their teeth only to get rid of tooth problems.

12. The evaluation of every single tooth as well as the aesthetic demand of the patient and the orientation of the planes of natural teeth (with and without prosthetic elements) helps come to a fact-based treatment decision for the general treatment plan.

12.1 Indication for implants is clearly given if 1st molars are missing and bridges (i.e. the teeth supporting them) have a bad prognosis due to decay and/or periodontal involvement. Constructions on teeth can anyway not compete with constructions on Corticobasal® implants, because Corticobasal® implants have per se an unlimited life expectation (with Peri-Implantitis not occurring at all). As we know that 2nd crowns on a tooth

lasts on average 8 years, whereas the 3rd crown on a tooth has 3-year expectation for staying in the mouth. Considering this, 2nd and 3rd crowns should not be done any more. This limits the mounting of bridges on teeth severely, i.e. not every pre-crowned available tooth can be used.

If the 1st and the 2nd molars are missing in a quadrant anyway, only implant borne prosthetic is an option if the patient refuses to wear dentures.

12.2. The good old times where amalgam fillings in premolars and molars lasted 20 and more years are (unfortunately for patients) over. Average life expectation for identically dimensioned composite fillings is well below 10 years, and 2nd composite restorations are associated with obligatory and early root canal treatments due to leakage between the tooth and the filling. Frankly spoken, a composite restauration opens the path to root canal treatments and to crowns on molars and premolars, as these restorations are simply increasing the severity of the problem and accelerating the speed of destruction. Hence teeth with

composite fillings should be considered to be possibly not reliable enough to be left in.

12.3. Elongated antagonists have to be put back into the row of teeth in their jaw to allow interference-free mastication. This is typically not done in traditional dentistry, i.e. the deformity of the masticatory plane and the bone is not treated (also to avoid root-canal treatments). In order to create an interference-free plane of bite such teeth must be removed, the bone must be reduced and only after this implants or bridges may be planned. If planned supports of the bridge are already crowned, their removal must be planned, although conventional dentistry considers (due to the already existing defect of tooth substance which was created for the 1st crown) crowned teeth to be a good candidate for another crown. This thinking is fully wrong as we have explained earlier.

12.4. Mobility of a tooth is in general an obvious indication for tooth removal, because this condition cannot be treated for good. Mobile teeth are frequently avoided for chewing and this alters the

pattern of chewing and destabilizes the whole masticatory system. Hence teeth with even only very little mobility have to be removed in any case.

12.5. Corticobasal® implant therapy with its unique treatment possibilities rely on the anchorage of teeth in highly mineralized and resorption stable bone areas. Upper 2nd and 3rd molars prevent that these areas can be reached by the implants. Hence these teeth have to be removed even if they are “healthy”.

12.6. Aesthetic demands of patients can often be met only by removing teeth and placing the new teeth in a different spatial position. In such cases tooth removal is indicated (based on the patients decision) in order to achieve the desired aesthetic result.

Considering the above mentioned facts, the procedure of evaluation of a case is quite simple:

- By using this measure for every single tooth in an oral cavity, we will be able to define which teeth are going to be extracted in any case.
- After this some teeth may be left which are healthy, not burdened by fillings, root canals or spatial displacement (i.e. elongations). The patients must then be asked if he/she minds to remove these teeth also in order to allow the safe incorporation of a prosthetic workpiece on osseofixated implants.
- In order to evaluate both options, the patient should be informed about the approximate (but realistic) costs of tooth treatment and the survival chances of tooth base solutions, and how many rounds of reconstructions



Fig. 1, 2: It is impossible to satisfy the aesthetic demands of this patient unless the teeth and a part of the surrounding bone are removed (Fig.1). By applying the technology of the Corticobasal® implant the case was finished within three days (Fig.2).

are planned until tooth borne or fixed prosthetics is not possible any more.

- A prognosis should be made on the probability that the individual patient will reach old age with fixed tooth.

13. Unequal payments to dentists for different works are widely accepted

While a lawyer writes all letters for one client for the same price per hour or per page, dentists do different treatments (for state insurances) at very different prices. Some treatments are well payed, other treatments which consume the same amount of material and time are not adequately payed at all.

As long as some dentists are willing to do root-canal treatments at 40 Euro per hour, they can easily compete with implantologist which charge 400 Euro or more per hour. And they will do this, as long as the states allow them to carry out endodontic treatments with the above described massive and dangerous side effects.

14. Alternatives to tooth removal in selected cases

As long as living conditions and legal regulations are different in countries which allow free flow of people between them, we will see differences in pricing between these countries.

Large differences lead to “dental tourism” and this will motivate patients to equip a too small number of teeth with fixed bridges, although overall static of the construction and the period of usage are compromised.

Example: If an individually made circular MFC-bridge on only four teeth (16, 13, 23, 26) that costs 1.500 Euro in a low income country (for a patient with 3.500 Euro net monthly income in the home country), this person will be tempted to decide for this solution. Patients will not associate this workpiece to longliveability, but they will rather do this deal, because it solves their present problem affordably and immediately. As long as such solutions are available, patients will chose them. Fortunately the list of countries where such cheap services are offered is getting shorter.

If the same MFC-bridge costs 6.000 Euros, the patient will rather buy a CBI based implant solution for 8.000 Euros simply because the prognosis is incomparably better and the costs are only 25% higher.

From this example we learn that decision taking is influenced by the offers on the market.

15. Conclusion

The modern technology of the Corticobasal® implant has the potential to turn the dental world virtually upside down. At the same time fixed teeth until the end of the patient's life will be possible at very low costs.

Corticobasal® technology allows to remove all teeth instead of repairing them again and again, and it would relieve the generation of the elderly from one of the most nagging and recurrent health problems. This would be in the interest of the patients.

99.99% of the problems occurring in the oral cavity can be solved today simply by removing the teeth and by replac-

ing them with modern Corticobasal® implants and permanent bridges. This treatment is acceptable for patients because it shows fast results and high predictability.

After or even before the period of guarantee as given by the treatment provider is over, patients may agree with the treatment provider on a guarantee scheme for the next years, which will put both implants and prosthetic workpieces under insurance at a fixed price per year. This option will allow even more patients to purchase such an implant treatment.

16. Practical Application

Implants were first of all introduced to replace lost teeth. The invention of Corticobasal® implants and the Technology of Osseofixation has extended their use however to the replacement of all teeth and at any stage of the adult life. As these implants are virtually maintenance free, they would be devices of the first choice if it comes to send astronauts on a 20-year long trip away from the earth. Such a trip should better not be done with natural teeth, there is no way to do this trip with

2-stage implants (which create medical and technical complications constantly). Statistics shows that such a trip can be done only either toothless (e.g. with dentures), or with bridges on Corticobasal[®] implants.

^I Stefan Ihde, Antonina Ihde, Olga Sipic and Łukasz Pałka Peri-Implantitis: A New Definition Proposal Based on Unnatural Spatial Arrangement and Late Mechanical Coupling between Two Cortical Bone Layers during Osseointegration Phase. Part I Appl. Sci. 2022, 12, 4317. <https://doi.org/10.3390/app12094317>

^{II} Ihde, S.; Ihde, A.; Sipic, O.; Pałka, Ł. Peri-Implantitis: A New Definition Proposal Based on Unnatural Spatial Arrangement and Late Mechanical Coupling between Two Cortical Bone Layers during Osseointegration Phase Part II. Appl. Sci.2022,12,5589

^{III} Lazarov A. Immediate Functional Loading: results for the Concept of the Strategic Implant. Ann. Maxillofac. Surg. 2019;9(1): 78