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# Radiographic evaluation

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[dx.doi.org/10.17504/protocols.io.36wgq7qekvk5/v1](https://dx.doi.org/10.17504/protocols.io.36wgq7qekvk5/v1)

TPLO BioMedtrix



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This radiographic evaluation protocol was used perioperatively to manage dogs treated by TPLO for cranial cruciate ligament disease.

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DICOM viewer (Horos™ v3.3.6, [horosproject.org](https://horosproject.org))

Two experienced observers (1 Dipl. ECVS and 1 ECVS resident, with more than 3 years in TPA measurement) assessed the radiographs.  
 Radiographs were anonymized.

## Tibial Plateau Angle measurement

- 1 Tibial Plateau Angle was measured following previously described landmarks (Dismukes 2008).

#### Mechanical axis:

The landmarks used to determine the mechanical axis were the midpoint between the apices of the 2 tibial intercondylar eminences and the center of the circle created by the talus for proximal and distal tibia, respectively.

#### Joint surface landmarks:

- landmarks established for the proximal tibial joint orientation line were the cranial and caudal aspects of the medial tibial condyle,
- landmarks established for the distal tibial joint orientation line were the distal aspect of the distal intermediate ridge of the tibia, cranially, and the caudodistal aspect of the cochlea tibia, caudally.

### Bone healing

- 2 Bone healing was subjectively graded using a previously developed scale (Oxley 2012), modified to allow numerical grading:

Score	Healing grade	Description
0	None	No biological activity
1	Poor	Some evidence of bone healing but unbridged cortices and/or osteotomy gap
2	Good	Active bridging callus and/or osteotomy mostly blurred or filled with callus
3	Complete	Remodeled callus at all cortices and/or osteotomy indistinct

### Postoperative follow-up

- 3 Owners of dogs presenting insufficient bone healing (grades 0 and 1) at follow-up were asked for a recheck after 4 to 6 weeks to ensure sufficient bone healing (grades 2 or 3).