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Designing of double-threaded intramedullary pin and evaluation of *ex vivo* biomechanical resistance to axial compression load on the canine long bone fracture gap model

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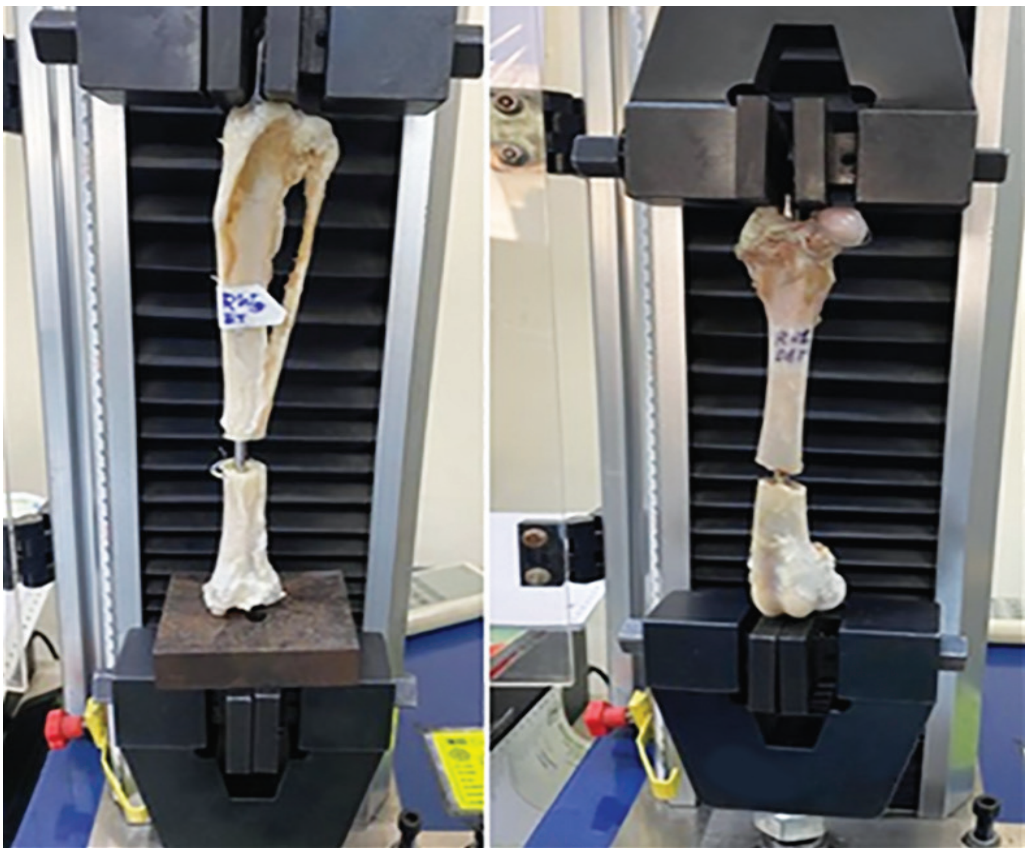
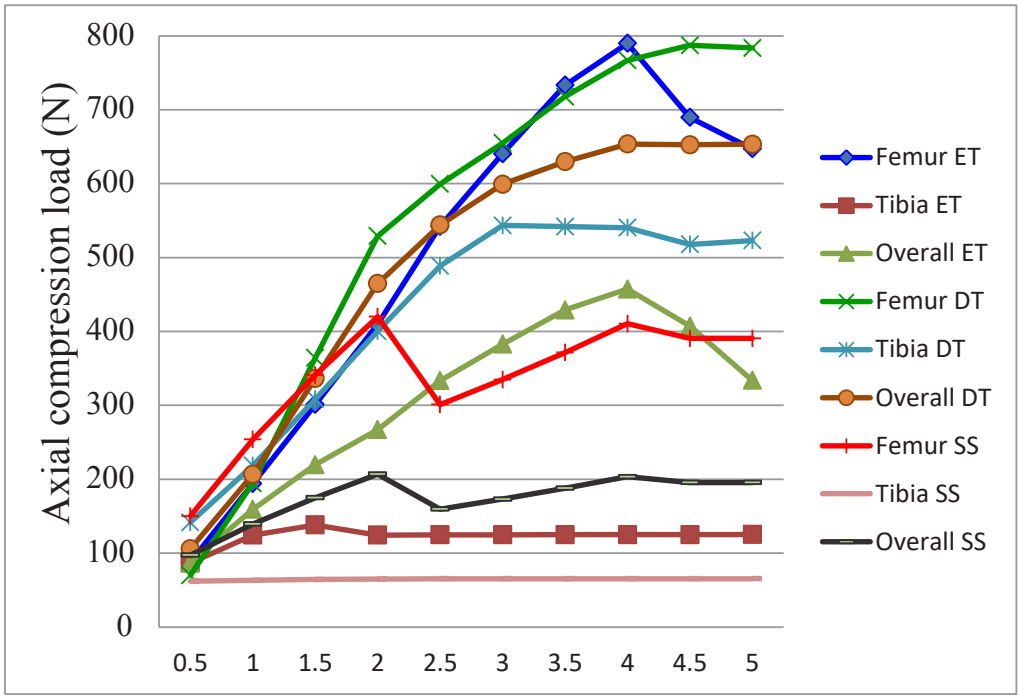
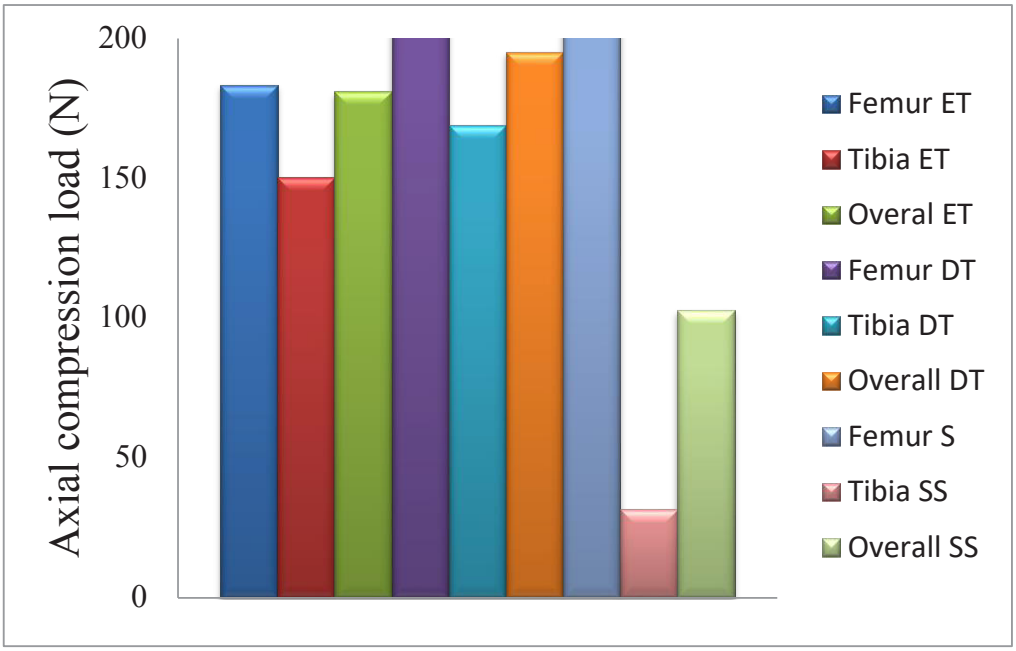
Supplementary Figure 1. Photograph showing bone-pin construct for a fracture gap model in femur and tibia bones.



Supplementary Figure 2. Photograph showing the pin-bone constructs mounted on a servo-hydraulic machine.



Supplementary Figure 3. Mean±SD axial compression load (N) at various displacements on femur and tibia bone-implant constructs.



Supplementary Figure 4. Average compression load (N)/mm of displacement on femur and tibia bone-implant constructs.

Supplementary Table 1: Radiographic measurements of normal canine femur and tibia bones

Total bone length (cm)	Narrowest medullary cavity (mm) (A)	Proximal broadest diameter (mm) (B)	Distal broadest diameter (mm)	Prox. broadest to narrowest MC ratio (B/A)
		Femur		
17.00	7.40	9.38	10.54	1.27
14.36	5.07	11.67	9.22	2.30
16.79	6.19	14.34	10.56	2.32
15.54	4.81	8.57	10.54	1.78
14.17	4.45	10.02	10.59	2.25
16.28	5.48	12.15	10.84	2.22
11.71	3.69	5.35	7.85	1.45
8.00	3.70	6.68	4.81	1.81
14.89	6.04	10.42	8.98	1.73
17.92	5.78	12.65	12.27	2.19
8.96	3.72	7.40	5.27	1.99
11.48	4.02	6.14	4.88	1.53
8.50	3.20	8.20	5.30	2.56
19.00	9.00	10.26	10.20	1.14
11.28	4.46	6.52	6.81	1.46
14.71	6.18	8.76	8.43	1.42
13.46	6.29	9.66	7.76	1.54
		Tibia		
11.80	3.83	4.86	6.73	1.27
14.88	6.72	7.04	7.98	1.05
10.76	6.00	7.26	6.17	1.21
20.33	9.37	10.73	9.72	1.15
21.15	10.82	12.19	9.28	1.13
20.36	9.27	13.68	6.42	1.48
10.53	5.04	6.40	5.47	1.27
14.71	6.18	8.76	8.43	1.42