

## Supplementary tables

Supplementary Table 1 Post-hoc comparisons across image modality and muscle compartment

Modality	Muscle	Comparison	Difference*	$t_{(df)}$	$p$	$fdr$
Volume	Tibialis Anterior	Healthy Adults-PreDM1	0.541	$t_{(120,5)}=2.637$	0.009	0.028
		Healthy Adults-DM1	0.595	$t_{(82,1)}=3.602$	0.001	0.004
		PreDM1-DM1	0.054	$t_{(121,3)}=0.327$	0.744	0.858
	Tibialis Posterior	Healthy Adults-PreDM1	0.214	$t_{(134,1)}=0.855$	0.394	0.506
		Healthy Adults-DM1	0.273	$t_{(84,8)}=1.430$	0.156	0.243
		PreDM1-DM1	0.060	$t_{(128,2)}=0.277$	0.782	0.880
	Soleus	Healthy Adults-PreDM1	0.469	$t_{(133,4)}=1.782$	0.077	0.144
		Healthy Adults-DM1	0.602	$t_{(84,6)}=2.863$	0.005	0.018
		PreDM1-DM1	0.133	$t_{(120,1)}=0.626$	0.533	0.631
	Gastrocnemius	Healthy Adults-PreDM1	0.796	$t_{(75,4)}=3.742$	<0.001	0.003
		Healthy Adults-DM1	0.645	$t_{(76,9)}=3.768$	<0.001	0.003
		PreDM1-DM1	-0.151	$t_{(75,7)}=-0.917$	0.362	0.479
	Peroneus Longus	Healthy Adults-PreDM1	0.181	$t_{(126,8)}=0.720$	0.473	0.575
		Healthy Adults-DM1	0.163	$t_{(85,3)}=0.762$	0.448	0.560
		PreDM1-DM1	-0.018	$t_{(96,4)}=-0.103$	0.918	0.954
T2	Tibialis Anterior	Healthy Adults-PreDM1	-0.436	$t_{(125,6)}=-1.621$	0.108	0.186
		Healthy Adults-DM1	-0.824	$t_{(78,5)}=-4.009$	<0.001	0.002
		PreDM1-DM1	-0.388	$t_{(135,8)}=-1.600$	0.112	0.187
	Tibialis Posterior	Healthy Adults-PreDM1	-0.642	$t_{(128,6)}=-2.378$	0.019	0.047
		Healthy Adults-DM1	-0.690	$t_{(76,6)}=-3.391$	0.001	0.005
		PreDM1-DM1	-0.048	$t_{(135,7)}=-0.200$	0.842	0.924
	Soleus	Healthy Adults-PreDM1	-0.760	$t_{(112,9)}=-2.917$	0.004	0.016
		Healthy Adults-DM1	-0.767	$t_{(79,0)}=-3.536$	0.001	0.004
		PreDM1-DM1	-0.006	$t_{(81,8)}=-0.031$	0.975	0.975

		Healthy Adults-PreDM1	-0.865	$t_{(124.6)}=-3.481$	0.001	0.004
	Gastrocnemius	Healthy Adults-DM1	-0.895	$t_{(76.6)}=-4.297$	<0.001	0.001
		PreDM1-DM1	-0.030	$t_{(99.4)}=-0.166$	0.869	0.931
		Healthy Adults-PreDM1	-0.587	$t_{(130.4)}=-2.406$	0.018	0.046
	Peroneus Longus	Healthy Adults-DM1	-0.569	$t_{(80.9)}=-3.046$	0.003	0.013
		PreDM1-DM1	0.018	$t_{(137.0)}=0.084$	0.933	0.954
		Healthy Adults-PreDM1	-0.632	$t_{(103.1)}=-2.170$	0.032	0.067
	Tibialis Anterior	Healthy Adults-DM1	-0.228	$t_{(80.6)}=-1.109$	0.271	0.369
		PreDM1-DM1	0.405	$t_{(129.6)}=1.356$	0.178	0.258
		Healthy Adults-PreDM1	-0.928	$t_{(102.9)}=-3.485$	0.001	0.004
	Tibialis Posterior	Healthy Adults-DM1	-0.339	$t_{(74.4)}=-1.868$	0.066	0.129
		PreDM1-DM1	0.589	$t_{(139.2)}=2.217$	0.028	0.065
		Healthy Adults-PreDM1	-0.784	$t_{(83.5)}=-2.784$	0.007	0.021
	Soleus	Healthy Adults-DM1	-0.438	$t_{(72.5)}=-2.226$	0.029	0.065
		PreDM1-DM1	0.346	$t_{(122.6)}=1.222$	0.224	0.315
		Healthy Adults-PreDM1	-0.603	$t_{(109.5)}=-2.164$	0.033	0.067
	Gastrocnemius	Healthy Adults-DM1	-1.038	$t_{(72.6)}=-4.939$	<0.001	<0.001
		PreDM1-DM1	-0.434	$t_{(137.0)}=-1.646$	0.102	0.184
		Healthy Adults-PreDM1	-0.748	$t_{(89.7)}=-2.450$	0.016	0.046
	Peroneus Longus	Healthy Adults-DM1	-0.269	$t_{(81.8)}=-1.361$	0.177	0.258
		PreDM1-DM1	0.480	$t_{(120.2)}=1.540$	0.126	0.203

\*Refers to the difference in marginal means.

Abbreviations:  $t(df)$ =t statistics and degrees of freedom (estimated using Satterthwaite's approximation).  $p$ = unadjusted p-value;  $fdr$ = false discovery rate;

Supplementary Table 2: Summary statistics for predictor variables in the models evaluating muscle imaging outcomes

Modality	Muscle	Group			Age			Sex		
		Statistic	<i>p</i>	<i>fdr</i>	Statistic	<i>p</i>	<i>fdr</i>	Statistic	<i>p</i>	<i>fdr</i>
<b>Volume</b>	Tibialis Anterior	$X^2_{(2)}=13.2$	0.001	0.004	$X^2_{(1)}=13.2$	0.059	0.099	$X^2_{(1)}=50.4$	<0.001	<0.001
	Tibialis Posterior	$X^2_{(2)}=2.1$	0.359	0.384	$X^2_{(1)}=2.1$	0.153	0.206	$X^2_{(1)}=38.4$	<0.001	<0.001
	Soleus	$X^2_{(2)}=8.2$	0.017	0.023	$X^2_{(1)}=8.2$	0.772	0.828	$X^2_{(1)}=14.3$	<0.001	<0.001
	Gastrocnemius	$X^2_{(2)}=17.1$	<0.001	0.001	$X^2_{(1)}=17.1$	0.044	0.093	$X^2_{(1)}=54.9$	<0.001	<0.001
	Peroneus Longus	$X^2_{(2)}=0.6$	0.726	0.726	$X^2_{(1)}=0.6$	0.867	0.867	$X^2_{(1)}=24.2$	<0.001	<0.001
<b>T2</b>	Tibialis Anterior	$X^2_{(2)}=16.3$	<0.001	0.001	$X^2_{(1)}=16.3$	0.050	0.093	$X^2_{(1)}=5.5$	0.019	0.029
	Tibialis Posterior	$X^2_{(2)}=12.1$	0.002	0.005	$X^2_{(1)}=12.1$	0.024	0.061	$X^2_{(1)}=6.7$	0.009	0.016
	Soleus	$X^2_{(2)}=13.1$	0.001	0.004	$X^2_{(1)}=13.1$	0.004	0.021	$X^2_{(1)}=15.8$	<0.001	<0.001
	Gastrocnemius	$X^2_{(2)}=18.9$	<0.001	0.001	$X^2_{(1)}=18.9$	0.016	0.048	$X^2_{(1)}=8.2$	0.004	0.008
	Peroneus Longus	$X^2_{(2)}=10.2$	0.006	0.010	$X^2_{(1)}=10.2$	0.008	0.031	$X^2_{(1)}=14.0$	<0.001	<0.001
<b>Fat Fraction</b>	Tibialis Anterior	$X^2_{(2)}=4.9$	0.086	0.099	$X^2_{(1)}=4.9$	0.164	0.206	$X^2_{(1)}=2.9$	0.088	0.119
	Tibialis Posterior	$X^2_{(2)}=12.6$	0.002	0.004	$X^2_{(1)}=12.6$	<0.001	<0.001	$X^2_{(1)}=0.2$	0.650	0.721
	Soleus	$X^2_{(2)}=9.6$	0.008	0.012	$X^2_{(1)}=9.6$	0.002	0.012	$X^2_{(1)}=0.2$	0.673	0.721
	Gastrocnemius	$X^2_{(2)}=24.4$	<0.001	<0.001	$X^2_{(1)}=24.4$	0.180	0.208	$X^2_{(1)}=0.0$	0.852	0.852
	Peroneus Longus	$X^2_{(2)}=6.5$	0.040	0.049	$X^2_{(1)}=6.5$	0.117	0.175	$X^2_{(1)}=0.2$	0.636	0.721

*Supplementary Table 3: Non-standardized Estimated marginal means for each group across image modality and muscle compartment*

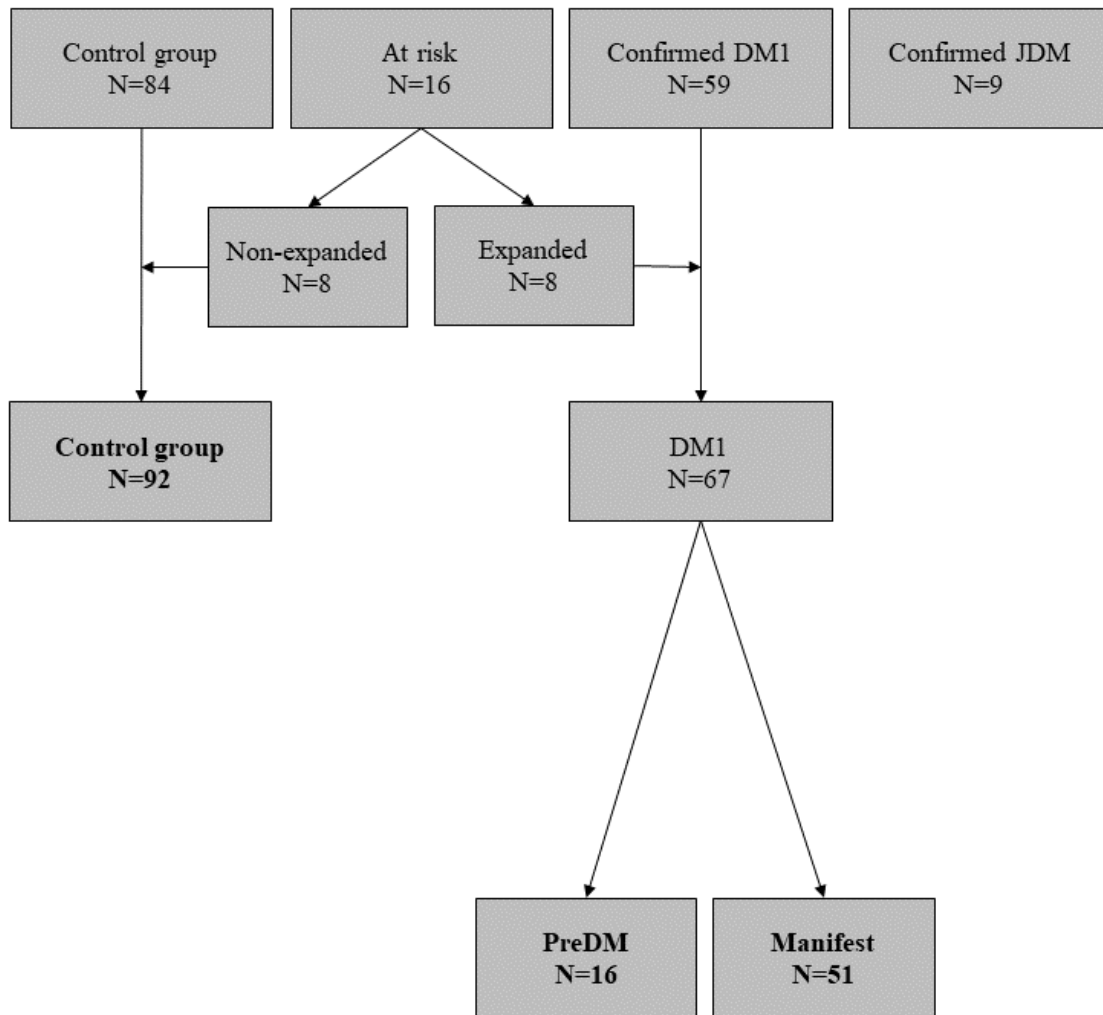
<i>Modality</i>	<i>Muscle</i>	<i>Group</i>	<i>EMM</i>	<i>95% CI<sub>(emm)</sub></i>
<b>Volume (mm<sup>3</sup>)</b>	Tibialis Anterior	Healthy Adults	179052.8	171826.7-186278.8
		PreDM1	159950.8	147515.8-172385.8
		DM1	158048.2	148912.1-167184.2
	Tibialis Posterior	Healthy Adults	212180.2	202351.4-222009.0
		PreDM1	203250.1	184880.0-221620.2
		DM1	200762.6	188032.7-213492.6
	Soleus	Healthy Adults	339218.2	319574.1-358862.2
		PreDM1	303763.6	269212.4-338314.7
		DM1	293752.4	268483.3-319021.5
	Gastrocnemius	Healthy Adults	369435.9	349110.3-389761.5
		PreDM1	295530.7	260139.8-330921.6
		DM1	309550.7	283341.1-335760.3
	Peroneus Longus	Healthy Adults	105990.6	99626.7-112354.5
		PreDM1	101699.8	91500.5-111899.1
		DM1	102130.6	94018.6-110242.5
<b>T2 (ms)</b>	Tibialis Anterior	Healthy Adults	44.6	43.2-46.0
		PreDM1	47.1	44.4-49.9
		DM1	49.4	47.5-51.3
	Tibialis Posterior	Healthy Adults	42.1	40.7-43.5
		PreDM1	45.7	43.1-48.4
		DM1	46.0	44.2-47.8
	Soleus	Healthy Adults	41.0	39.2-42.9
		PreDM1	46.3	43.2-49.5
		DM1	46.4	43.9-48.8

		Healthy Adults	45.5	43.5-47.6
	Gastrocnemius	PreDM1	52.4	49.0-55.8
		DM1	52.6	50.0-55.3
		Healthy Adults	41.6	40.2-42.9
	Peroneus Longus	PreDM1	45.1	42.5-47.6
		DM1	45.0	43.2-46.7
<b>Fat Fraction</b>		Healthy Adults	9.0	8.4-9.6
	Tibialis Anterior	PreDM1	10.5	9.3-11.8
		DM1	9.6	8.8-10.3
		Healthy Adults	7.5	7.0-8.0
	Tibialis Posterior	PreDM1	9.5	8.5-10.5
		DM1	8.2	7.6-8.9
		Healthy Adults	6.1	5.5-6.7
	Soleus	PreDM1	8.1	6.8-9.4
		DM1	7.2	6.4-8.0
		Healthy Adults	6.9	5.6-8.1
	Gastrocnemius	PreDM1	9.9	7.4-12.5
		DM1	12.2	10.5-13.9
		Healthy Adults	9.5	8.9-10.0
	Peroneus Longus	PreDM1	11.1	9.9-12.3
		DM1	10.1	9.4-10.7

EMM=Estimated marginal mean

CI=Confidence interval

Supplementary Figure 1



Supplementary Figure 2

