## PR-II-13. Healing of created circumferential gap defect around implants according to defect width, implant surface, defect morphology

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### Background

This study was to evaluate the factors affecting healing of created circumferential gap defect around implants in dogs

### Material and Methods

In four mongrel dogs, all mandible premolars were extracted and after an 8 weeks of healing period, submerged type implants were placed. Groups were divided according to implant surface. Group A was placed turned surface implants and group B was placed rough surface implants. The defects in the left were performed surgically with a customized tapered step drill and the defects in the right sided were created surgically with customized paralleled drill. Groups were divided according to the width of the coronal gaps: 1.0 mm, 1.5 mm, or 2.0 mm. The dogs were sacrificed following an 8 week healing period. Specimens were analyzed histologically and histomorphometrically.

### Results

During the postoperative period, healing was uneventful and implants were well-maintained. As the size of the coronal gap increased, the amount of bone-to-implant contact decreased. The bone healing was greater in rough surface implants compared to turned surface implants. Comparing to defect morphology, taped defect was found good bone filling and direct bone to implant contact even in smooth surface implants.

conclusion

It can be concluded that healing of circumferential defects around implants is influenced by the implant surface, defect width, defect morphology. If using rough surface implants, circumferential gap defect within 2 mm does not need any kind of regenerative procedure, and tapered defect morphology showed more faster healing than paralleled defect morphology