Orthogonal Plate Repair of the Canine Tibia: 10 Cases

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Objectives
- To describe the indications and application of combined cranial and medial plate fixation of fractures of the canine tibia.
- To describe early complications associated with this repair method.
- To describe short and long-term outcomes of tibial orthogonal plating.

Methods
A retrospective review of tibia fractures in client-owned dogs that were repaired using orthogonal plating.

Results
All fractures went on to union. There were 4 major complications in 3 dogs [2 infection, one refracture post explantation, one implant exposure]. Long-term follow-up by telephone communication with the owners indicated that all dogs regained full functional limb use.

Statement (conclusions)
Orthogonal plate repair of the tibia has, to date, not been described well in the veterinary literature. It confers some advantages over the plate-rod technique clinically, in that pin migration and potential damage to intra-articular structures of the stifle and the patella tendon can be largely avoided. Plate explantation, if required, may be technically easier than removing intramedullary devices. There is less requirement for postoperative aftercare with this technique than with external skeletal fixation. The technique allows the repair of fractures where juxta-articular bone stock is limited and hybrid or circular fixation is, on occasion, inapplicable. Precontouring of implants is advised to reduce surgical time and to reduce the potential for creating angular or rotational deformities, particularly when less invasive approaches are used.

Reference