

**Table S1. Outcomes by treatment group**

	Intact  (n=6)  <i>Mean</i> <i>(95% CI)</i>	1 week			4 weeks			1 week			4 weeks		
		Transection	Reconstruction	Repair	Transection	Reconstruction	Repair	Reconstruction vs. Transection	Repair vs. Transection	Repair vs. Reconstruction	Reconstruction vs. Transection	Repair vs. Transection	Repair vs. Reconstruction
		(n=6)  <i>Mean</i> <i>(95% CI)</i>	(n=6)  <i>Mean</i> <i>(95% CI)</i>	(n=6)  <i>Mean</i> <i>(95% CI)</i>	(n=6)  <i>Mean</i> <i>(95% CI)</i>	(n=6)  <i>Mean</i> <i>(95% CI)</i>	(n=6)  <i>Mean</i> <i>(95% CI)</i>	(n=5-6)  <i>Mean</i> <i>(95% CI)</i>	<i>P value</i>	<i>P value</i>	<i>P value</i>	<i>P value</i>	<i>P value</i>
Area of irreversible cell injury (%)	0.0 (0.0, 0.0)	14.1 (-1.5, 29.8)	20.0 (7.2, 32.9)	5.9 (2.6, 9.3)	16.2 (2.7, 29.6)	24.6 (2.2, 46.9)	17.3 (2.1, 32.5)	1.000	1.000	1.000	1.000	1.000	1.000
Ki-67 expression (RPKM)	0.14 (0.02, 0.27)	1.45 (0.77, 2.13)	2.29 (1.29, 3.29)	1.87 (1.22, 2.52)	0.90 (0.57, 1.23)	0.94 (0.61, 1.28)	1.00 (0.81, 1.2)	1.000	1.000	1.000	1.000	1.000	1.000
Superficial zone cell density (cells/mm2)	872 (789, 955)	796 (594, 998)	932 (836, 1029)	965 (867, 1063)	1183 (1044, 1322)	998 (792, 1204)	1039 (848, 1231)	1.000	1.000	1.000	1.000	1.000	1.000
Mid zone cell density (cells/mm2)	385 (342, 427)	455 (417, 494)	661 (584, 739)	513 (440, 587)	704 (579, 828)	707 (570, 845)	736 (550, 922)	0.350	1.000	0.964	1.000	1.000	1.000
Deep zone cell density (cells/mm2)	410 (341, 480)	429 (375, 483)	730 (607, 854)	598 (456, 740)	759 (669, 849)	704 (553, 856)	752 (571, 933)	0.183	1.000	1.000	1.000	1.000	1.000
Total cell count	7926 (7250, 8602)	8369 (5509, 11229)	9385 (7742, 11028)	7991 (6512, 9469)	11327 (9687, 12967)	7741 (5896, 9585)	8525 (5042, 12008)	1.000	1.000	1.000	0.367	1.000	1.000
Mean mediolateral cell position (%)	50 (48.1, 52)	58.7 (50.2, 67.2)	57.3 (51.8, 62.8)	54.9 (52.5, 57.3)	63.5 (57.7, 69.4)	60.4 (53.6, 67.1)	60.1 (50.5, 69.6)	1.000	1.000	1.000	1.000	1.000	1.000

Cell density measurements exclude areas of irreversible cell injury; One 4-week sample was too disrupted to define the superficial, mid, and deep zones and was excluded from the analyses of these three measures.