Implantology I

fixed teeth in a day









50 cases
271 implants

1104 photos about immediate restoration

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Preface

Frank Schrader is a gifted dentist, a great colleague, who really deserves it to be called "colleague". Furthermore, he is my friend too! When he asked me to write this preface for the book, at first I wasn't entirely sure what I should actually write, after all it is my first preface for a book! Should I write that the Champions systems has gained an immense popularity in our online forum also thanks to his articles? Should I write that we have managed to stand up to the "big ones" in an effective manner? Should I write that in the meantime the other systems and their self-appointed "experts" use the same operating protocols and prosthetics strategies which we have used for almost 16 years now? Should I write that we as Champions users are able to offer our patients in our dental offices much more and finally can also implement it thanks to our excellent cost-effectiveness, since "affordability" with optimum quality often enough determines our patients' choice of dental prosthesis?

No, Frank has literally absorbed the entire Champions philosophy, further developed it and wonderfully implemented it in the patients' interest in his everyday practice. Not only is Frank an extraordinarily good surgeon, but also an equally excellent prosthodontist. This is surely just as important! Certainly, in Germany someone who is successful will not only win friends but also attract some envy. For that reason, also a strong human character is required.

Frank is someone, you can trust a 100% as colleague, friend and patient! I for one would be one of his patients, if I ever needed a "Champion". To my mind, Frank Schrader has been a real "champion" for a long time! He doesn't even need the title of professor to make himself understood by his patients -also in "their language"- and to put his enormous expertise into practice working with them- often enough in the field of immediate restoration/loading.

Anyhow, I wish the reader great pleasure studying his first book...

Sincerely yours, Dr. Armin Nedjat

October 2011, Flohnheim

Dentist

Implantology Specialist

ICOI Diplomate

CEO Champions- Implants GmbH



Foreword

Around 60 years ago the US American Leonhard I. LINKOW invented his "leaf implant". What was celebrated as a pioneering work in the field of oral implantology at that time, today can only be found under the section "physical injury" in the forensic part of legal magazines.

Definitely, Linkow was a pioneer in his commitment to "fixed teeth" and thus, his place in the upper echelons of implantology is justified and deserved.

Developments do not stand still. The once hailed design rapidly became less important. Today, the focus in research is on the anatomical shape of the dental root. Scientists and practitioners generally agree on the design.

Other topics are being discussed instead: immediate restoration of implants, implant placement directly after extraction, immediate loading, one-piece, two-piece implants and so on.

Topics that are and should be of burning interest to dentists, implantologists and oral surgeons, after all it is about the practical use in patients. Patients who demand the best value for their money have highest demands for the money and are no (longer) willing to endure hours-long painful treatment sessions and intervals for years on end.

It was only a question of time for the "CHAMPIONS®" of Armin NEDJAT from Flonheim to cause a stir in the implantology scene in Germany. However, *one* brilliant mind is not enough. Equally important are, many brilliant practitioners who are able to understand these ideas and concepts, take them up and implement the stirring visions for the patients as well as for the colleagues in the everyday practice.

Today, one of these brilliant practitioners and currently one of the most prominent users of CHAMPIONS® implants in Germany is the dentist and implantologist Frank SCHRADER from Zerbst in Germany.

In his own implant education centre, he places more than 700 implants per year. In this centre, he provides surgical and prosthetic training to dentists. To colleagues who have recognised the tide is turning. He shares his knowledge enthusiastically and vividly- without any reservations of getting in contact with the universitites' state of the art.

Frank Schrader particularly focuses his activities on fields such as "immediate restoration" and "immediate implant placement- immediate loading".

The amount of his national and international publications is constantly growing.

Therefore, it is only a logical consequence to summarise the large number of interesting and ambitious documents of his treatments in book form. For the colleagues who know Frank the book will be a reliable guide in the everyday practice. That's why I am happy that he decided to publish his complex wealth of experience and to share it with us in this form.

For colleagues, who hesitate to deal with this matter, it represents an invitation to a discussion. Only through critical discussion creativity can arise!

I wish Frank's book a lot of success- it will find its audience".

Dr. Ulrich Brause

December, 2011, Pottenstein, Germany

Introduction

When I started working in the field of dental implantology in 1999, the world was still intact in Germany. All pulled together. The goal was the improvement of the overall performance in the field of implantology.

The implantologists and the prosthodontist created techniques in order to improve the osseointegration and the "red-white-aesthetic". Apart from innovative mesio-structures the industry also designed new implant structures and improved implant surfaces. The laboratories integrated new materials and methods in dental work.

And that was a good thing.

Although the big secrets in the field of implantology had been lifted within the following years, the industry developed and still develops always new implant types, abutments, connection elements, prosthetic elements and a vast set of equipment. Therefore, those who work in the field of implantology can no longer find in many catalogues what they really need without experts or a helpline.

The industry wants us to believe that a new implant set every year is indispensable including all instruments, DVT or dental GPS systems.

For that reason in the 2nd half of the last decade implantologists - unnoticed by many- divided into two groups.

The first group believes in all new "inventions" and positions itself between their own beliefs and the available budget.

I belong to the second group. To those, who challenge the benefit of every measure with scientific facts for implant success. The point is not to reject new things in general. It is necessary to find out if these actions are reasonable.

We try to reduce the vast number of available information to an essential and make use of them. For example which aspects are important for a successful osseointegration? There are primarily two factors:

- 1. Primary stability of the inserted titanium implant
- 2. to prevent movement of the implant during the healing period

The supporters of the first group are going to argue now:

But what is with all the many other factors such as immediate implant placement, immediate restoration or loading, inflammations, peri-implantitis, hygienic potential, general diseases and suchlike?

Based on the 2 quoted "strong" factors for the osseointegration I have looked for years to find possibilities to prevent these problems.

The biggest difficulty was to question the traditional implantology method (KIV).

Il still remember it exactly. When I read he first studies, articles and images about minimally invasive implantology methods 4-5 years ago, it made my hair stand on end to think about inserting "blind" into the bone. And to restore these one-piece implants *immediately* was a case of extreme madness to my mind.

It could not be possible that I laid flaps with difficulty, performed internal and external sinus lifts, bone block graftings and operated distraction osteogenesis, while these MIMI®-tologists simply inserted the implant through the finished hole after some minimally invasive pre-drillings.

I have thought about it for several months and pursued these "mad assumptions".

Then. I did it!

For Christmas I bought myself a starter set of Champions® implants with a drill and tried it. On a chipboard as test object for the maxilla and on a wooden board for the mandible test.

It was similar to working with wood screws. So I asked myself why this technique should not also work in bones? The mechanical procedures are similar.

That is why I started- as I did years before when I started working in the field of implantology- to place the implants in proper positions.

The success was astounding and everything was great.

At that time, following initial success, I thought that it could be possible

to place maybe 50% of all implants in this way.

But even better:

After further daily approaches to the new challenges of this method, we managed to overcome many further problems.

Even if it does probably not work entirely without two-piece implants and augmentations, at present, in 95% of all cases we use one-piece implants.

And this predominantly minimally invasive.

That means for the patient: *always* immediate loading and immediate restoration.

The most important advantages of the minimally invasive method of the (MIMI) implantation are:

- 1. almost painless and almost without swelling
- 2. no suction-pump effect (at the implant-abutment transition)
- 3. as a result no bone loss
- 4. significantly faster restoration
- 5. cost effective

At present, many deride, ignore or condemn this method. In my opinion, the future will show the following: An implantologist, who does not throw light on these methods is guilty of an offence just like a dentist who does not throw light on implants. Regardless of whether he applies this method or not.

This book is not a schoolbook with complete theoretical explanations.

I am a practitioner. No statistician. Neither am I representing the university. It is in my interest to reveal the fantastic opportunities of this method. This book should guide all curious and interested people to reflect perhaps to rethink or even to make changes.

Nearly all images have been taken by our intraoral cameras. They allow to photograph X-ray images as well as an image documentation of complete jaws, even though with quality limitations. Since they have been designed for sharp intraoral views, which you can see in this book. Anyway, for the "integral experience" I have deliberately included some blurred images. I hope you will understand.

It would be a pleasure for me if you can send me your opinions, suggestions, proposals for improvement to my email address: f.schrader@feste-zähne-an-1-tag.de

5

Frank Schrader

11. Up to date

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

However, I also adduced 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 on one day" mean that you only have to place the implant "once"!

If possible, we always try to ensure that an additional implant placement is not required. For this reason, we insert 1 or 2 implants more. Osseointegration factors which we cannot influence such as chewing behaviour, insufficient oral hygiene of the patient and so on, and for which we cannot provide a guarantee as implantologists, therefore do not lead to an additional implant placement as the loss of single implants does not affect the overall success in the field of implantology.

In the upper jaw for example we call that in the case of a removable dental prosthesis: **8 + 2**

The patient receives 10 ball head implants and for 2 implants we only charge the material costs. If however, 1 or 2 implants will not osseointegrate, a palatal free dental prosthesis, also without any additional implant placement, is still guaranteed.

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

We use in healed jaws more than 90% of implants with a diameter of 3.5 mm.

In addition, we aim for a natural reproduction of the tooth root arrangement.

"Mother earth" had a long preliminary phase of 100,000 years. And there is a reason why some teeth have more than only one tooth root.

Therefore, we normally restore a molar tooth with 2 implants. That provides security for the static and guarantees an additional anti-rotation protection.

What are we doing differently?

Progress happens today so fast that while someone declares something not to be realisable at all, someone who has already realised 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 safe & simple

The successful osseointegration of an implant requires two prerequisites:

- 1. Primary stability (40 70 Ncm)
- 2. No activities 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.

If we insert twice as much 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.

Example 1

When the traditional implant methods are applied for a palatal free prosthesis, 6 implants are placed into the toothless upper jaw and fixed via a splint. Since with "Fixed teeth on one day" we want to prevent to contact the laboratory and 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 10t^h implant only takes some minutes, we do 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 make further implant placements for obtaining a palatal free prosthesis.
- b) If all remain fixed, we have an unbeatable security buffer (material fractions, accidents and suchlike) for decades.









7.1.2/Case 2

Patient: female, 47 years old

12,-21 surgical crown lengthening 2 implant placement 12, -22 2 crown blocks

25/03/2010	22 12-22	extraction dentist made temporary
29/04/2010	22 12,11,21	Champions® implant Ø 3.5 x 14 mm, 80 Ncm zirconium Prep-Cap surgical crown lengthening excision of the labial frenulum dentist made temporary
30/04/2011	12-22	cemented laboratory made temporary
02/08/2011		Impression
11/08/2011	12/11,21/22	cemented zirconium dioxide crown block
Treatment period:		3.4 months

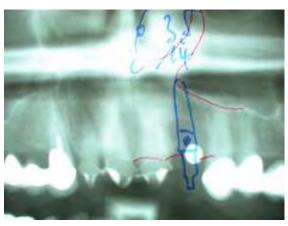
Indirect sinus lift

Surgical crown lengthening Excision of the labial frenulum





Remarks:



22 planned implant placement after extraction and preparation of regios 12,11,21



22 cross-sectional image illustrating bone loss



Dentist made temporary after extraction of tooth 22



Situation before implant placement



Implant with PC



Gingival Margin Trimmer



22 mesial trimming of the gingiva



Cemented PC



Surgical crown lengthening



Labial frenulum excision



Wound closure



Excised gingiva from regio 12-21



New dentist made temporary



Radiographic implant control, panoramic radiograph



Cross-sectional image after implant placement



Clinical situation, 1st postoperative day



Laboratory made temporary, 1st postoperative day



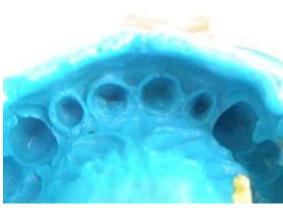
Labial view, 1st postoperative day



Clinical situation on the day of impression taking



Retraction sutures before impression taking



Final impression



Final image



Radiographic control, zooming

7.2.1/Case 15

Patient: female, 58 years old

35,36, 3 implants, paranerval implant placement, crown block

nampions® implant Ø 3.5 x 12 mm.
١

60 Ncm, PT -5

36m Champions® implant Ø 3.5 x 12 mm,

70 Ncm, PT -7

36d Champions® implant Ø 3.5 x 14 mm,

70 Ncm, PT -7 impression

cemented dentist made temporary

22/02/2010 35-36 cemented zirconium dioxide block

10/10/2011 Radiographic control and control images

Treatment period: 1 week

Remarks: Paranerval late implant placement, early

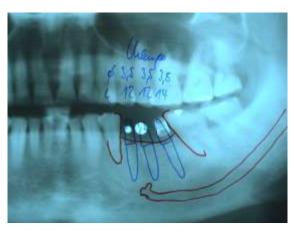
loading

20 months after implant placement the gingiva

is completely free from irritation.

The crown block has loosened and has been

cemented once again.



Panoramic radiograph for planned treatment



Cross-sectional image



Probe and rubber ring for the measurement of the gingival thickness



Measurement of gingival thickness



Pilot hole preparation



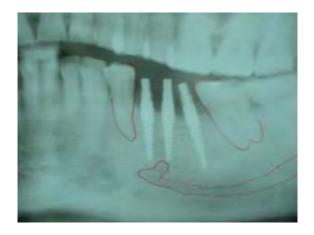
Clinical situation after pilot hole preparation



Clinical situation, implant placement at the beginning



Completed insertion



Panoramic radiographic control



Radiographic control, cross-sectional images



Impression



Dentist made temporary



Implant head preparation on cast



Bone mill for implant head preparation in mouth



Attached plastic cap before implant head preparation



Attached plastic cap after implant head preparation



Final crown block, occlusal view



Final crown block, basal view



Final crown block, occlusal view



Panoramic radiographic control



Clinical situation after 20 months...



...macro image...



...in situ...



...detail of the panoramic radiograph, zoomed

7.2.3/Case 17

Patient: female, 44 years old

44,-47 implants plastic caps, crown block

06/10/2009 44 Champions® implant Ø 3.0 x 14 mm,

>60 Ncm

45, 46, 47 Champions® implant Ø 3.5 x 8 mm,

>60 Ncm, Periotest -4

bone spreading impression

cemented dentist made temporary

08/10/2009 44-47 preparation of the abutments

cemented zirconium dioxide block

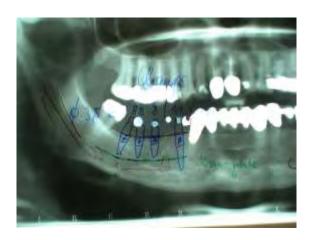
Treatment period: 2 days

Remarks: Paranerval late implant placement, immediate

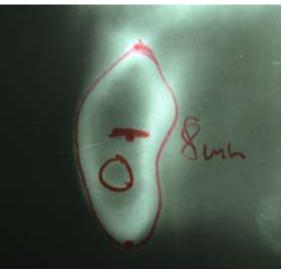
loading

Grinding caps made in the laboratory have been attached onto the implants in mouth and all overhanging sections of the implant heads

removed.



Panoramic radiograph for planned treatment



X-ray planning, cross-sectional image



Clinical initial situation with integrated prosthesis



Former prosthesis



Clinical initial situation without prosthesis



Detached attachment element 43



Marked positions for planned implants



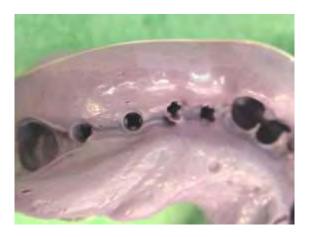
Pilot hole preparation



Implant placement at the beginning



Completed implant placement



Impression for final dental prosthesis



Cemented dentist made temporary



Radiograph control, cross-sectional image after implant placement; paranerval implant placement



Plastic caps for the preparation of implant heads



Clinical situation before dental prosthesis integration



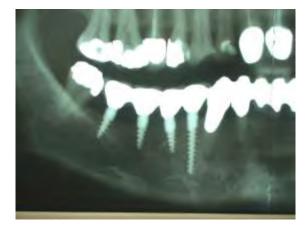
Crown block on cast



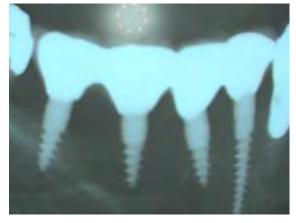
Crown block in mouth



Simulated preparation of implant heads onto the cast made in the laboratory



Radiograph control, panoramic radiograph



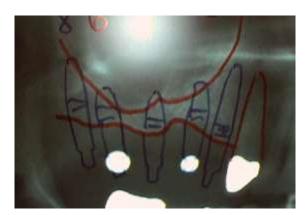
Radiograph control, panoramic radiograph, zoomed detail

7.3.5/Case 29

Patient: female, 49 years old

14-18 implant placement, 13 tooth preparation 13-18 crown block

26/05/2011	14	Champions® implant Ø 3.5 x 12 mm,
		>50 Ncm, Periotest 0
	15	Champions® implant Ø 3.5 x 6 mm,
		>20 Ncm, Periotest +2
	16	Champions® implant Ø 3.5 x 6 mm,
		30 Ncm, Periotest 0
	17	Champions® implant Ø 3.5 x 6 mm,
		30 Ncm, Periotest +2
	18	Champions® implant Ø 3.5 x 8 mm,
		15 Ncm, Periotest +6
	13	tooth preparation
		preparation of implant heads
		cemented dentist made temporary
30/08/2011		Impression
		Periotest: 14 -2, 15 -3
		16 -2, 17 +1,18 +2
07/09/2011	13-18	cemented zirconium dioxide block
01/03/2011	10-10	comenica zirodnam aloxide block
Treatment period:		3.5 months
Remarks:		Avoiding a direct sinus lift
		and the same because dead and the authority of the base of a same



Planned treatment, initial panoramic radiograph



which as been declared as inevitable by 2 oral

Existing prosthesis in situ

surgeons.



Clinical initial situation, occlusal view



Marked insertion points



Completed implant placement, occlusal view



Completed implant placement, lateral view



Implant head preparation, occlusal view



Panoramic radiographic control, detail



Dentist made temporary, occlusal view



Dentist made temporary, lateral view



Before impression



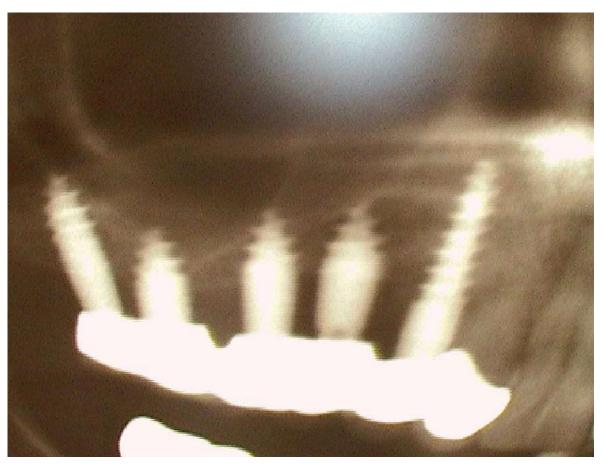
Impression taking



Final cemented crown block, occlusal view



Final cemented crown block, lateral view



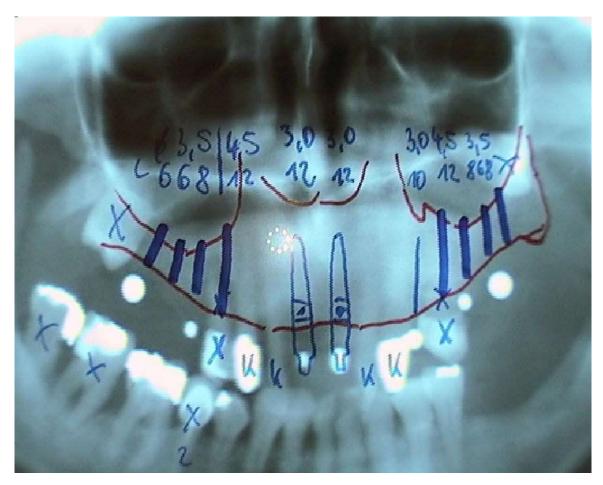
Final cemented crown block, panoramic radiographic control, zoomed detail

7.4.2/Case 34

Patient: female, 60 years old

11 upper jaw implants performed under general anaesthesia 17-27 three crown blocks

05/05/2011	18,28 14,25 17 16 15 14 11 21 24 25 26m 26d 27	osteotomy extraction, immediate implant placement Champions® implant Ø 4.5 x 6 mm, 15 Ncm Champions® implant Ø 3.5 x 6 mm, 30 Ncm Champions® implant Ø 3.5 x 8 mm, 40 Ncm Champions® implant Ø 4.5 x 14 mm, 40 Ncm Prep-Cap Champions® implant Ø 3.0 x 12 mm, 40 Ncm Champions® implant Ø 3.0 x 12 mm, 40 Ncm Champions® implant Ø 3.0 x 14 mm, 30 Ncm Champions® implant Ø 3.0 x 14 mm, 30 Ncm Champions® implant Ø 3.5 x 12 mm, 40 Ncm Prep-Cap Champions® implant Ø 3.5 x 8 mm, 20 Ncm Champions® implant Ø 3.5 x 8 mm, 20 Ncm Champions® implant Ø 3.5 x 8 mm, 20 Ncm Champions® implant Ø 3.5 x 8 mm, 15 Ncm
	12, 13, 22, 23 17-27	tooth preparation dentist made temporary
06/05/2011	17-27	wound control cemented laboratory made temporary
14/07/2011	17-27	impression
21/07/2011		Cemented zirconium dioxide crown
Treatment period:		2.5 months
Remarks:		14, 25 immediate implant placement Endotracheal anaesthesia Immediate loading The dental prosthesis was fabricated by the family dentist.



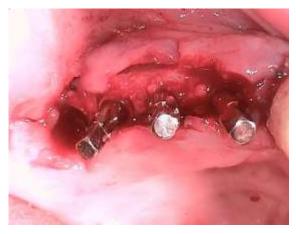
Panoramic radiograph initial findings, planned treatment



Endotracheal anaesthesia



Clinical initial findings



Open implant placement in the right upper jaw



Wound closure



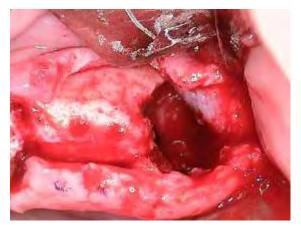
Insertion at the beginning, in the anterior maxillary region



Completed insertion in the anterior maxillary region, anterior view



Completed insertion in the anterior maxillary region, occlusal view



Osteotomy 28



Autologous bone in regio 28



Completed insertion in the left upper jaw



Drilled hole in regio 24



Implant placement in regio 24



Completed implant placement in the anterior region



Panoramic radiographic control



1st postoperative day, laboratory made temporary, upper jaw, right side



1st postoperative day, laboratory made temporary, upper jaw, anterior region



1st postoperative day, laboratory made temporary, upper jaw, left side



1st postoperative day, laboratory made temporary, occlusal view



Laboratory made temporary after 9 weeks, right side



Laboratory made temporary after 9 weeks, anterior region



Laboratory made temporary after 9 weeks, left side



Cemented crown, right side, lateral view



Cemented bridge, anterior view



Cemented bridge, left side, lateral view



Cemented bridge, left side, palatal view



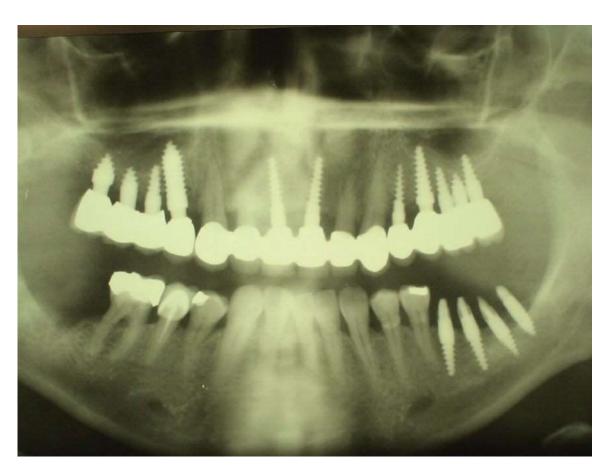
Cemented bridge, right side, palatal view



Cemented bridge, occlusal view



Cemented bridge, labial view



X-ray final control, panoramic radiograph

7.5.7/Case 45

Patient: male, 46 years old

5 x extraction, 8 upper jaw implants, augmentation, direct cementing of the matrices into the prosthesis

December 2010		Manufactured upper jaw overdenture
03/01/2011	23 15,14,13,21, 22 15 14 13 12 11 21 22 23 15,14,22,23	osteotomy, autologous bone removed extraction extraction Champions® implant Ø 4.5 x 10 mm, >30 Ncm Champions® implant Ø 4.5 x 12 mm, >40 Ncm Champions® implant Ø 4.0 x 18 mm, 30 Ncm Champions® implant Ø 4.0 x 12 mm, >50 Ncm Champions® implant Ø 4.5 x 12 mm, >40 Ncm Champions® implant Ø 4.5 x 12 mm, >40 Ncm Champions® implant Ø 3.5 x 12 mm, >40 Ncm Champions® implant Ø 4.0 x 14 mm, 30 Ncm Champions® implant Ø 4.0 x 16 mm, 30 Ncm bone augmentation, suture 8 incorporated matrices

04/01/2011 Wound control

2.5 hours Treatment period:

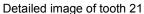
Remarks: Immediate implant placement

Immediate loading

Augmentation with autologous bone
Due to financial reasons the patient opted for a

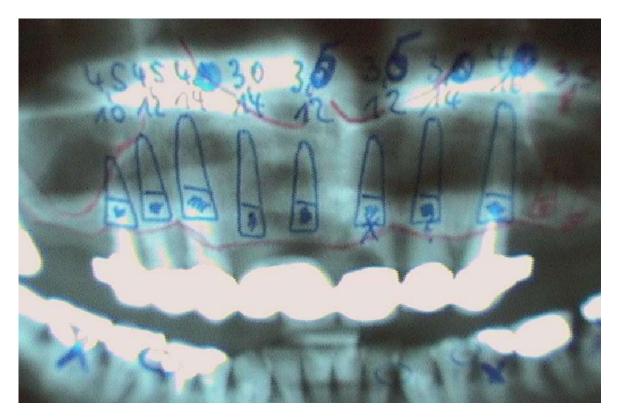
removable denture solution.



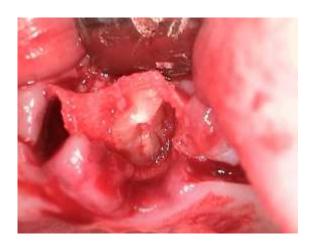




Clinical initial situation



Panoramic radiograph for planned treatment



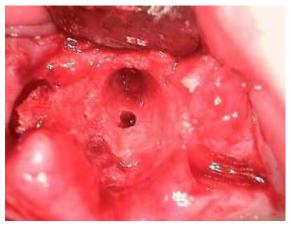




Extracted teeth



Alveolus 23 after extraction



Palatal initial pilot hole preparation in regio 23...



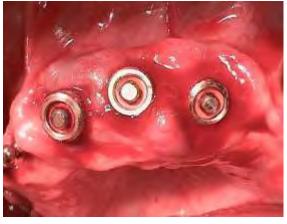
...and implant placement



Autologous bone



Augmentation in regio 23



Situation after augmentation in regio 23



Implant placement in regio 14, 15



Augmentation in regio 14, 15



After augmentations in regio 14, 15



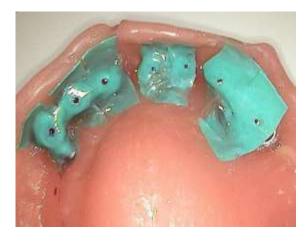
Completed implant placement



The rubber dam is placed in order to protect the gingiva



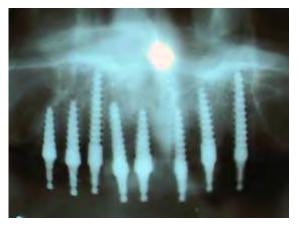
Prepared prosthesis



Directly after polymerisation process, basal view



Before prosthesis preparation



Panoramic radiographic control



1st postoperative day



1st postoperative day, lip

The author

DS Frank Schrader, Albertstr. 33, D-39261 Zerbst/Anhalt



1981-86

 Studies of dental medicine at the Martin-Luther-Universität in Halle-Wittenberg in Germany

1986

- State examination
- Diploma thesis with a Master's degree in Stomatology

1991

- own dental office in Zerbst

1998

- Member of the German Association for Dental, Oral and Orthodontic Medicine (Deutsche Gesellschaft für Zahn-, Mund-, und Kieferheilkunde, DGZMK)

1999

- Member of the Implant Association for Dentists (IGfZ eG, Implantologische Genossenschaft für Zahnärzte)
- Member of implant associations: German Association of Dental Implantology (Deutsche Gesellschaft für Implantologie, DGI), Middle German State Association for Dental Implantology (Mitteldeutsche Landesverband für Zahnärztliche Implantologie, MVZI)
- Presentations for patients
- Presentations and training for dentists
- National and International publications in the field of implantology

2007

- Foundation of an Implantology continuing education centre
- Live- surgical procedures
- Hands-on courses
- Live-broadcast from the operating room into the conference room
- Dental training for dentists
- More than 700 implants per year
- Reference and training practice for the German company CHAMPIONS®-IMPLANTS-GMBH

2012

- Publishing of the implant book "Fixed teeth on one day" part I

2013

- Publishing of the implant book "Fixed teeth on one day" part II

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