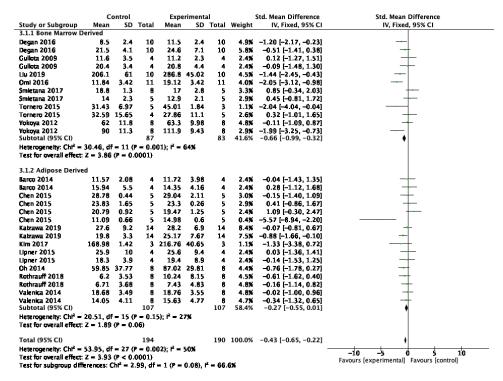
# 1 Supplementary Figure 1A-G: Stratified Analysis of Ultimate Load Failure

## 1A: MSC Source

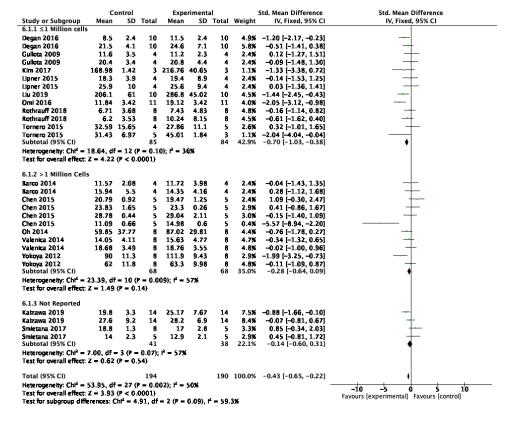
2



# 4 1B: MSC Origin

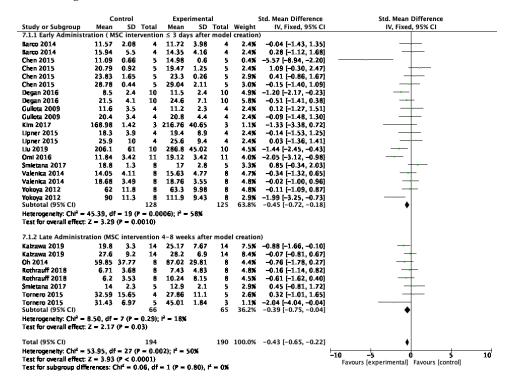
	c	ontrol		Expe	erimenta	al		Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean		Total	Mean			Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
2.1.1 Allogenic								,	, , , , , , , , , , , , , , , , , , , ,
Barco 2014	11.57	2.08	4	11.72	3.98	4	2.4%	-0.04 [-1.43, 1.35]	+
Barco 2014	15.94	5.5	4	14.35		4	2.4%	0.28 [-1.12, 1.68]	+
Gullota 2009	11.6	3.5	4	11.2	2.3	4	2.4%	0.12 [-1.27, 1.51]	
Gullota 2009	20.4	3.4	4	20.8	4.4	4	2.4%		
Kalzawa 2019	19.8	3.3	14	25.17		14		-0.88 [-1.66, -0.10]	-
Kalzawa 2019	27.6	9.2	14	28.2		14	8.4%	-0.07 [-0.81, 0.67]	<del>_</del>
Upner 2015	18.3	3.9	4	19.4	8.9	4	2.4%		
Upner 2015	25.9	10	4	25.6	9.4	4	2.4%	0.03 [-1.36, 1.41]	
Oh 2014		37.77	8		29.61	6	4.4%	-0.76 [-1.78, 0.27]	
Omi 2016	11.84	3.42	11	19.12		11		-2.05 [-3.12, -0.98]	<b></b>
Valenica 2014	14.05	4.11	8	15.63		8	4.7%	-0.34 [-1.32, 0.65]	4
Valenica 2014	18.68	3.49	8	18.76		Š	4.8%	-0.02 [-1.00, 0.96]	
Rothrauff 2018	6.71	3.68	8	7.43		8	4.8%	-0.16 [-1.14, 0.82]	
Rothrauff 2018	6.2		8	10.24		8	4.5%		
Smletana 2017	18.8	1.3	8	17.27	2.8	5	3.3%	0.85 [-0.34, 2.03]	<u> </u>
Smletana 2017	10.0	2.3	5	12.9	2.0	5	2.9%	0.45 [-0.81, 1.72]	<u> </u>
Tornero 2015		15.65	4	27.86		5	2.6%	0.32 [-1.01, 1.65]	
Tornero 2015	31.43		5	45.01		3		-2.04 [-4.04, -0.04]	
Subtotal (95% CI)	31.43	4.57	125	45.01	1.04	121	67.3%		· •
Heterogeneity: Chi <sup>2</sup> =	24.44.4	E _ 17 /		11. 13 _ 2	AW.		07.570	0.51 [ 0.57, 0.05]	<b>"</b>
Test for overall effect				17, 1 - 3	·UA				
			/						
2.1.2 Xenogenic									
Chen 2015	11.09	0.66	5	14.98		5		-5.57 [-8.94, -2.20]	
Chen 2015	20.79	0.92	5	19.47		5	2.4%	1.09 [-0.30, 2.47]	<del> </del>
Chen 2015	23.83	1.65	5	23.3		5	2.9%	0.41 [-0.86, 1.67]	+
Chen 2015	28.78	0.44	5	29.04		5	3.0%		+
Degan 2016	8.5	2.4	10	11.5		10		-1.20 [-2.17, -0.23]	<del></del>
Degan 2016	21.5	4.1	10	24.6	7.1	10	5.8%	-0.51 [-1.41, 0.38]	<del>-  </del>
Kim 2017	168.98	1.42	3	216.76	40.65	3	1.1%	-1.33 [-3.38, 0.72]	<del>-  </del>
Subtotal (95% CI)			43			43	20.4%	-0.45 [-0.92, 0.03]	•
Heterogeneity: Chi <sup>2</sup> =				5); r² = 6	8%				
Test for overall effect	: Z = 1.66	(P = 0.	06)						
2.1.3 Autogenic									
⊔u 2019	206.1	61	10	286 R	45.02	10	4 5%	-1.44 [-2.45, -0.43]	
Yokoya 2012	62		8	63.3		8	4.8%		
Yokova 2012	90	11.3	8		9.43	8		-1.99 [-3.25, -0.73]	
Subtotal (95% CI)	30	11.3	26	111.5	5.43	26		-1.05 [-1.66, -0.44]	•
Heterogeneity: Chi <sup>2</sup> =	6 22 df	= 2 (P =		P = 684	4			,,,	•
Test for overall effect				- 407	•				
Total (95% CI)			194			190	100.0%	-0.43 [-0.65, -0.22]	<b>'</b> l
Heterogeneity: Chi <sup>2</sup> =				02);	50%			-	-10 -5 0 5 10
Test for overall effect						_			Favours [experimental] Favours [control]
Test for subgroup dif	ferences: (	Cht² = 4	.70, df	= 2 (P =	0.10), 1	<b>' = 57</b> .	5%		

### 1 1C: MSC Dose



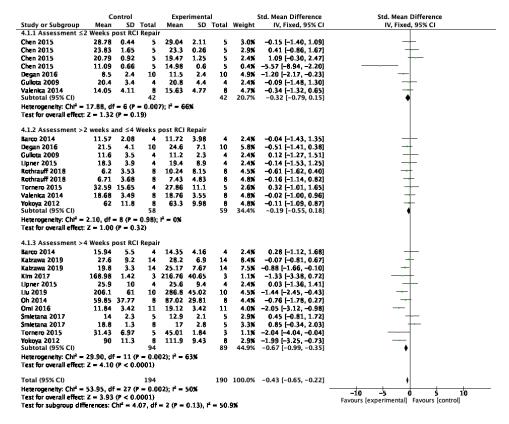
#### 1D: Timing of Administration

2



### 1E: Timing of Biomechanical Assessment

1



#### 1F: Animal Model

2

		ontrol			erimenta			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI
5.1.1 Rat									
Barco 2014	11.57	2.08	4	11.72		4	2.4%	-0.04 [-1.43, 1.35]	+
Barco 2014	15.94	5.5	4	14.35	4.16	4	2.4%	0.28 [-1.12, 1.68]	+
Chen 2015	28.78	0.44	5	29.04	2.11	5	3.0%	-0.15 [-1.40, 1.09]	+
Chen 2015	20.79	0.92	5	19.47	1.25	5	2.4%	1.09 [-0.30, 2.47]	<del> </del>
Chen 2015	23.83	1.65	5	23.3	0.26	5	2.9%	0.41 [-0.86, 1.67]	+
Chen 2015	11.09	0.66	5	14.98	0.6	5	0.4%	-5.57 [-8.94, -2.20]	<del></del>
Degan 2016	8.5	2.4	10	11.5	2.4	10	4.9%	-1.20 [-2.17, -0.23]	<del></del>
Degan 2016	21.5	4.1	10	24.6	7.1	10	5.8%	-0.51 [-1.41, 0.38]	<del> </del>
Gullota 2009	11.6	3.5	4	11.2	2.3	4	2.4%	0.12 [-1.27, 1.51]	+
Gullota 2009	20.4	3.4	4	20.8	4.4	4	2.4%	-0.09 [-1.48, 1.30]	+
Katzawa 2019	19.8	3.3	14	25.17	7.67	14	7.5%	-0.88 [-1.66, -0.10]	
Katzawa 2019	27.6	9.2	14	28.2	6.9	14	8.4%	-0.07 [-0.81, 0.67]	+
Upner 2015	18.3	3.9	4	19.4	8.9	4	2.4%	-0.14 [-1.53, 1.25]	<del></del>
Upner 2015	25.9	10	4	25.6	9.4	4	2.4%	0.03 [-1.36, 1.41]	+
Omi 2016	11.84	3.42	11	19.12	3.42	11	4.0%	-2.05 [-3.12, -0.98]	
Rothrauff 2018	6.2	3.53	6	10.24	8.15	8	4.5%	-0.61 [-1.62, 0.40]	-+
Rothrauff 2018	6.71	3.68	8	7.43	4.83	8	4.8%	-0.16 [-1.14, 0.82]	+
Smletana 2017	14	2.3	5	12.9	2.1	5	2.9%	0.45 [-0.81, 1.72]	<del></del>
Smletana 2017	18.8	1.3	6	17	2.8	5	3.3%	0.85 [-0.34, 2.03]	<del> </del>
Tornero 2015	32.59	15.65	4	27.86	11.1	5	2.6%	0.32 [-1.01, 1.65]	+
Tornero 2015	31.43	6.97	5	45.01	1.84	3	1.1%	-2.04 [-4.04, -0.04]	<del></del>
Valenica 2014	14.05	4.11	6	15.63	4.77	8	4.7%	-0.34 [-1.32, 0.65]	-+
Valenica 2014	18.68	3.49	8	18.76	3.55	8	4.8%	-0.02 [-1.00, 0.96]	+
Subtotal (95% CI)			157			153	82.3%	-0.31 [-0.55, -0.07]	•
Heterogeneity: Chi <sup>2</sup> =	41.69, di	f = 22 (I	- 0.0	07); ř =	47%				
Test for overall effect	: Z = 2.57	P = 0.0	01)						
5.1.2 Rabbit									
	100.00			***				1 22 / 2 20 0 721	
Kim 2017	168.98	1.42	3	216.76		3		-1.33 [-3.38, 0.72]	
Oh 2014		37.77	6		29.81	8	4.4%		<del>- 1</del>
Yokoya 2012	62	11.8	8	63.3		8	4.8%	-0.11 [-1.09, 0.87]	<del>†</del>
Yokoya 2012	90	11.3	8 27	111.9	9.43	8		-1.99 [-3.25, -0.73]	
Subtotal (95% CI)						27	13.2%	-0.84 [-1.43, -0.25]	▼
Heterogeneity: Chi² = Test for overall effect				r = 46%	i				
rest for overall effect	= 2./9	\r = 0.	UU3)						
5.1.3 Canine									
Llu 2019	206.1	61	10	286.8	45.02	10	4.5%	-1.44 [-2.45, -0.43]	
Subtotal (95% CI)			10	•		10		-1.44 [-2.45, -0.43]	<b>◆</b>
Heterogeneity: Not a	plicable								,
Test for overall effect		(P = 0.0)	005)						
T-+-1 (05% CI)			104			100	100.00	0.43 [ 0.65   0.33]	
Total (95% CI)			194			190	100.0%	-0.43 [-0.65, -0.22]	<b>'</b> l
Heterogeneity: Chi <sup>2</sup> =	· 53.95, di	r = 27 (i	- 0.0	02); r =	50%			-	-10 -5 0 5 10
Test for overall effect									

