Neoss ScanPeg - Simplified intra-oral scanning

By Dr. Jakob Zwaan, Italy

Patient
60-year-old woman. Non-smoker in good general health.

Clinical situation
Missing lower first molar. Part of a complex case with multiple reconstructions in both jaws.

Treatment plan
Placement of Aesthetic Healing Abutment at time of implant placement. Digital impression using the Neoss ScanPeg CAD/CAM CoCr single crown with angulated screw hole.

A 4.0 x 11 mm Neoss ProActive® Tapered implant was placed in the lower first molar position following 3D radiological examination. A minimal flap was raised to split the small amount of keratinized soft tissue. Excellent primary stability was obtained, insertion torque >50 Ncm and 76 ISQ.

An Aesthetic Healing Abutment Pre-molar was placed and the soft tissue closed with single sutures (Fig. 1). Note the buccal orientation of the groove, which functions as a direction feature, to ensure proper anatomical transgingival shape. The screw channel was filled with PTFE material (Fig. 2).

At time of scanning, the PTFE material was removed, the push-in ScanPeg was seated inside the Healing Abutment (Figs. 3 & 4), and an intra-oral scan was taken. The assembly allows the digital impression of the implant position and soft tissue (Fig. 5) to be taken without unscrewing the abutment, thereby leaving the healing of the implant intact.
the soft tissue completely undisturbed.

Since there was no need for a temporary crown for esthetic reasons, and the soft tissue was conditioned by the healing abutment, it was decided to immediately produce the definitive restoration. A CAD-crown was designed by the laboratory with a minor correction of axis (12°). A library of preset transgingival shapes in the CAD library that matched the shape of the healing abutment simplified the design work. A Cobalt Chromium restoration was milled (Arc Solutions, Helsingborg, Sweden). The milled abutment was mounted in the stone model and occlusion was tested before layering the framework with porcelain (Fig. 6).

At time of placement of the final restoration, the Esthetic Healing Abutment was removed, revealing a mucosa around the implant anatomically shaped by the Healing Abutment (Fig. 7).

When to avoid implants

By DTI

Located in the Salamanca district of Madrid, Spain’s capital, Clínica Villa- boa was founded more than 30 years ago by Drs Beatriz and Débora Villa- boa. With polished hardwood floors and a stylish minimalist in tenor, the practice’s aesthetic emphasis is immediately evident. A pioneer in aesthetic dentistry when first established, the multilingual clinic has since expanded its focus to two disciplines, implantology and prophy- laxis—which may at first seem con- tradictory. prevention spoke with practice dentists Drs Amparo Llor- ente and José Manuel Reuss about the clinic’s approach to prevention in implantology.

Why did you choose implantology?

Dr José Manuel Reuss: I was always very interested in prosthetics and replac- ing what was missing. I am very motivated by the fact of giving back what patients have lost. The combi- nation of prosthetics and surgery makes implantology perfect for me.

Dr Amparo Llorente: I am a trained periodontist and I am wholly dedi- cated to it. I look more at periodontal disease and prevention of implants (laughs). However, I think I also have a good understanding of implants, so we make a good team.

Reuss: You definitely have a very good understanding.

What is your approach to implantology and prevention?

Reuss: It is very difficult to be able to tell a patient that something should last for a lifetime, but this is our goal, our wish and our belief. Plac- ing an implant should naturally be our last solution once we have done everything to save the natural tooth. When we do the treatment, we do not want to have the implant last for only ten years. That is not really a success. We want to provide a treat- ment that lasts for a lifetime.

Llorente: The great thing about Dr Reuss is that, as an implantologist, he is devoted to restoration and replac- ing. However, whenever he sees a tooth that still has the potential to be maintained, he does everything to maintain it. That is very important. Nowadays, implantology is so fash- ionable. Everybody wants to place implants. Some dentists see the im- plants only, but we should look at oral health first. The patient needs to have an implant for a lifetime. This involves good initial oral health and a well-planned treatment.

So, you argue that implants should be avoided as much as possible?

Reuss: Yes, implants are a great treatment modality and we are very thankful for this invention. How- ever, implants should be delayed as far as possible. If we can preserve the tooth for ten more years and then place the implant, that is the way forward. Patients should not have their teeth removed and replaced with implants instead. After implant treatment, patients need to be twice as careful with their mouths. There is no way to go back to another solu- tion. The dentist needs to communi- cate this as far as possible.

Llorente: An implant is the best solu- tion for a missing tooth, but it is not an alternative for a tooth that can still be saved. An implant is more ex- pensive than maintaining the natu- ral tooth, so we try to preserve the tooth if we still can.

Do you think that implantolo- gy and prevention of implants can work side by side?

Reuss: Prevention is the best thing one can do for one’s patient in the long run. If we can get our patients to believe in prevention and therefore come to the dentist more regularly, it will be beneficial for all of us. How- ever, this is a long and bumpy road, as the patient’s oral care mindset cannot be changed easily.

Llorente: Proprihylaxis is the main way that conditions like peri-im- plantitis can be prevented. We know that implant treatment requires follow-up; implants need to be taken care of continuously, so it is very im- portant to instruct and motivate pa- tients to have regular check-ups that are complemented by a good home oral hygiene routine.

As a periodontist and implan- tologist, how do you work to- gether?

Reuss: In cases of severe periodon- tal disease, such as aggressive peri-odontitis, we try to delay the implant placement as far as possible. I am not talking about weeks or months, but even years. If we need ten years for a patient with periodontitis to have the necessary oral health for implant placement, then we wait. Sometimes, it depends on the pa- tient; sometimes, it is the wrong ap- proach to oral hygiene; sometimes, it is genetics. At the same time, we have seen implant failure without any clear reason.

Llorente: The major risk factors in- clude bacterial contamination, a his- tory of periodontitis and habits such as smoking. This means that we need to look at the patient’s habits and anatomy and the surgical protocol. These factors are more related to early loss. Another factor is the prosth- etic design.

What role does poor oral hy- giene play in terms of implant success?

Reuss: When we see a patient with very poor oral hygiene, we do not place the implants. We are that rad- ical. We tell our patients that the peri-
odontal tissue needs to be strong. In the case of poor oral hygiene, the implant will fall out eventually. We need to explain that the patient has good oral health habits. Ideni-
tificus patients with a lack of oral hygiene are not good candidates for implants. We have to do several hygiene appointments first before continuing with the implant placement.

How can we motivate the pa-
tient to use oral care products more effectively and regularly?
Reuss: First of all, we have a growing awareness of oral health among our patients. That helps a lot in the gen-
eral predisposition of patients. When they come to our practice, they have changed their dietary attitude and work out more. They are starting to believe more in prevention. They also come in every six months, while we only saw them every two years in the past.

Llorente: In Spain, we still have this mindset that patients only come when they are in pain. Now, we are moving in this direction of coming at least every year. From a periodon-
tal perspective, I would like to see my patients every three to six months, especially during maintenance ther-
apy. During the dental appointment, they already look forward to the next appointment.

Reuss: We understand now that we have to work with patients as a team. We can no longer simply provide treatment. We have to spend extra time educating them, motivating them on how they can maintain and preserve their oral health, which is ultimately their responsibility.

Do you also instruct your pa-
tients on how to use tooth-
brushes, interdental cleaning tools and toothpaste?
Reuss: Our dental hygienists focus more on oral care instructions. Their role in prevention is crucial. They ex-
stablish a close relationship with the patient and make sure that every pa-
tient gets the individual tools he or she needs, be it toothbrush, inter-
dental brushes or floss. Everything in our office is teamwork.

Llorente: Every patient is differ-
ent, no doubt, but everyone needs interdental brushes, for example. I brush interdentally every day. As dentists, we need to make sure that we reinforce oral hygiene measures every time the patient visits. With improving oral health habits comes greater satisfaction for the patient. The best thing in dentistry is that we can see the change. We can see how the bleeding stops. And the patient feels it.

What do you think about CURAPROX products?
Reuss: Products that are easy to use help us progress in our treat-
ments quicker and provide patients with the tools to easily establish a positive home care dental regimen. CURAPROX’s products are often better than other products, and this is meant that it went against the gen-
eral trend of the market for the past few years. However, this softness is extremely beneficial, as it helps to prevent damage to tissue and teeth.

What role does the implant design play for oral hygiene?
Reuss: Implant prostheses are not easy to clean. The implant has a very thin cylinder compared with the anatomy of the tooth. The design of the implant needs to accommodate the structure of the overall anatomy, as well as the neighbouring teeth. In the case of missing periodontal tissue or of full-arch restorations, we need to have a different implant design.

In any case, we use the design most suitable for oral hygiene measures, especially in non-aesthetic areas. For example, for lower arch rehabilita-
tions, we try to have no contact with the soft tissue. That is not possible in the upper arch. But we have to use implant surfaces that can be polished easily. Interdental brushes and dental floss also need to be used regularly. We work very closely with the laboratory and have clear in-
structions. Tissue contact continues to be crucial.

Finally, optimal prevention and oral health require an inter-
disciplinary partnership. How do you work with other medi-
cal doctors towards achieving overall health for your patients?
Reuss: As healthcare profession-
als, we see patients every day who are sent to us by heart specialists, endocrinologists, and so on. This is because there is an intrinsic relation-
ship, proved by many studies, be-
 tween oral health and overall health. For example, we have patients who have been referred by cardiologists who have detected some form of car-
diovascular disease and want their patients to be orally healthy as soon as possible. We also have diabetics referred to us by endocrinologists, often straight out of the hospital. This is because, if they have anything wrong with their mouths, an infec-
tion or anything that needs to be addressed, it is essential that this is-
issue is resolved so that the diabetes-
related issues may also be resolved. Patients need to know about these relationships.

Llorente: We always have to contact doctors if the patient has a special need. Interestingly, medical doctors send us their patients with immu-
nosuppression and other conditions to get rid of the dental problems. In comparison with other medical dis-
ciplines, we can quickly manage to control the inflammation and regain the microbial balance in the mouth, thereby helping the overall immune system. The dental knowledge of general medical doctors is growing, as they understand the need for a healthy mouth for general health.
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