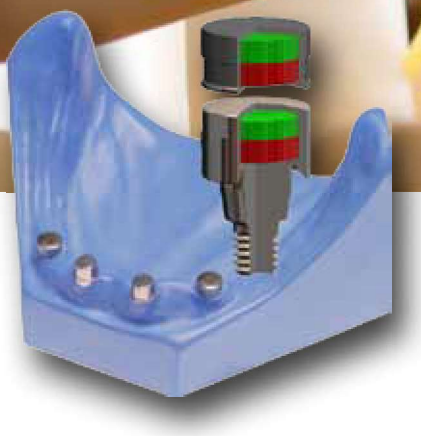

Patients 80+
Case study from geriatric dentistry

StecoTitanmagnetics®

Author: **Dr. Gundhilde Schmidt**

Vita:
- Born in 1984
- Graduated in 2010 from the Medical University of Graz
- Ordination in Gnas, Austria since 2010
- Freelancer at ZPP

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I'd love to eat a Wiener Schnitzel again!

A case study in gerodontology in day-to-day dental practice

Dr. Gundhilde Schmidt, Gnas, Steiermark

Up to what age are implants indicated? What treatment is available to a patient of advanced years with a full medical history? The following case, which draws on the author's personal experience, demonstrates that a magnet-retained denture on implants can fulfil a patient's long-cherished wish and significantly enhance their quality of life.

In training to become a dentist you learn a great deal about the theoretical principles of implantology, prosthetics and gerodontology. Lectures are given on the effects of edentulism in old age. In the theory sessions the pros and cons of the appropriate types of treatment available for geriatric patients are examined at great length.
My grandfather's case showed me, however, that consideration of the patient's own wishes is largely overlooked in these sessions. My grandfather, who was born in 1914, had worn dentures ever since the age of 60. In fact I can never remember him without his dentures. As he got older, his mandibular ridge atrophied, resulting in an almost flat jaw

Fig.1: Patient during healing period before prosthetic provision.

Fig. 2: Titanmagnetics inserts are screwed in at 20 Ncm torque.

Fig. 3: K-Line Titanmagnetics inserts in situ.

ridge. As a result his denture started to become loose. He increasingly lost any pleasure in eating and no longer joined us for lunch, a meal of such importance in bringing family members together. This was because he was embarrassed by his inability to masticate properly owing to poor denture retention, causing him to leave his food untouched on his plate.

Shortly before completing my dental studies, I enrolled out of interest on an additional course in gerodontology. This led to regular lively discussions on dental topics between my mother (herself a dentist) and me over lunch and dinner. Implantology and the prosthetic retaining elements available featured prominently in these discussions. To my surprise my grandfather joined in the conversation after a while, saying how marvellous he thought the latest innovations in dentistry were and asking whether he could benefit from them as a patient. His dearest wish was “to be able to bite into a Wiener Schnitzel again”.

I was astounded by this initially. I had known my grandfather all my life and I had not realised until then just how desperately unhappy he was with the retention of his denture.

This is how my 95 year old grandfather became my patient: Patient: granddad, born in 1914, bilateral femoral fractures, bilateral macula degeneration, inoperable aortic aneurysm, paralysis of the bladder and occasional circulation-related dementia

Proposed treatment: two infraforaminal implants with a StecoTitanmagnetics K-Line retained complete denture. The advantage of this retaining element is that the prosthesis is almost self-centring, enabling the patient to quickly find the right position. Furthermore, these retaining elements do not have any undercuts and can therefore be easily cleaned either by the patient or nursing staff. However, in view of my grandfather's medical history, there were growing doubts about the proposed treatment. More and more family members as well as his friends asked him whether he really wanted to undergo such torture at his age. I was impressed by my grandfather's determination here: He wanted the treatment to go ahead. An appointment for the implant placement was therefore made for a date in May 2010.

Fig. 4: Individual impression tray blocked out for magnetic impression posts.

Fig. 5: Impression with denture magnets. Model analogues are magnetically attracted.

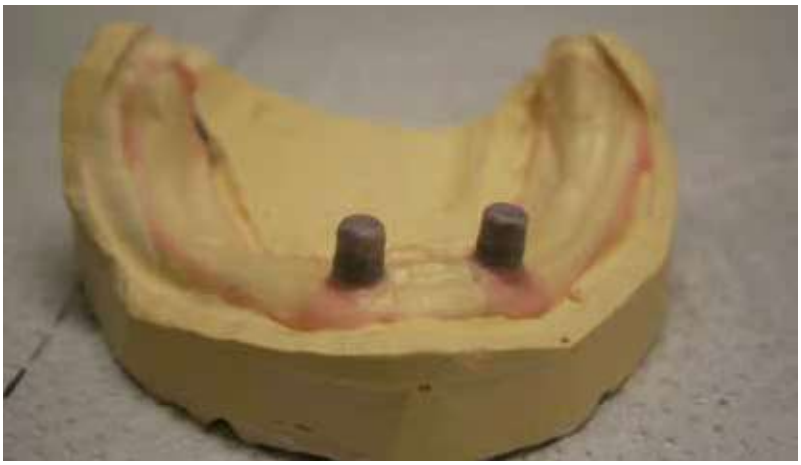

Fig. 6: Denture magnets on the working model are used as a spacer for the cast base.

Fig.7: Cast base for increased stability.

14 days before the planned surgery, my grandfather had another severe bout of dementia. Because of this my mother actually wanted to cancel the surgery on the day of the appointment. She was surprised, however, by my grandfather who welcomed her wearing his suit, saying to her “Let’s go!” On their way to the surgery, my grandfather realised that my mother had wanted to cancel the appointment and he addressed her doubts as follows: “You and I both have the same future.
You don‘t know when you will die and neither do I!” In saying these words he dispelled any doubts she had about the surgery due to his health or age.

Two implants (Biomain) were therefore inserted infraforaminally that day. The old lower denture still served as a temporary denture but was reduced in the region of the implants to prevent any pressure being transferred to them **(Fig. 1)**.

We started with the prosthetic provision of the implants in August 2010 after a 3 month healing period. Two K-Line Titanmagnetics were screwed in under torque control **(Fig. 2 and Fig. 3)** and the denture magnets were then placed on top (the denture magnets are also impression posts). The impression was taken using an individual impression

tray **(Fig. 4)**. Bite was recorded in relation to the existing upper denture at the same treatment session.

The dentures were fabricated over the following weeks at the Wiedrich dental laboratory (Nestelbach near Ilz) **(Fig. 5)**. A cast base was incorporated into the lower denture to increase its stability **(Fig. 7)**. The denture magnets were placed on the working model with the resilience rings in between to make sufficient space for their subsequent intraoral retention **(Fig. 6)**.
The denture was finished in September **(Figs. 8 and 9)**. During the try-in it was decided to renew the upper denture as well. The denture magnets **(Figs. 10 and 11)** were incorporated into the prosthesis intraorally.

I noticed the first improvement as soon as the dentures had been inserted. My grandfather was able to speak clearly once again. We took him home and after all the stress, worries and doubts we had been through I could have received no greater reward than to see the immeasurable joy on his face when he opened the fridge and was able to sample everything in it. That is a moment I will never forget.

Fig. 8: Set-up of the lower denture on the model.

Fig. 9: Set-up of the upper and lower denture.

Fig. 10: K-Line Titanmagnetics denture magnets on the resilience rings before polymerisation into the denture.

Fig. 11: Correcting the base after polymerisation.

In the weeks following the surgery I witnessed the effects of the new dentures at first hand. My grandfather ate lunch again - the days of making do with porridge were over. He was now able to use a knife and fork again. He was confident enough to go to restaurants again and was no longer embarrassed to eat in company. An added bonus was that he gained weight.

My grandfather had rediscovered his enjoyment of food. He continued to wear the dentures for a further two years until he passed away in August 2012 at the age of 98. In conclusion it must be said that opting for this procedure was not of course an easy decision, taking into account my grandfather's medical history and the problems of caring for him at home. But my grandfather treasured each day with his new denture – and knowing this has been a source of inspiration and motivation to me ever since in my work as a dentist.