

SUPPLEMENTAL MATERIAL

Table S1. Follow-Up Subject Characteristics

	Sham			IMST		
	Baseline	End- Intervention	Follow-Up	Baseline	End- Intervention	Follow-up
N, men/women	9/5	--	--	7/8	--	--
Age, years	68±2	--	--	69±2	--	--
Body mass, kg	79±3	79±3	78±3	73±3	73±3	73±3
Body mass index, kg/m ²	27.0±1.0	27.1±1.0	26.8±1.0	25.7±0.6	25.7±0.5	25.6±0.6
Resting heart rate, beats/min	61±2	62±3	62±3	63±3	62±2	63±2
Total cholesterol, mg/dL	169±8	169±8	156±8	170±5	167±5	173±6
HDL-cholesterol, mg/dL	50±3	49±3	48±3	49±4	48±4	52±4
LDL-cholesterol, mg/dL	100±6	100±6	94±4	98±5	100±4	98±5
Triglycerides, mg/dL	97±9	101±11	89±9	112±13	109±13	118±15
Glucose, mg/dL	91±2	89±2	87±2	91±1	91±2	88±2

Data are mean±SEM.

Table S2. Ambulatory Blood Pressure

	Sham		IMST	
	Baseline	End- Intervention	Baseline	End- Intervention
Daytime SBP, mmHg	140±3	146±4	136±3	133±3 [†]
Nighttime SBP, mmHg	124±3	130±5*	119±4	116±4 [†]
Daytime DBP, mmHg	79±2	83±2*	79±2	78±2
Nighttime DBP, mmHg	68±2	71±3	64±2	64±2 [†]
SBP dipping, %	11±1	11±2	12±2	13±2
DBP dipping, %	14±1	14±2	16±2	18±2

Data are mean±SEM. * p<0.05 vs. Baseline, [†] p<0.05 vs. Sham.

Table S3. Brachial Artery Parameters

	Sham		IMST	
	Baseline	End-Intervention	Baseline	End-Intervention
FMD _{BA} , mm	0.17±0.10	0.17±0.10	0.19±0.10	0.28±0.16* [†]
Baseline diameter, mm	3.66±0.13	3.75±0.14	3.66±0.13	3.59±0.17
FMD _{BA} shear rate, s ⁻¹	1782±144	1657±147	1838±162	1858±166
Time to peak, s	55±3	59±4	53±4	54±5
FMD _{BA} /SR, %/s x 10 ₃	3.0±0.4	2.9±0.4	3.2±0.5	4.7±0.7* [†]
Scaled FMD _{BA} , %	4.71±0.60	4.50±0.70	5.23±0.60	7.68±0.70* [†]

Data are mean±SEM; FMD_{BA}, brachial artery flow-mediated dilation; SR, shear rate. * p<0.05 vs. Baseline, [†] p<0.05 vs. Sham.

Table S4. Follow-Up Brachial Artery Parameters

	Sham			IMST		
	Baseline	End-Intervention	Follow-Up	Baseline	End-Intervention	Follow-up
FMD _{BA} , mm	0.16±0.02	0.17±0.03	0.15±0.02	0.20±0.03	0.29±0.05* [†]	0.21±0.04
Baseline diameter, mm	3.71±0.17	3.75±0.15	3.68±0.16	3.77±0.13	3.71±0.18	3.83±0.22
FMD _{BA} shear rate, s ⁻¹	1721±159	1606±153	1675±161	1807±191	1853±164	1857±208
Time to peak, s	55±3	53±4	53±5	55±6	52±6	57±5
FMD _{BA} /SR, %/s x 10 ³	2.8±0.3	3.0±0.5	2.7±0.3	3.3±0.6	4.4±0.6*	3.1±0.4
Scaled FMD _{BA} , %	4.39±0.60	4.60±0.80	3.98±0.80	5.34±0.60	7.56±0.70 [†]	5.65±0.70

Data are mean±SEM; FMD_{BA}, brachial artery flow-mediated dilation; SR, shear rate. * p<0.05 vs. baseline, [†] p<0.05 vs. Sham.

Table S5. Circulating Mechanistic Markers

	Sham		IMST	
	Baseline	End-Intervention	Baseline	End-Intervention
CRP, mg/L	1.19±0.35	1.23±0.31	1.37±0.23	0.96±0.17*
IL-6, pg/mL	2.10±0.29	2.07±0.32	2.02±0.32	1.88±0.40
IL-10, pg/mL	2.31±1.11	2.45±1.23	1.69±0.74	1.69±0.92
TNF α , pg/mL	5.05±0.86	5.11±0.87	3.52±0.85	3.59±0.86
OxLDL, U/L	53±4	50±5	52±4	50±4
TAS, mg/dL	1.56±0.04	1.53±0.04	1.48±0.06	1.46±0.05
NE, pg/mL	333±46	331±46	273±44	315±45
Epi, pg/mL	24±2	33±66	27±6	31±6

Data are mean±SEM; CRP, high-sensitivity C-reactive protein; IL-6, interleukin-6; IL-10, interleukin-10; TNF α , tumor necrosis factor α ; OxLDL, oxidized low-density lipoprotein; TAS, total antioxidant status; NE, norepinephrine; Epi, epinephrine. * $p < 0.05$ vs. baseline.

Table S6. Arterial Stiffness Parameters

	Sham		IMST	
	Baseline	End-Intervention	Baseline	End-Intervention
CFPWV, m/s	9.65±0.40	9.92±0.55	9.43±0.49	9.64±0.36
Carotid artery compliance, mm ² /mmHg	0.0995±0.0127	0.1000±0.0091	0.0834±0.0107	0.1188±0.0336
Carotid β-stiffness index, U	9.686±1.086	9.080±0.745	9.889±1.212	10.011±1.206
Carotid IMT at end diastole, mm	0.845±0.044	0.806±0.042	0.758±0.046	0.713±0.032

Data are mean±SEM; CFPWV, carotid-femoral pulse wave velocity; IMT, intima-media thickness.

Table S7. Follow-Up Arterial Stiffness Parameters

	Sham			IMST		
	Baseline	End-Intervention	Follow-Up	Baseline	End-Intervention	Follow-up
CFPWV, m/s	9.89±0.47	9.52±0.60	9.42±0.50	9.54±0.59	9.57±0.41	9.32±0.75
Carotid artery compliance, mm ² /mmHg	0.0997±0.0132	0.0986±0.0078	0.0999±0.102	0.0724±0.102	0.1159±0.0388	0.0821±0.009
Carotid β-stiffness index, U	8.649±0.974	8.963±0.803	8.230±0.941	10.659±1.275	10.356±1.227	11.627±1.913
Carotid IMT at end diastole, mm	0.822±0.054	0.799±0.058	0.834±0.066	0.748±0.054	0.714±0.034	0.764±0.030

Data are mean±SEM; CFPWV, carotid-femoral pulse wave velocity; IMT, intima-media thickness.

Figure S1. Brachial artery flow-mediated dilation (FMD_{BA}) expressed as percent at baseline, after 6 weeks of Sham or IMST (End-Intervention) and after abstaining from training for 6 weeks (Follow-Up). Data are mean \pm SEM. † $p < 0.05$ vs Sham.

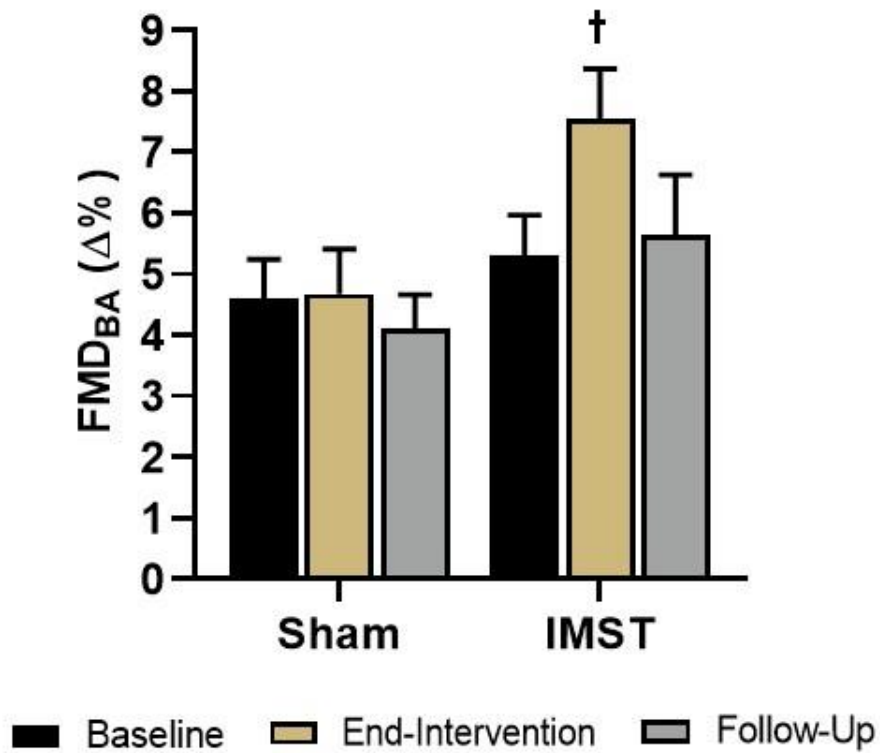


Figure S2. Partial least squares-discriminant analysis of plasma metabolomics data comparing IMST and Sham groups (A) and a heat map of the top 25 metabolites by p-value (B).

