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Appendix

Linear Regression Models

We created 2 linear regression models with FPL tendon-plate contact at 0 and 45 degrees as the two dependent variables, respectively. The model was created by force entry with the independent variables being plate design, postoperative volar tilt, and FU time from surgery. The models explained 45% and 50% of the variance for FPL tendon-plate contact at 0 and 45 degrees, respectively. The regression analysis for FPL tendon-plate contact at 0 degrees showed that both decreased postoperative volar tilt ($\beta = -0.836$, 95% CI -1.4 to -0.3) and FPL plate design ($\beta = -11.3$, 95% CI -20.2 to -2.4) significantly predicted decreased amounts of FPL Tendon-plate contact when controlling for each other as well as time from follow up (which was not statistically significant in the model). The regression analysis for FPL tendon-plate contact at 45 degrees showed that both decreased postoperative volar tilt ($\beta = -.93$, 95% CI -1.6 to -0.3) and FPL plate design ($\beta = -12.3$, 95% CI -21.9 to -2.8) significantly predicted decreased amounts of FPL Tendon-plate contact when controlling for each other as well as time from follow up (which was not statistically significant in the model).

Association between Sonographic FPL Irritation and FPL tendon position

	Sonographic signs of FPL Irritation?			P-Value
	No	Yes		
FPL tendon-VLP Contact at 0 degrees?†				
No	10	1	0.13	
Yes	18	10		
FPL tendon-VLP Contact at 45 degrees?†				
No	13	1	0.06	
Yes	15	10		
Tenderness over Volar Rim†				
No	21	9	1.0	
Yes	7	2		
FPL to volar rim distance - FPL to VLP distance (nonoperative - operative) at 0‡	1.1mm (-2.8 to 2.8)	1.1mm (-.2 to 8)	0.53	
FPL to volar rim distance - FPL to VLP distance (nonoperative - operative) at 45‡	1.1mm (-3.8 to 2.4)	1.2mm (-0.2 to 1.9)	0.57	
Plate-Tendon Contact at 0 Degrees‡	12.5% (0-40)	15% (0-40)	0.18	
Plate-Tendon Contact at 45 Degrees‡	10% (0-45)	15% (0-40)	0.22	
Difference in FPL CSA (mm ²)‡	0.4 mm ² (-6.1 to 7.8)	0.9 mm ² (-0.7 to 5.7)	0.12	

* Median and Range reported

† Fisher's Exact Test

‡ Mann-Whitney U Test

There was a trend towards patients having more FPL irritation if their FPL Tendon contacted the VLP, however, it did not reach statistical significance. Sonographic signs of FPL irritation was not associated with tenderness over the volar rim.

There was no association with sonographic signs of FPL irritation and difference in FPL CSA, difference in FPL plate-tendon/volar rim distance, or amount of FPL tendon-plate contact.