

## Insight into jawbone and failed osseointegration of implants - New ultrasound-sonography device to detect jawbone inflammation.

Marginal periimplantitis is a common problem and standard dental practice. For clinical success of dental implants the bone-to-implant contact (BIC) is crucial. Simultaneously bone marrow defects (BMD) around implants in combination with decreased BIC are difficult to detect in X-rays and therefore little researched and widely unknown.

- The workshop demonstrates you novel sonographic techniques to get insight into BIC and failed inflammatory osseointegration of implants.
- You learn to display reduced osseointegration comparing titanium (Ti-Impl) to ceramic implants (Cer-Impl) with precise numerical scaling of BIC with a new ultrasound sonography device (TAU).
- You will see clear osteoimme long-term differences of Cer-impl to Ti-Impl.
- You learn how to detect health threatening BMD around Ti-Impl to Cer-Impl and to evaluate derailed osteoimmune expression of proinflammatory cytokine RANTES/CCL5 in incomplete BIC.
- Why is RANTES/CCL5 a neglected danger for your patients immune system?

Comparison of presented data show an osteoimmune advantage of Cer-impl over Ti-impl. However, Cer-impl does not fundamentally exclude decreased BIC. In the run-up to implantation, absence of inflammation of the implantation site should be checked with TAU. The workshop provides you with new approaches to detect osteonecrotic areas in jawbone by TAU in daily practice.

**Keywords:** Osseointegration, Ceramic-Implants, Titanium-Implants, Osteoimmunology, RANTES/CCL5, transalveolar ultrasound sonography.