

516 **Supplemental data**

517 **Table 1: Baseline WORMS Parameters comparing weight loss and stable weight participants<sup>1</sup>**

WORMS Parameters	Stable overweight N=380	>5% weight loss N=380	P-value
	predicted mean values [95% CI] (ms)		
<b>Cartilage lesions</b>			
PAT	2.39 [2.19, 2.60]	2.51 [2.31, 2.71]	0.35
TRO	1.74 [1.55, 1.94]	1.65 [1.47, 1.84]	0.44
MT	0.60 [0.46, 0.73]	0.54 [0.41, 0.67]	0.27
LT	0.80 [0.67, 0.93]	0.79 [0.65, 0.92]	0.86
MF	1.11 [0.95, 1.27]	1.14 [0.97, 1.30]	0.11
LF	0.61 [0.48, 0.74]	0.61 [0.48, 0.74]	0.98
<b>Cartilage lesions overall</b>	7.24 [6.65, 7.83]	7.23 [6.68, 7.79]	0.78
<b>Meniscus lesions overall</b>	2.63 [2.24, 3.02]	2.14 [1.86, 2.42]	0.09
<b>Meniscus lesions medial</b>	1.39 [1.16, 1.62]	1.18 [1.00, 1.41]	0.12
<b>Meniscus lesions lateral</b>	1.23 [0.99, 1.48]	0.95 [0.74, 1.35]	0.18
<b>Bone marrow edema overall</b>	2.52 [2.27, 2.78]	2.30 [2.05, 2.55]	0.07

518 <sup>1</sup>Multivariable linear regression models adjusting for age, sex, baseline BMI and KL score.  
 519 PAT, patella; MT, medial tibia; LT, lateral tibia; MF, medial femur; LF, lateral femur; TRO, femoral trochlea.  
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522 **Table 2:** Comparison of texture parameters over 96-months<sup>1</sup>

Texture parameters 96-months	Stable overweight	>5% weight loss	P-value
		Rate/year 95% CI	
<b>Contrast</b>			
Global knee	25.28 [20.78, 29.80]	20.87 [15.73, 26.01]	<b>&lt;0.001</b>
PAT	13.74 [7.60, 19.89]	10.43 [3.44, 17.42]	<b>&lt;0.001</b>
MT	31.68 [25.03, 38.33]	26.43 [18.89, 33.98]	<b>&lt;0.001</b>
LT	13.95 [9.76, 18.1]	11.59 [6.82, 16.36]	<b>&lt;0.001</b>
MF	53.89 [45.07, 62.71]	45.63 [35.61, 55.64]	<b>&lt;0.001</b>
LF	20.34 [16.12, 24.55]	16.62 [11.81, 21.42]	<b>&lt;0.001</b>
<b>Variance</b>			
Global knee	14.97 [12.35, 17.59]	12.55 [9.57, 15.54]	<b>&lt;0.001</b>
PAT	8.86 [4.98, 12.75]	6.97 [2.55, 11.34]	<b>&lt;0.001</b>
MT	18.11 [14.13, 22.08]	15.15 [10.65, 19.66]	<b>&lt;0.001</b>
LT	9.03 [6.30, 11.76]	7.92 [4.81, 11.03]	<b>&lt;0.001</b>
MF	29.94 [25.16, 34.72]	25.38 [19.94, 30.81]	<b>&lt;0.001</b>
LF	12.57 [9.92, 15.22]	10.61 [7.60, 13.64]	<b>&lt;0.001</b>

523 LF, lateral femur; LT, lateral tibia; MF, medial femur; MT, medial tibia; PAT, patella

524 <sup>1</sup>Associations between weight loss and change in cartilage texture parameters over 96 months were assessed using  
 525 multivariable regression models adjusting for age, sex, baseline BMI and baseline KL score. Significant results (**P < 0.05**) are  
 526 bolded.

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529 **Table 3:** Comparison of baseline T2 parameters for each weight loss method group compared  
 530 to the stable weight group

	Stable weight N=380	Diet&Exercise N=101	Diet N=41	Exercise N=33	P- value
	T2 (ms) 95% CI	T2 (ms) 95% CI	T2 (ms) 95% CI	T2 (ms) 95% CI	
<b>Cartilage T2</b>					
Global knee	32.67 [32.41, 32.93]	32.50 [32.12, 32.89]	31.58 [30.76, 32.40]	31.23 [30.47, 31.98]	0.101
PAT	31.00 [30.63, 31.37]	31.19 [30.62, 31.75]	30.68 [29.67, 31.69]	30.05 [28.91, 31.19]	0.657
MT	29.57 [29.16, 29.98]	29.14 [28.71, 29.58]	28.07 [27.34, 28.80]	28.87 [28.95, 29.06]	0.124
LT	27.65 [27.32, 27.97]	27.51 [27.08, 27.93]	26.66 [25.76, 27.55]	26.47 [25.65, 27.28]	0.111
MF	39.48 [39.12, 39.84]	38.99 [38.43, 39.54]	38.21 [36.88, 39.55]	38.22 [37.23, 39.21]	0.364
LF	36.13 [35.77, 36.48]	35.80 [35.20, 36.39]	35.07 [33.86, 36.29]	34.97 [33.87, 36.07]	0.437
<b>Deep layer T2</b>					
Global knee	29.97 [29.61, 30.33]	29.64 [29.33, 29.94]	29.09 [28.39, 29.78]	28.78 [28.15, 29.41]	0.143
PAT	28.25 [27.81, 28.70]	28.59 [28.11, 29.07]	28.21 [27.24, 29.17]	27.68 [26.75, 28.61]	0.866
MT	26.36 [25.85, 27.88]	26.44 [26.08, 26.80]	25.88 [25.41, 26.35]	25.76 [24.85, 26.66]	0.112
LT	24.03 [23.62, 24.44]	23.75 [23.45, 24.04]	23.25 [22.67, 23.84]	23.34 [22.75, 23.93]	0.367
MF	37.08 [36.57, 37.58]	36.28 [35.68, 36.87]	35.90 [34.57, 37.22]	36.15 [35.15, 37.16]	0.233
LF	33.66 [33.18, 34.15]	33.11 [32.57, 33.64]	32.88 [31.77, 33.99]	32.61 [31.47, 33.75]	0.364
<b>Superficial layer T2</b>					
Global knee	35.42 [35.01, 35.83]	35.43 [34.92, 35.93]	34.11 [33.11, 35.11]	33.75 [32.83, 34.67]	0.334
PAT	33.40 [32.86, 33.94]	33.84 [33.11, 34.57]	33.12 [31.89, 34.35]	32.49 [31.03, 33.94]	0.927
MT	32.13 [31.57, 32.70]	32.14 [31.52, 32.77]	30.55 [29.47, 31.63]	30.35 [29.07, 31.64]	0.301
LT	30.92 [30.41, 31.44]	31.24 [30.62, 31.86]	30.08 [28.84, 31.31]	29.59 [28.46, 30.71]	0.787
MF	42.40 [41.86, 42.94]	41.74 [41.14, 42.35]	40.51 [39.07, 41.95]	40.29 [39.12, 41.46]	0.162
LF	38.83 [38.31, 39.35]	38.43 [37.72, 39.15]	37.21 [35.84, 38.58]	37.29 [36.08, 38.50]	0.333

531 LF, lateral femur; LT, lateral tibia; MF, medial femur; MT, medial tibia; PAT, patella

532 \* The associations between different weight loss methods and baseline T2 over 96 months were assessed using multivariable  
 533 regression models adjusting for age, sex, baseline BMI and baseline KL score. Significant results (**P < 0.05**) are bolded.

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