Online Supplementary Material to:

Kirschner wire fixation of Salter-Harris type IV fracture of the lateral aspect of the humeral condyle in growing dogs
A retrospective study of 35 fractures

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Appendix Table 1: Signalment, history, number and diameter of Kirschner wires and postoperative radiographic evaluation in 33 dogs with fracture of the lateral aspect of the humeral condyle.

Legends: R = right; L = left; F = female; M = male; Mo. = months; K-wire = Kirschner wire; Nr. = number; OA = osteoarthritis; ROM = range of motion; Ø = diameter*; th* = threaded positive profile Kirschner wire.

Dog Nr.	Side	Breed	Age (Mo.)	Sex	Body Weight (kg)	Cause of Fracture	Surgery		Postoperative radiographic evaluation	
							Number and Ø transcondylar K-wire (mm)	Number and Ø anti-rotational K-wire (mm)	Gap (G) /Step (S) (mm)	K-wire convergent
1	R	Pomeranian Spitz	3	F	2	Fall from height <1 m	3x1.0	1x0.8	0 G/0 S	Yes
2	R	Yorkshire Terrier	4	F	1.5	Fall from height <1 m	2x1.0	1x0.8	1 G/0 S	Yes
3	R	Miniature Pinscher	3	M	2	Fall from height <1 m	3x1.0	1x1.0	0 G/0 S	Yes
4	L	Mixed Breed	3	M	4	Fall from height <1 m	2x1.2	1x1.0	0 G/0 S	Yes
5	R	Miniature Pinscher	5	M	2.5	Fall from height <1 m	3x1.2	1x1.0	0 G/0 S	Yes

6	R	Mixed Breed	3	F	8	Fall from height <1 m	3x1.5	1x1.5	1 G/0 S	Yes
7	L	Mixed Breed	3	F	4	Fall from height <1 m	3x1.2	1x1.0	0 G/0 S	Yes
8	L	Mixed Breed	3	F	4.5	Limb entrapment	3x1.2	1x1.0	0 G/0 S	Yes
9	R	Miniature Pinscher	4.5	M	2.3	Fall from height <1 m	2x1.0	1x0.8	0 G/0 S	Yes
10	R	Shih-Tzu	4	F	3.8	Playing with another dog	2x1.1	1x0.8	2 G/0 S	Yes
11	R	Miniature Pinscher	4	M	2.5	Fall from height <1 m	2x1.0	1x0.8	0 G/0 S	No
12	R	Pug	3.5	M	2.4	Stepped on by child	2x1.0	1x0.8	2 G/0 S	Yes
13	L	Miniature Pinscher	3	F	2	Fall from height <1 m	3x0.8	1x 0.8	0 G/0 S	No
14	L	Miniature Pinscher	2	F	1.8	Fall from height <1 m	3x0.8	1x 0.8	0 G/0 S	Yes
15	L	Beagle	3	F	5	Fall from height <1 m	3x1.0	1x1.0	0 G/0 S	Yes
16	R	Miniature Pinscher	6	M	3.8	Fall from owner's arms	3x1.0	1x1.0	0 G/0 S	Yes
17	R+L	Chihuahua	6	F	1.5	Fall from height <1 m	3x0.8	1x0.8	0-R,0-L G/0 S	Yes
18	L	Miniature Pinscher	3	F	1.5	Fall from height <1 m	2x0.8	1x 0.8	0 G/ 0 S	Yes
19	L	Miniature Pinscher	3	F	3	Fall from height <1 m	1x1.0 + 2x0.8	1x 0.8	0 G/0 S	Yes
20	R	Cocker Spaniel	2	F	4	Fall from height <1 m	2x1.4	1x1.4	0 G/0 S	Yes
21	L	Miniature Pinscher	4	M	3.1	Fall from height <1 m	2x1.4	1x1.4	0 G/0 S	Yes
22	R	French Bulldog	3	F	6.5	Fall from height <1 m	2x1.2	1x1.2	0 G/0 S	Yes

23	L	Mixed Breed	3.5	F	3.5	Fall from height <1 m	1x1.4 + 1x1.2 th	1x1.4	0 G/0 S	Yes
24	R	Miniature Pinscher	4	M	1.8	Fall from height <1 m	2x1.1	1x1.2	0 G/0 S	No
25	L	Miniature Pinscher	6	M	4	Fall from height <1 m	1x1.2 + 1x1.5 th	1x1.2	0 G/0 S	No
26	R	Miniature Pinscher	3	F	1.6	Fall from height <1 m	2x1.2	1x 0.8	0 G/0 S	No
27	L	Yorkshire Terrier	4	M	4	Fall from owner's arms	1x1.4 + 1x1.2 th	1x1.4	0 G/0 S	No
28	L	Miniature Pinscher	7	M	2.8	Fall from owner's arms	1x1.2 + 1x1.2 th	1x1.2	2 G/1 S	No
29	L	Bernese Mountain Dog	3	M	13.5	Playing with another dog	3x2.0	1x2.0	1 G/0 S	Yes
30	R+L	Border Collie	2	F	5.4	Fall from height <1 m	2x1.6	1x1.6	0-R,0-L G/0 S	No
31	R	French Bulldog	4	M	5.2	Fall from height <1 m	2x1.6	1x1.6	0 G/0 S	Yes
32	R	French Bulldog	4	M	5.8	Playing with another dog	2x1.4	1x1.4	0 G/0 S	Yes
33	L	French Bulldog	5	F	4.5	Fall from height <1 m	3x1.4	1x1.4	1 G/0 S	Yes

Appendix Table 2: Clinical and radiographic re-evaluation at 4 and 8 weeks postoperatively in 33 dogs with fracture of the lateral aspect of the humeral condyle.
Legends: K-wire = Kirschner wire; Mo. = months; PO = postoperatively; ROM = range of motion.

Dog Nr.	Clinical and radiographic follow-up until 8 weeks postoperatively					
	Clinical examination 1 mo. PO	**Radiography 1 mo. PO**	**Clinical examination 2 mo. PO**	**Radiography 2 mo. PO**	**Complications**	**Implant removal**
1	Normal	Bone union	Normal	Bone union	None	No
2	Grade I lameness	Bone union	Normal	Bone union	K-wire migration, seroma	Yes
3	Normal	Bone union	Normal	Bone union	K-wire breakage	Yes
4	Normal	Bone union	Normal	Bone union	None	No
5	Normal	Radiolucent line	Normal	Bone union	None	Yes
6	Normal	Bone union	Normal	Bone union	None	Yes
7	Normal	Bone union	Normal	Bone union	None	Yes
8	Normal	Bone union	Normal	Bone union	None	No
9	Normal	Bone union	Normal	Bone union	None	No
10	Normal	Radiolucent line	Normal	Bone union	None	No
11	Normal	Bone union	Normal	Bone union	None	No
12	Grade II lameness	Bone union	Grade I lameness	Bone union	K-wire migration, seroma	Yes
13	Normal	Bone union	Normal	Bone union	None	No
14	Normal	Bone union	Normal	Bone union	K-wire migration, seroma	Yes
15	Normal	Bone union	Normal	Bone union	None	No

16	Normal	Bone union	Normal	Bone union	None	Yes
17	Grade I lameness	Bone union	<ROM	Bone union	None	Yes
18	Normal	Bone union	Normal	Bone union	None	No
19	Normal	Bone union	Normal	Bone union	None	No
20	Normal	Bone union	Normal	Bone union	None	Yes
21	Normal	Bone union	Normal	Bone union	None	Yes
22	Normal	Bone union	Normal	Bone union	None	No
23	Grade I lameness	Bone union	Normal	Bone union	K-wire migration, seroma	Yes
24	Normal	Bone union	Normal	Bone union	None	Yes
25	Normal	Bone union	Normal	Bone union	None	No
26	Normal	Bone union	Normal	Bone union	None	Yes
27	Normal	Bone union	Normal	Bone union	None	No
28	Grade I lameness	Radiolucent line	<ROM	Bone union	K-wire migration, seroma	Yes
29	Normal	Bone union	Normal	Bone union	None	Yes
30	Normal	Bone union	Normal	Bone union	None	No
31	Normal	Bone union	Normal	Bone union	K-wire migration, seroma	Yes
32	Normal	Bone union	Normal	Bone union	Soft tissue irritation	Yes
33	Grade I lameness	Radiolucent line	Normal	Bone union	None	Yes

Appendix Table 3: Clinical and radiographic long-term re-evaluation (minimum 6 months - maximum 9 years postoperatively) in 12 dogs with fracture of the lateral aspect of the humeral condyle. The long-term outcome was determined via telephone interview of the owners in eight cases, and long-term re-evaluation was not possible in the remaining cases.

Legends: K-wire = Kirschner wire; ROM = range of motion.

Dog Number	Long-term re-examination	Note	Clinical examination	Radiographic findings	Complications	Owner satisfaction
1	-	-	-	-	-	-
2	5 years	In-house examination	No lameness, normal ROM	Mild osteoarthrosis	None	Yes
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	-	-	-	-	-	-
6	4 years	Telephone interview	-	-	None	Yes
7	-	-	-	-	-	-
8	4 years	Telephone interview	-	-	None	Yes
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	4 years	In-house examination	No lameness, normal ROM	No osteoarthrosis	None	Yes
12	6 months	In-house examination	Grade I lameness, < ROM	Mild osteoarthrosis	None	Yes
13	7 years	In-house examination	No lameness, normal ROM	Mild osteoarthrosis	None	Yes
14	9 years	Telephone interview	-	-	None	Yes

15	8 years	In-house examination	No lameness, normal ROM	Mild osteoarthrosis	Migration of 2 transcondylar K-wire, subsequently removed	Yes
16	6 years	In-house examination	No lameness, mormal ROM	No osteoarthrosis	None	Yes
17	-	-	-	-	-	-
18	4 years	Telephone interview	-	-	None	Yes
19	3 years	In-house examination	No lameness, normal ROM	Moderate osteoarthrosis	-	Yes
20	-	Recheck at 3 months, one K-wire removed	-	-	-	-
21	-	-	-	-	-	-
22	2 years	Telephone interview	-	-	None	Yes
23	-	-	-	-	-	-
24	4 years	In-house examination	No lameness, normal ROM	No osteoarthrosis	None	Yes
25	-	-	-	-	-	-
26	5 years	In-house examination	No lameness, normal ROM	Mild osteoarthrosis	None	Yes
27	2 years	In-house examination	No lameness, normal ROM	Mild osteoarthrosis	None	Yes
28	9 years	-	No lameness, < ROM	No osteoarthrosis, hypertrophic callus on lateral epicondyle	None	Yes
29	8 years	Telephone interview	-	-	None	Yes
30	1 year	In-house examination	No lameness, normal ROM	No osteoarthritis	None	Yes
31	-	-	-	-	-	-

32	4 years	Telephone interview	-	-	None	Yes
33	2 years	Telephone interview	-	-	None	Yes