

Supplementary Data 1. Evolution in maximal oxygen uptake ($\dot{V}O_{2max}$) during HDBR.

	Group	D43	D71	R+2	global ANOVA
$\dot{V}O_{2max}$, $\Delta mL \cdot kg^{-1} \cdot min^{-1}$	CON	-7.0 $\pm$ 1.2 [#]	-8.3 $\pm$ 0.8 [#]	-8.5 $\pm$ 0.9 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.004</i>
	RES	-2.6 $\pm$ 0.8* [#]	-3.6 $\pm$ 1.2*	-5.1 $\pm$ 1.1 [#]	
	RUN	-0.6 $\pm$ 1.2*	-2.2 $\pm$ 0.9*	-1.6 $\pm$ 1.3*	
$\dot{V}O_{2max}$, $\Delta L \cdot min^{-1}$	CON	-0.5 $\pm$ 0.1 [#]	-0.6 $\pm$ 0.1 [#]	-0.6 $\pm$ 0.1 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.0002</i>
	RES	-0.2 $\pm$ 0.0* [#]	-0.2 $\pm$ 0.1* [#]	-0.3 $\pm$ 0.1* [#]	
	RUN	-0.1 $\pm$ 0.1*	-0.2 $\pm$ 0.1*	-0.2 $\pm$ 0.1*	

Variations (mean $\pm$ SEM) are calculated as Δ =value_{post} – value_{pre}

*p<0.05 vs. CON; [#]p<0.05 vs. Pre

Supplementary Data 2. Evolution in body mass, body composition and fluid compartments during HDBR.

	Group	D30	D57	D85	global ANOVA
Body mass, Δkg	CON	-0.8 $\pm$ 0.4	-1.2 $\pm$ 0.9	-2.0 $\pm$ 1.0	<i>Bedrest p=0.39</i> <i>CM p=0.19</i>
	RES	0.7 $\pm$ 0.6	0.7 $\pm$ 0.7	0.4 $\pm$ 0.9	
	RUN	-0.9 $\pm$ 0.5	-0.4 $\pm$ 0.8	-0.4 $\pm$ 0.9	
Fat mass, Δkg	CON	2.5 $\pm$ 0.5 [#]	3.5 $\pm$ 0.4 [#]	4.0 $\pm$ 0.7 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.34</i>
	RES	1.3 $\pm$ 0.4	2.5 $\pm$ 0.5 [#]	3.2 $\pm$ 0.5 [#]	
	RUN	1.4 $\pm$ 0.6	2.3 $\pm$ 0.7	3.7 $\pm$ 0.8 [#]	
Lean mass, Δkg	CON	-3.3 $\pm$ 0.6 [#]	-4.7 $\pm$ 0.8 [#]	-5.9 $\pm$ 1.1 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.008</i>
	RES	-0.6 $\pm$ 0.3*	-1.7 $\pm$ 0.5* [#]	-2.7 $\pm$ 0.6 [#]	
	RUN	-1.6 $\pm$ 0.7	-2.0 $\pm$ 0.4* [#]	-3.3 $\pm$ 0.7 [#]	
Total body water, ΔL	CON	-2.4 $\pm$ 0.4 [#]	-3.5 $\pm$ 0.6 [#]	-4.3 $\pm$ 0.8 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.008</i>
	RES	-0.4 $\pm$ 0.2*	-1.3 $\pm$ 0.4* [#]	-2.0 $\pm$ 0.4 [#]	
	RUN	-1.2 $\pm$ 0.5	-1.4 $\pm$ 0.3* [#]	-2.4 $\pm$ 0.5 [#]	
Extracellular fluid, ΔL	CON	-0.9 $\pm$ 0.2 [#]	-1.0 $\pm$ 0.2 [#]	-1.0 $\pm$ 0.2 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.37</i>
	RES	-0.3 $\pm$ 0.2	-0.6 $\pm$ 0.4	-0.6 $\pm$ 0.2	
	RUN	-0.7 $\pm$ 0.2	-0.9 $\pm$ 0.4	-0.8 $\pm$ 0.2	
Intracellular fluid, ΔL	CON	-1.6 $\pm$ 0.3 [#]	-2.5 $\pm$ 0.4 [#]	-3.3 $\pm$ 0.6 [#]	<i>Bedrest p<0.0001</i> <i>CM p=0.001</i>
	RES	-0.1 $\pm$ 0.1*	-0.7 $\pm$ 0.3*	-1.4 $\pm$ 0.2* [#]	
	RUN	-0.5 $\pm$ 0.3*	-0.5 $\pm$ 0.2*	-1.7 $\pm$ 0.3 [#]	

Variations (mean $\pm$ SEM) are calculated as Δ =value_{post} – value_{pre}

*p<0.05 vs. CON; [#]p<0.05 vs. Pre

Supplementary Data 3. Evolution in thigh and calf circumferences during HDBR.

	Group	D28	D56	D84	global ANOVA
Thigh circumference, Δcm	CON	-2.2±0.5 #	-3.0±0.4 #	-3.5±0.5 #	<i>Bedrest p<0.0001</i> <i>CM p=0.0003</i>
	RES	-0.9±0.2 #	-0.8±0.3*	-1.0±0.4*	
	RUN	-0.2±0.4*	-0.4±0.4*	-0.3±0.5*	
Calf circumference, Δcm	CON	-1.7±0.2 #	-3.2±0.2 #	-3.8±0.2 #	<i>Bedrest p<0.0001</i> <i>CM p=0.0001</i>
	RES	-1.4±0.3 #	-2.3±0.2* #	-2.5±0.3* #	
	RUN	-0.8±0.1* #	-1.5±0.2* #	-1.8±0.2* #	

Variations (mean±SEM) are calculated as $\Delta = \text{value}_{\text{post}} - \text{value}_{\text{pre}}$

*p<0.05 vs. CON