Customer: Dentack Ltd.
Date: January 10, 2007
Specimens: 3 rabbit tibiae containing "Dentack Implants"

System settings
Scanning Resolution: 36 µm
Voltage: 70 kV
Current: 114 mA
Integration time: 300 ms

Specimen description
3 proximal tibiae, each including the epiphysis and metaphysis, with a "Dentack" implant at the transitional zone between the epiphysis and metaphysis.

Procedure
- Implants were inserted by Dentack into adult rabbit tibiae ex vivo.
- Each of the specimens was scanned by µCT immediately after implant insertion.
- Implants were expanded in situ by Dentack.
- Each specimen was placed in the µCT at the same position as used for the initial scan and re-scanned.
- 2D images were evaluated by 2 independent examiners of the Hebrew University Bone Laboratory (YG and IB), comparing all pre- and post-expansion µCT planes in each specimen.

Results
- Pre-expansion implant diameter was approximately 3.75 mm.
- At its distal end, the post-expansion implant diameter was approximately 1.1 mm larger than the pre-implantation diameter.
- In all specimens, the peri-implant trabecular network was displaced in the post- compared with the pre-expansion images. However, the general trabecular architecture remained intact with individual trabecular structures identifiable in pre- and post-expansion images.
- Trabecular crashing or microfractures was not observed.
- The enclosed figure is a representative pre- and post-expansion comparison. Arrowheads designate examples of intact trabecular structures identifiable in both images.

Professor Itai Bab
Director, Bone Laboratory