

Comments

1. Abbreviations

KISS	Keep It Safe & Simple
MIMI	Minimally Invasive Method of Implantology
PC	Prep-Cap
PT	Periotest

2. Implants

all implants are the German CHAMPIONS® - IMPLANTS - GMBH

3. Treatment periods

the period between the placement of the implant and the fabrication of the dental prosthesis and are well-elaborated

4. Cementation

- a) all temporaries and fixed definitive dental prostheses are cemented with Havard.
- b) all Pre-Caps are cemented with commercially available Glass Ionomer Base cement.

5. Impressions

- a) Impregum impression material was used for all prepared and unprepared Champions® implants
- b) for impressions of natural teeth and Champions® implants with restored prepcaps, we used the sandwich technique with a PVS material
- c) Impregum impression material was used for combination cases

6. Prep-Caps

Pre-Caps are available in different materials (titanium, zirconium, WIN), shapes and angles. They will be cemented and have the following functions:

- Widening of the clinical crown
- Simplify the cast creation
- Aesthetic improvement of implants
- Compensation of abutment and insertion divergences
- Exact transfer of implant preparation from mouth to laboratory
- Improvement of the peri-implant soft-tissue situation after implant placement

7. Periotest® (PT)

This measuring device is used for the assessment of the osseointegration of dental implants. It shows the damping characteristics and by doing so indirectly the implant stability from -8 up to +50.

PT < 0	negative values are generally considered as good
PT 0 up to +9	clinical tests are required; e.g. PT values in the lower jaw are principally lower than those in the upper jaw
PT above 10	suspect and alarming

8. Intraoral camera- I.C. Lercher

The intra oral cameras we generally use to record implant placement are tried, tested and used for these reasons:

- a) forensic security
- b) detailed monitoring in normal and macro function
- c) manual operation without foot switch

9. Matrices

MMT (metal matrices for tulip head implants)

- a) available in 3 different pull-off forces (blue, red, black rubber rings)
- b) due to the rubber they have a very good buffered locking
- c) due to their location below the ball a compensation for divergences is not possible

Preci-Clix

- a) available in 3 different pull-off forces (white, yellow, red plastic caps)
- b) thanks to this plastic the retention is stronger
- c) due to their location on the ball a compensation for divergences is possible
- d) in a case of limited space the plastic caps can also be cured into the denture resin without metal sleeves

Matrix integration

- a) it is preferential to integrate the matrices directly into the existing prosthesis on the day of surgery and implant placement
- b) if the case is to be done with a new prosthetic device, our laboratory integrates the matrices into the prosthetics before final delivery

10. The 3rd level

All cross-sectional images are taken by a non-linear spiral computed tomography

11. Up to date

My discontent concerning old, obsolete presentations in conventional books has prompted me to present mainly relevant cases.

However, I also added some older cases in order to present the practicability of our proceeding. By this means, the X-ray images allow a documentation of a long-term success of these cases.

12. Additional implant placements

"Fixed teeth in one day" mean that you only have to place the implant "once"!

If possible, we always try to ensure that additional implants are not required at a later date. For this reason we insert 1 or more extra implants at the first visit. Because we cannot control osseointegration factors such as chewing behaviour, poor oral hygiene or patient behaviour we cannot as implantologist provide any guarantee against the loss of the dental implants. By placing extra implants, the loss of a single implant will not affect the overall success of the case.

For example: In the upper jaw with a removable dental prosthesis. We would place **8 + 2** extra implants.

The patient receives a total of 10 ball head implants. 2 of the 10 are charged only for the material costs. If 1 or 2 of the implants fail to integrate, a palatal free dental prosthesis can still be placed without the need for additional implants.

13. Implant diameter, implant minimum thickness and number of implants

In jaws with adequate and mature bone we use implants with a diameter of 3.5 mm in approximately 90% of the cases. In addition, we aim for a reproduction of the natural root arrangement. "Mother Earth" has a long preliminary phase of 100,000 years and there is a reason some teeth have more than one root. We mimic this natural anatomy by restoring molar teeth with 2 implants. This provides security for the static forces and guarantees anti-rotation protection.

14. Bone cavity control (BCC)

In the case of minimally invasive implant placements (flapless technique) there is no view of the bone. In order to guarantee that the implant is fixed in the bone, we *always* perform a bone cavity control. For this control we always use a WHO probe or - in case of deeper implant cavities - an endo plugger. In doing so, we examine all implant cavity walls (mesial, distal, vestibular, oral and apical) for wall integrity.

Further procedure:

1. If all bone walls are present and adapted for the implant placement, continue on with Minimally Invasive Implant Placement
2. Occasionally, there is insufficient bone in the vestibular area. If this occurs, the Minimally Invasive pilot hole requires a change in the axial direction. It is at this point you must decide if option 1 above or option 3 below is the best approach for implant success
3. Flap reflection and implant insertion into the open bone

Note:

The Minimally Invasive technique is always the 1st choice. Even in marginal bone cases we use this technique first. Only when Minimally Invasive techniques fail do we reflect a flap for implant placement.

15. Definition with reference to our procedure

Classification of the implant protocol for one-piece implants

Immediate implant placement	immediate implant placement after extraction
Early implant placement	implant placement within 2 weeks after extraction
Late implant placement	implant placement in the healed jaw
Immediate loading	immediate functional loading after implant placement, at latest after 48 hours
Immediate restoration	immediate non-functional restoration with fixed temporaries
Early loading	prosthetic restoration with final dental prosthesis within 2 weeks
Late loading	prosthetic restoration 8 weeks after implant placement

What are we doing differently?

Progress happens today so fast that while someone declares something not to be realizable at all, someone who has already realized it, interrupts him.

(Albert Einstein)

Based on actual knowledge, we have set "the clock at 0".

Back to the roots

The **KISS rule** is valid: keep it **s**afe & **s**imple

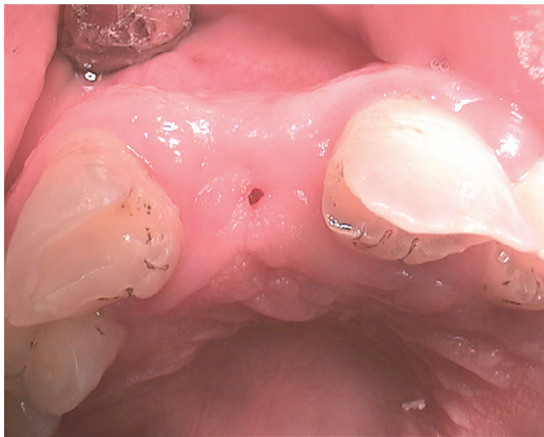
The successful osseointegration of an implant requires two prerequisites:

1. Primary stability (40 – 70 Ncm)
2. No movement during the healing period (in the first 8 weeks)

How can we implement that in practice?

Rule 1- Primary stability (40 – 70 Ncm)

Implant cavity is prepared in an undersized manner. In the upper jaw in the most cases 1.8 mm pilot holes for a 3.5 mm implant are sufficient.



In the lower jaw in the most cases an additional 2.8 mm $\varnothing$ pilot hole for a 3.5 mm implant is required.

What do we do if we obtain no primary stability?

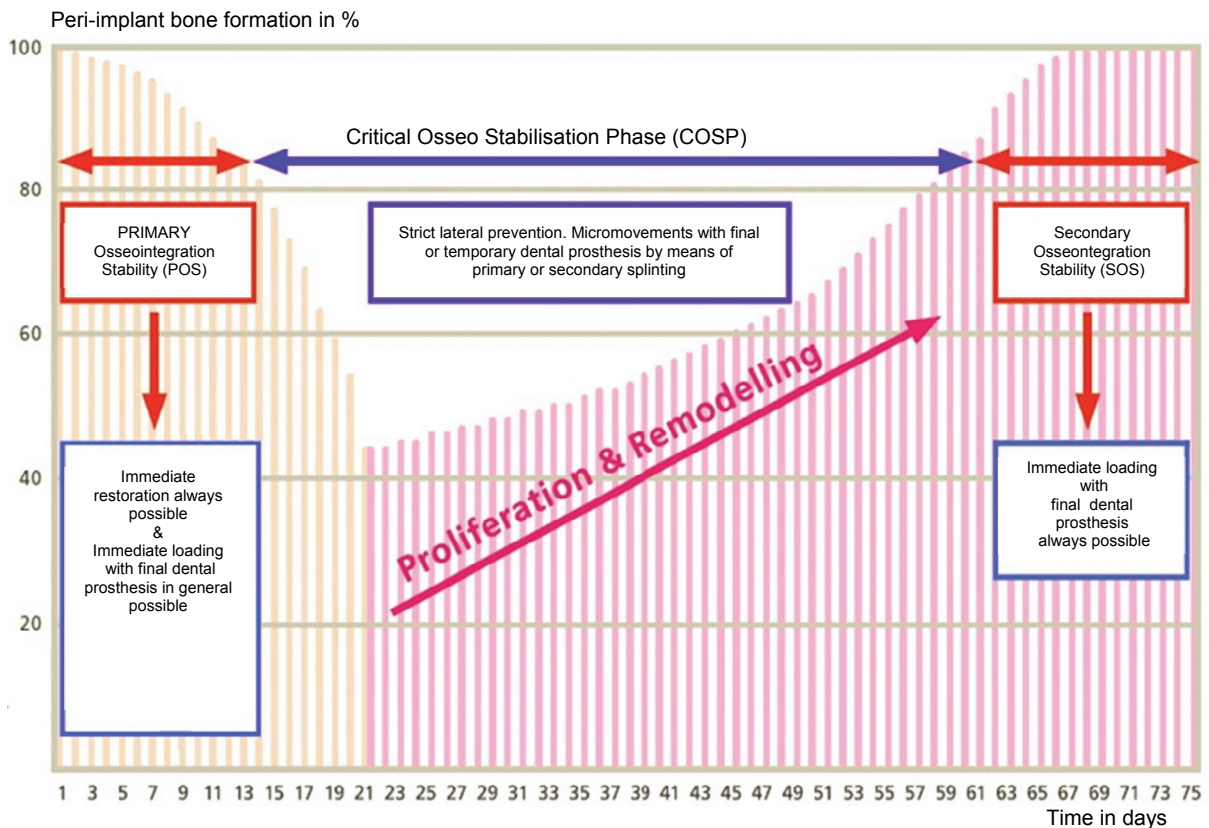
- insert an implant with a larger diameter
- insert more implants
- more solid splinting

Rule 2- Insert more implants

In the traditional implantology with costs for an implant of partly more than 500 € (net) this is only possible in exceptional cases.

With an implant price of under 100 € (gross) for a one-piece Champions® implant that is possible.

Let us have a look on the COSP (Critical Osseo Stabilisation Phase) graph. I call it the „**Champions' Bible**“. Here 5000 implants have been examined according to their stability during the proliferation and the remodelling phase.



On the 21st day the most critical moment in the COSP is achieved! An implant that has been inserted with a torque of 70 Ncm could be removed with a torque of about 30 Ncm.

Since to this point in time nothing hurts any more, there is a danger that the patient will overload his teeth, and by doing so, his implants will loosen.

If we insert twice as many implants, we have a stability of 200%. It can easily sink to 50%. But in this case 100% stability of the nominal value remain.

and

Primary stability proceeds implant parallelism because *this* problem can be resolved with prep caps.

Example 1

When traditional implant methods are applied to a palatal free prosthesis, 6 implants are placed into the toothless upper jaw and fixed via a splint. Since ball head implants have no primary splinting, 8 implants are the minimum for a palatal free prosthesis after osseointegration.

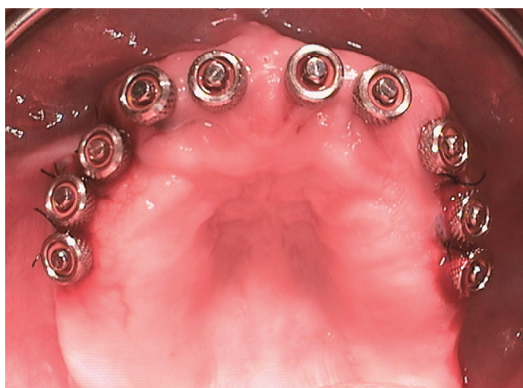
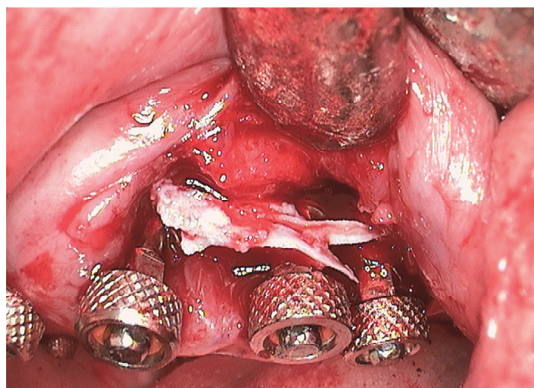
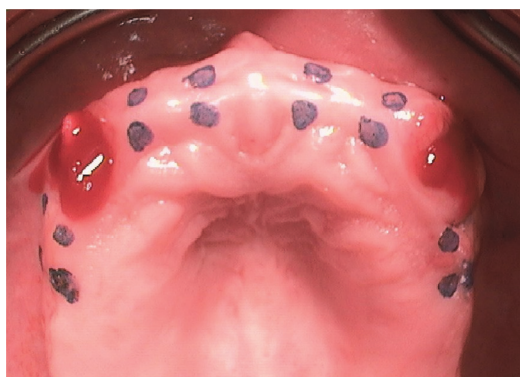
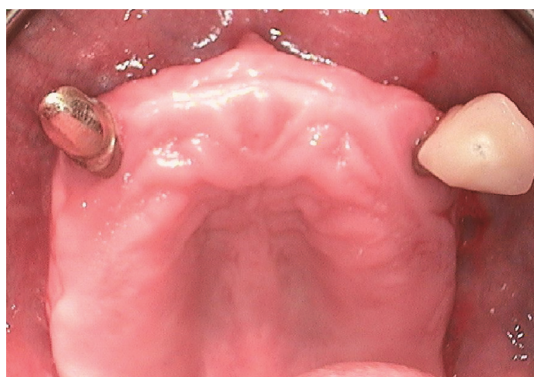
If now, we also consider the problem that more than 50% of the stability is lost during the proliferation and remodelling phase (4th week), the dental prosthesis is retained by only around 4 implants within the difficult time frame. This can lead to a loosening of all implants!

For that reason and also with regard to some more risky immediate implant placements, we offer the alternative 8 +2 which is described in the chapter "comments".

Since the insertion of a 9th and 10th implant only takes some minutes, we only charge the material costs.

The chance to achieve an osseointegration of all implants is then extremely high.

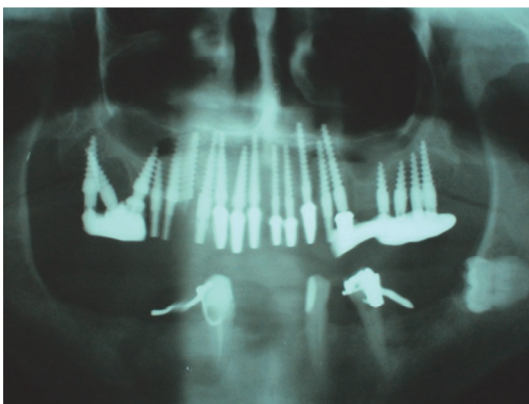
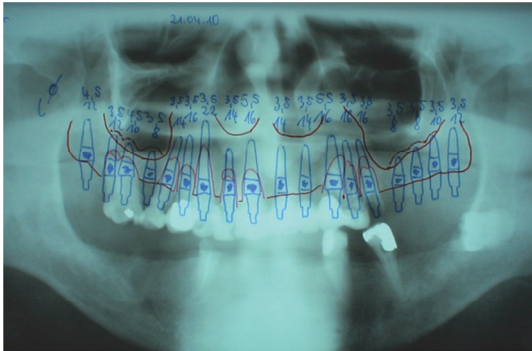
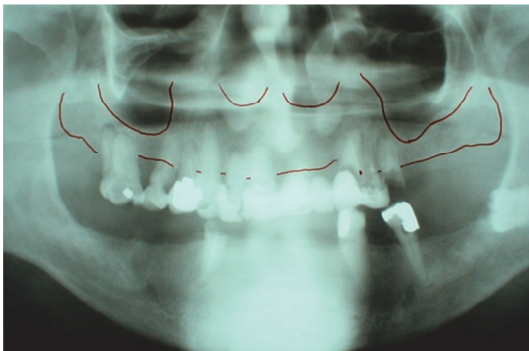
- a) If 1 or 2 implants loosen we don't have to add any more implants to obtain a stable palatal free prosthesis.
- b) If all remain fixed, we have an unbeatable security buffer (e.g. material fractures, accidents and the like) for decades.

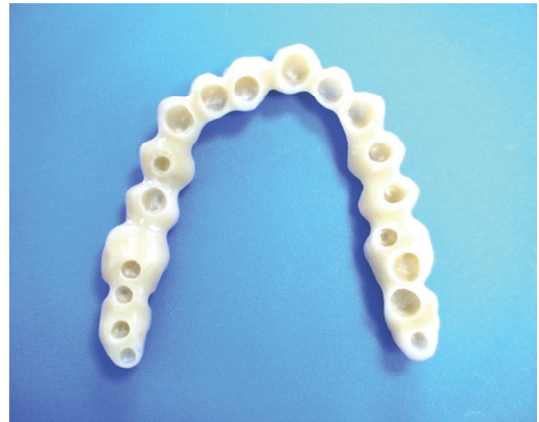
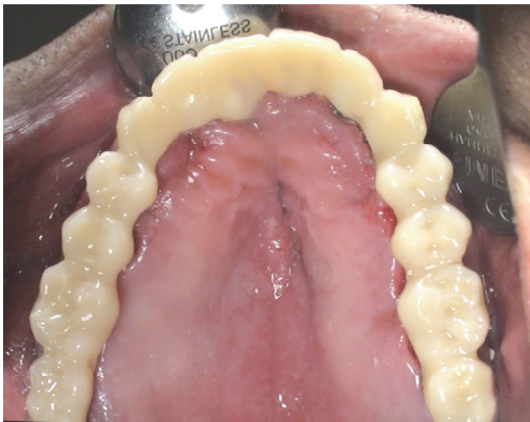




In *one* dental session the teeth were extracted, the 10 ball head implants inserted and an augmentation was performed. The clinical situation on the following day and the successful osseointegration after 8 weeks illustrate our theoretical approach.

Example 2





In *one* dental session all teeth were extracted, all implants inserted and restored with a dentist made temporary. On the following day a laboratory fabricated temporary was cemented and remained in place for the next 8 weeks.

What is the goal in this case where no more implants can be placed?

- more solid splinting
- Reinforce primary stability by using either: larger diameter and/or longer implants

Note:

The main factors for implant losses are:

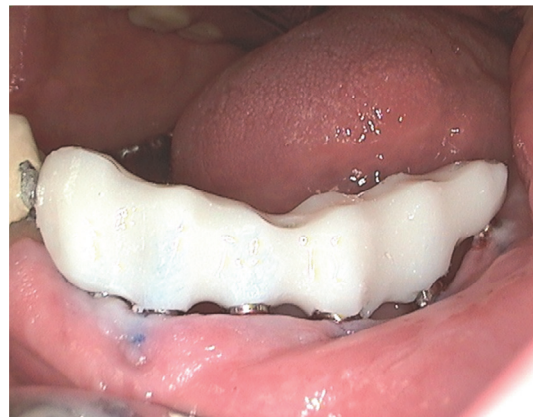
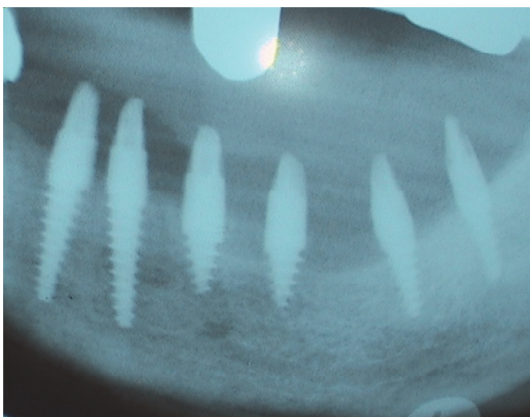
1. too few implants
2. use of two-piece implant systems

because it leads to overloading and pumping effects, which in turn leads to bone loss, peri-implantitis and fractures.

Rule 3- Maximum splinting

Since there is a limit to the number of implants we can place, we splint

- a) between the implants and/or



- b) implants along with the neighboring teeth using resin materials.



The right image shows clearly how the gingiva height "creeps" directly above the PrepCap during the osseointegration phase.

What are we doing, if we are not able to splint them or can only insufficiently splint them?

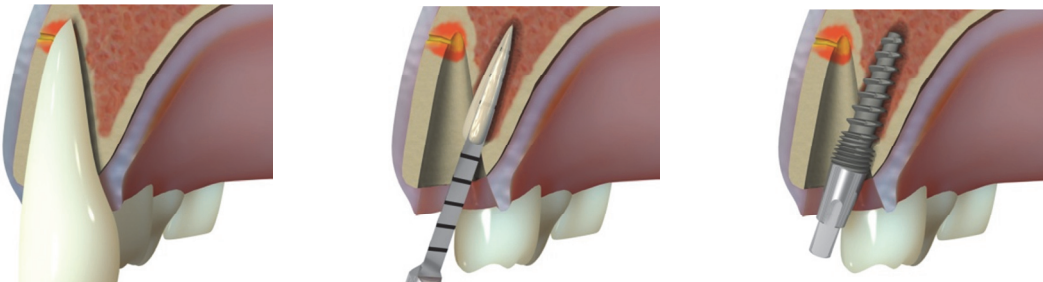
- insert more implants
- reinforce primary stability by using more thicker and/or longer implants

Note:

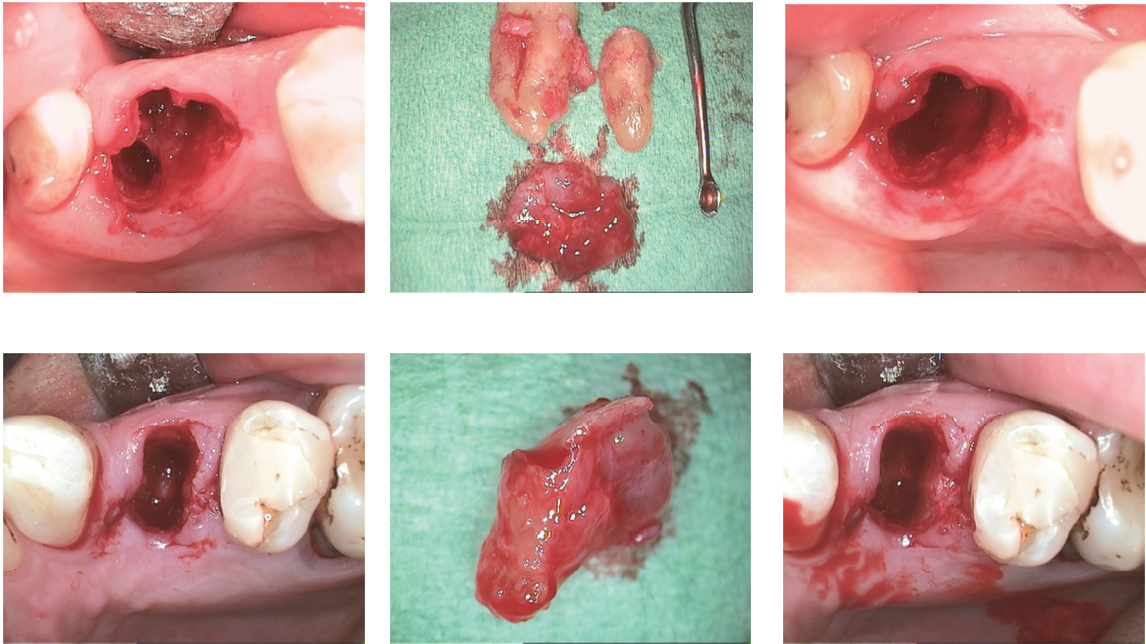
The combination of these rules is responsible for the success! In the case where primary stability and splinting is secured it is of course, not required to insert twice as many implants.

Rule 4 - Prevention of inflammatory processes

- a) palatal or lingual "bypassing of the implant placement"



b) Curettage of the inflammatory tissue and debridement of the alveolus

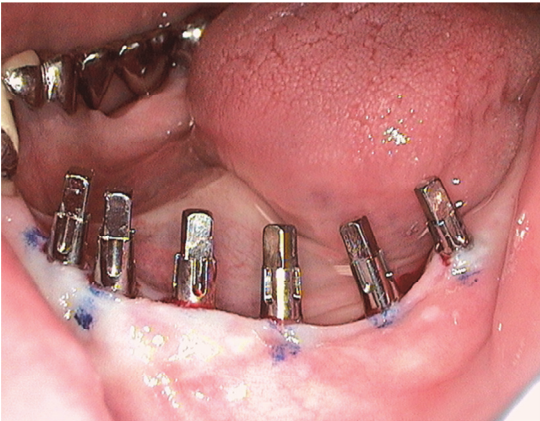


Rule 5 - Compensation for divergences

a) The use of straight and angled Prep-Caps that can be cemented and modified to achieve parallel abutments



b) Grinding of the abutments

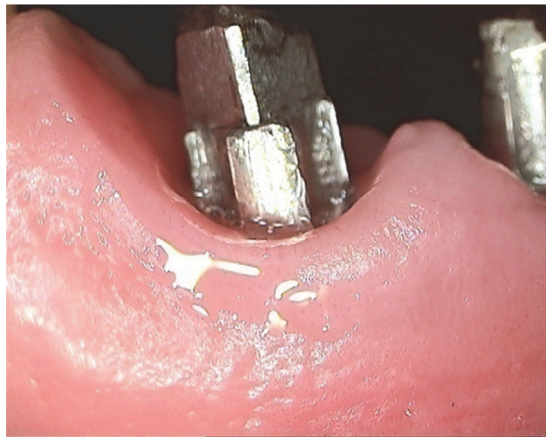


Rule 6 - Hygienic potential

We no longer use metal-ceramics!

Bone "loves" titanium and gingiva "loves" zirconium dioxide ceramics. As a consequence, we do not have to leave cleaning gaps.

Principles as for an upper jaw anterior tooth ceramic bridge apply. No bridge will be lost due to periodontitis being evoked by ceramics; in the most cases caries causes the loss. In no case, ceramic is the cause.



The cemented zirconium dioxide bridge loosened after 2 years. Everything is free of inflammation.

Rule 7 - Implant distance

The "key shaped" bone loss on two-piece implants is on the one hand, the result of the pump or suction characteristics at the contact point between the implant and the abutment and on the other hand, of the slot of 10 to 30 micrometres caused by production. Since bacteria have a size of 0.2 to 5 micrometers, this is like a wide opened barn door.

This difficulty does not occur with one-piece implants. For that reason there is no unphysiological bone loss, peri-implantitis and no defined minimum distance for the insertion of one-piece implants.

It should be noted that none of my colleagues has had a case where the loss of lower anterior teeth took place because there was less than 3mm between the implants?

Fixed teeth in one day

Motivated and full of energy we work to organize the gentle and comfortable treatment for each patient. We have worked tirelessly to achieve success in all steps in one session from implant placement to restoring or immediate loading.

By doing so, we naturally put the existing principles of the conventional "traditional" implantology into question!

But: Those who want something find ways, those who don't find reasons. (Proverb)

That means:

1. By means of direct cementing of the matrices into the existing prosthesis ball head implants are **always immediately** loaded.

2. If a fixed dental prosthesis is planned, the patient **always** leaves our dental office with a cemented dentist made temporary. At your request or in case of a treatment in the anterior maxillary region, we integrate on the following day the laboratory made temporary. The final restoration takes place after one or eight weeks according to the situation.

In order to reach the source you have to swim against the current. (Stanislaw Jerzy Lec)