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Interview with Assoc. Professor Ulrike Kuchler, Medical University of Vienna, Department of Oral Surgery

# Confidence and predictability

Assoc. Professor Ulrike Kuchler was one of the speakers at the Osstell Industry Satellite Symposium at the EAO in Vienna at the beginning of October. In her speech, she focussed on implant stability in compromised situations. Kuchler explicitly described the main factors that lead to implant stability and substantiated her statements with numerous studies. After the speech, EDI Journal Project Manager My To asked Professor Kuchler some in-depth questions.

***Are there any indications which suggest a systematic use of ISQ measuring?***

I see absolute advantages in regular screening, especially in complex cases such as patients with low bone quality. The measurement of the ISQ value gives me a higher certainty for a successful outcome and what is more, the communication with patients and colleagues is much easier when it is based on verifiable data.

***Could the Osstell instrument be used to justify the choice of the right point in time to load an implant?***

Considering that the trend is increasingly moving towards immediate placement and immediate loading, meaning that the time between extraction and implant placement respectively between placement and loading is getting shorter and shorter, the ISQ measurement is an ideal tool for putting neither yourself nor the patient nor the referring physician >>

at risk. If something goes wrong, everyone involved suffers. Apart from the patient's pain, this also includes the high costs incurred in such cases.

***In your opinion, is the ISQ value itself decisive or the development of the value? Can you recognize the “bungee dip” by measuring several times in a row or is the absolute value decisive to decide when loading is possible?***

The development shows in which direction implant stability goes. For example, in one of the studies I quoted in my presentation, we had patients who for 18 weeks simply did not reach a value of 70, a value that stands for high stability on the ISQ scale. And we also see that in our practices. There are patients who display a certain implant stability and stay with it for a relatively long time, and then you have to decide whether to load the implant or not. And we see good successes here. But it is important to notice whether an implant suddenly disintegrates and shows declining values. At this point, things become dangerous. If an implant has a relatively low but consistent stability, this is less severe than an implant with higher values that drop either dramatically or over time.

***In your lecture you also talked about bone-to-implant contact. Is it conceivable that the ISQ value could be used for the evaluation of bone quality?***

In one of the studies I presented, we see a connection between implant stability and marginal bone loss. However, to measure the bone volume on the basis of implant stability or to draw conclusions

about possible bone loss, is not the issue. What is important to me in practice, is the final result: the x-ray and the implant stability value. These are the values that allow me to determine the bone situation at the time of the prosthetic restoration.

One must not forget, and this is very important, that over the long term there will always be bone remodelling. We do not know how the implant stability changes when an implant is loaded, whether there is an increase or a decrease. That is a factor which must also be taken into account.

***Which core message should the audience take home from your lecture?***

Measuring implant stability has many advantages for clinicians: not only in terms of success, but also in terms of patient confidence – not only in complex situations.

I have already pointed out the communication factor. Patients recognize that the dentist does everything possible to speed up the treatment time without putting the implant at risk. If an implant fails, the first question is always, “How could we have prevented this? How did the dentist make sure that it was the right time to load?” It is extremely helpful for mutual understanding if one can prove that an implant loss could not have been foreseen.

Another advantage is the increasing trend to shorten implant protocols. If, for example, you have a patient who says that he needs his implant at a certain date because a family or business affair is coming up or he is going abroad or something similar and I see that the value is stable, we can go for the prosthetic restoration after a short healing period.

But if the values are not suitable, then you know that it is not yet possible to treat the patient. Of course, I understand that patients prefer shorter protocols. Many ask for immediate implant loading but not every patient is suitable. So the measurement can give us a proof of the shortest possible healing time. I also see that patients are willing to invest the time for regular ISQ measurements because it gives them confidence.

What is particularly pleasant for me is that the ISQ measuring creates a very strong bond of trust between the dentist and the patient. The best way to understand the benefit of measuring the ISQ value is to compare it with the ultrasonographies during pregnancy: It just gives you the certainty that everything is fine – and that's why I consider it to be an ideal screening method.

***Thank you very much for your explanations, Professor Kuchler.***

Assoc. Professor  
Ulrike Kuchler and  
EDI Project Manager  
My To after the EAO  
Osstell Symposium.

