

TABLE E-1 Monthly Body Mass and Spinal Length Measurements*

	Body Mass (<i>kg</i>)	Spinal Length (<i>cm</i>)
Preop.	25.7 ± 2.4	74.5 ± 2.9
1 month postop.	26.4 ± 3.1	77.1 ± 2.9
2 months postop.	28.8 ± 3.2	79.5 ± 3.5
3 months postop.	29.5 ± 3.3	80.5 ± 4.7
4 months postop.	30.0 ± 4.0	81.5 ± 5.6
5 months postop.	34.2 ± 3.1	83.3 ± 4.5
6 months postop.	35.6 ± 3.8	85.3 ± 4.2
7 months postop.	42.5 ± 2.5	88.0 ± 2.8
8 months postop.	46.8 ± 3.5	91.3 ± 2.7
9 months postop.	48.1 ± 3.6	92.3 ± 2.2
10 months postop.	49.3 ± 3.3	93.0 ± 3.2
11 months postop.	51.0 ± 3.6	94.8 ± 4.5
12 months postop.	52.4 ± 4.2	97.2 ± 3.9
Average monthly change	2.2 ± 0.4	2.0 ± 0.3

*The values are given as the mean and the standard deviation.

TABLE E-2 Midvertebral Body Height Measurements for the Six-Month Survival Group*

	Midvertebral Body Height (<i>mm</i>)	
Vertebra	Preoperative (N = 6)	6 Months (N = 6)
Cephalad control (T7)	22.0 ± 0.2	28.1 ± 0.2
Instrumentation		
Level 1 (T8)	23.5 ± 0.9	28.1 ± 1.2
Level 2 (T9)	24.2 ± 0.9	28.4 ± 1.1
Level 3 (T10)	24.9 ± 1.0	28.9 ± 1.2
Level 4 (T11)	25.3 ± 0.8	31.4 ± 0.5
Caudad control (T12)	26.4 ± 0.4	33.8 ± 0.6

*The values are given as the mean and the standard deviation.

TABLE E-3 Midvertebral Body Height Measurements for the Twelve-Month Survival Group*

	Midvertebral Body Height (<i>mm</i>)		
Vertebra	Preoperative (N = 5)	6 Months (N = 5)	12 Months (N = 5)
Cephalad control (T7)	22.1 ± 0.4	27.2 ± 1.0	31.8 ± 1.1
Instrumentation			
Level 1 (T8)	24.3 ± 0.4	28.0 ± 0.6	31.9 ± 0.9
Level 2 (T9)	24.9 ± 0.7	28.3 ± 0.9	31.6 ± 0.8
Level 3 (T10)	26.0 ± 0.9	28.9 ± 1.4	31.9 ± 0.7
Level 4 (T11)	26.9 ± 1.1	30.4 ± 1.3	32.3 ± 0.4
Caudad control (T12)	27.7 ± 0.8	33.3 ± 0.4	34.9 ± 0.9

*The values are given as the mean and the standard deviation.

TABLE E-4 Coronal and Sagittal Differences in Vertebral Body and Intervertebral Disc Height*

	6 Months (N = 6)	12 Months (N = 5)
Coronal difference (<i>mm</i>)		
T8 vertebra	1.2 ± 1.6	1.7 ± 1.6
T8-T9 disc	-0.3 ± 0.5	-0.1 ± 0.4
T9 vertebra	0.9 ± 1.0	2.8 ± 2.2
T9-T10 disc	-0.3 ± 0.6	-0.1 ± 3.9
T10 vertebra	1.4 ± 0.5	2.7 ± 1.5
T10-T11 disc	-0.6 ± 0.6	-0.4 ± 0.6
T11 vertebra	0.9 ± 1.1	1.2 ± 1.8
Average total difference in coronal vertebral heights	4.4 ± 1.3	8.5 ± 3.9
Average total difference in coronal disc heights	-1.2 ± 1.3	-0.6 ± 1.4
Sagittal difference (<i>mm</i>)		
T8 vertebra	0.8 ± 1.3	1.0 ± 1.0
T8-T9 disc	-0.5 ± 0.3	-0.2 ± 0.3
T9 vertebra	0.8 ± 0.9	1.2 ± 2.4
T9-T10 disc	-0.6 ± 0.5	-0.2 ± 0.3
T10 vertebra	0.8 ± 0.9	0.9 ± 1.1
T10-T11 disc	-0.7 ± 0.4	-0.2 ± 0.4
T11 vertebra	0.7 ± 0.7	1.3 ± 1.5
Average total difference in sagittal vertebral heights	2.8 ± 1.7	3.9 ± 2.6
Average total difference in sagittal disc heights	-3.7 ± 0.8	-3.0 ± 0.7

*Coronal measurements are given as the left height minus the right height, and sagittal measurements are given as the posterior height minus the anterior height. Positive coronal values indicate decreased height on the side of the tether, and negative values indicate increased height on the side of the tether. Single vertebra and disc values are given as the mean and the standard deviation of the height differences of each group (six and twelve months). Total vertebral and disc wedging are calculated by summing all levels for each animal, then determining the mean and the standard deviation of the group.

TABLE E-5 Intervertebral Disc Width, Nucleus Pulposus Width, and Migration of Nucleus Pulposus as Measured on Midcoronal T2-Weighted Magnetic Resonance Images for All Three Motion Segments*

	6 Months (N = 6)	12 Months (N = 5)	P Value
Intervertebral disc width (<i>mm</i>)	22.1 ± 1.6	20.4 ± 0.9	—
Nucleus pulposus width (<i>mm</i>)	13.8 ± 1.2	12.3 ± 1.7	—
Migration of nucleus pulposus (<i>mm</i>)	1.1 ± 0.5	4.0 ± 0.5	≤0.001
Migration as percentage of disc width (%)	4.8 ± 0.4	19.7 ± 1.1	≤0.001

*The values are given as the mean and the standard deviation. The three motion segments were T8-T9, T9-T10, and T10-T11.

TABLE E-6 Biomechanical Data*

	6 Months		12 Months	
	Tether Intact (N = 4)	Tether Cut (N = 4)	Tether Intact (N = 3)	Tether Cut (N = 3)
Construct stiffness (<i>N-mm/deg</i>)				
Flexion†	248 ± 170	271 ± 165	322 ± 161	376 ± 218
Extension†	371 ± 72	343 ± 48	585 ± 280	547 ± 298
Left bending†‡	403 ± 48	309 ± 115	456 ± 99	349 ± 103
Right bending†	244 ± 91	189 ± 122	309 ± 127	259 ± 126
Left torsion	614 ± 207	586 ± 173	572 ± 166	544 ± 184
Right torsion	519 ± 84	525 ± 75	557 ± 107	589 ± 175
Construct range of motion (<i>deg</i>)				
Flexion†	15.3 ± 3.9	16.3 ± 4.5	9.1 ± 2.1	8.7 ± 2.1
Extension†	8.1 ± 0.8	10.7 ± 3.9	4.4 ± 0.8	5.1 ± 0.3
Left bending†‡	11.4 ± 0.6	17.2 ± 4.6	6.9 ± 1.4	11.6 ± 1.3
Right bending†	15.0 ± 3.0	19.1 ± 3.4	8.8 ± 1.3	10.3 ± 2.6
Left torsion	1.8 ± 0.3	1.8 ± 0.2	1.5 ± 0.4	1.6 ± 0.6
Right torsion	1.7 ± 0.5	1.8 ± 0.5	1.9 ± 0.3	2.3 ± 0.7
Apical (T9-10) range of motion (<i>deg</i>)				
Flexion-extension	5.2 ± 2.9	8.1 ± 4.2	3.1 ± 1.9	3.7 ± 2.2
Right lateral bending†	5.8 ± 1.8	6.4 ± 2.0	2.1 ± 1.2	2.0 ± 1.1
Left lateral bending	2.6 ± 0.6	3.3 ± 1.4	1.2 ± 0.8	3.2 ± 1.7
Torsion	3.6 ± 1.1	3.9 ± 0.8	2.1 ± 0.4	3.7 ± 0.6

*The data are given as the mean and the standard deviation. †The difference between six and twelve months was significant ($p < 0.05$). ‡The difference between the tether intact and tether cut conditions was significant ($p < 0.05$).