

Figure S1.

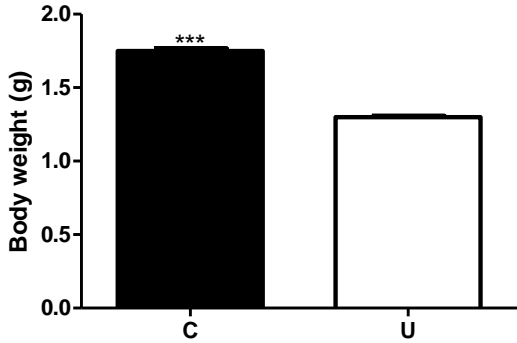
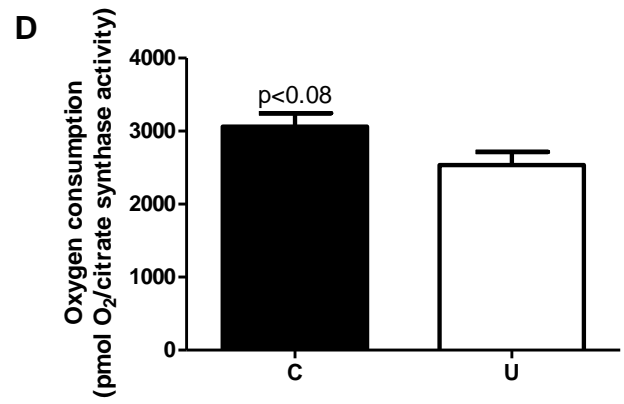
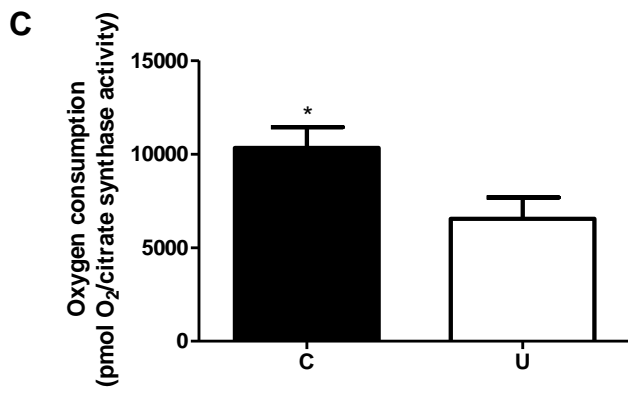
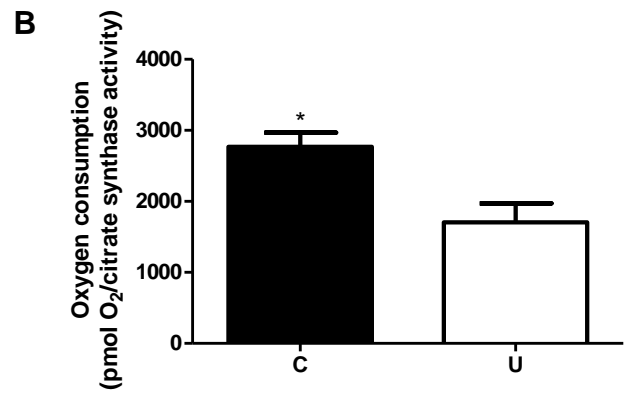
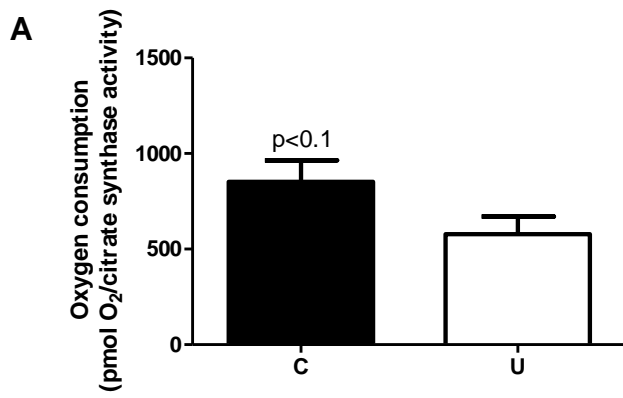


Figure S2.



Supplemental Figure Legends

Figure S1. *In utero* undernutrition causes low birth weight. Weight of the offspring at 1 day of age. Student's *t*-test, ***= $p < 0.0001$. Values are mean \pm SEM, $n=32$. Black = C (control offspring), white = U (*in utero* undernourished offspring).

Figure S2. *In utero* undernutrition alters energetics in heart homogenate. O_2 flux in heart homogenate from 10 wk old mice. Values are expressed relative to citrate synthase activity. Data are shown for adenylate free leak respiration (L_N ; A), maximal electron flow through electron-transferring flavoprotein and fatty acid oxidative capacity (P_{ETF} ; B), maximum oxidative phosphorylation capacity (P_{OXPHOS} ; C), and oligomycin-induced leak respiration (L_{omy} ; D). Values are mean \pm SEM, $n=5$, *= $p < 0.05$. Black = C (control offspring), white = U (*in utero* undernourished offspring).

Table S1. Plasma acylcarnitine levels

Acylcarnitine	Plasma level (μM ; mean \pm SEM)			
	C-L	U-L	C-R	U-R
Acetylcarnitine	5.116 \pm 0.617	8.236 \pm 0.808	2.397 \pm 0.285	2.779 \pm 0.642
Propionylcarnitine	0.104 \pm 0.016	0.137 \pm 0.015	0.078 \pm 0.010	0.102 \pm 0.010
Malanoylcarnitine	0.012 \pm 0.001	0.018 \pm 0.003	0.010 \pm 0.001	0.011 \pm 0.002
Butyrylcarnitine and/or isobutyrylcarnitine	0.131 \pm 0.019	0.146 \pm 0.014	0.130 \pm 0.018	0.119 \pm 0.019
3-hydroxy-butyrylcarnitine	0.132 \pm 0.012	0.169 \pm 0.018	0.095 \pm 0.012	0.098 \pm 0.011
Methylmalanoylcarnitine and/or succinylcarnitine	0.019 \pm 0.001	0.029 \pm 0.004	0.024 \pm 0.003	0.035 \pm 0.007
Isovaleryl carnitine and/or 2-methylbutyryl	0.044 \pm 0.005	0.047 \pm 0.004	0.026 \pm 0.006	0.029 \pm 0.006
Tiglylcarnitine	0.007 \pm 0.002	0.007 \pm 0.002	0.007 \pm 0.002	0.006 \pm 0.002
Hydroxyisovalerylcarnitine and/or 2-methyl-3-hydroxybutyrylcarnitine	0.021 \pm 0.002	0.024 \pm 0.005	0.016 \pm 0.003	0.014 \pm 0.005
Glutaryl carnitine	0.017 \pm 0.002	0.022 \pm 0.002	0.019 \pm 0.002	0.020 \pm 0.003
Hexanoylcarnitine	0.024 \pm 0.005	0.026 \pm 0.005	0.013 \pm 0.002	0.012 \pm 0.002
3-methylglutaryl carnitine	0.031 \pm 0.001	0.039 \pm 0.005	0.029 \pm 0.001	0.029 \pm 0.001
Octanoylcarnitine	0.007 \pm 0.002	0.013 \pm 0.003	0.011 \pm 0.003	0.009 \pm 0.002
Octenoylcarnitine	0.021 \pm 0.002	0.021 \pm 0.002	0.022 \pm 0.004	0.022 \pm 0.003
Decanoylcarnitine	0.010 \pm 0.002	0.011 \pm 0.003	0.009 \pm 0.003	0.007 \pm 0.002
Decenoylcarnitine	0.019 \pm 0.002	0.021 \pm 0.003	0.017 \pm 0.002	0.015 \pm 0.002
Dodecanoylcarnitine	0.021 \pm 0.004	0.021 \pm 0.003	0.015 \pm 0.002	0.015 \pm 0.002
Dodecenoylcarnitine	0.011 \pm 0.001	0.014 \pm 0.004	0.012 \pm 0.003	0.010 \pm 0.003
3-hydroxydodecenoylcarnitine	0.027 \pm 0.004	0.028 \pm 0.003	0.029 \pm 0.003	0.022 \pm 0.003
3-hydroxydodecanoylcarnitine	0.010 \pm 0.003	0.013 \pm 0.002	0.012 \pm 0.003	0.014 \pm 0.002
Myristoylcarnitine	0.042 \pm 0.005	0.054 \pm 0.008	0.028 \pm 0.004	0.019 \pm 0.005
Tetradecenoylcarnitine	0.042 \pm 0.012	0.044 \pm 0.006	0.023 \pm 0.005	0.019 \pm 0.004
3-hydroxytetradecenoylcarnitine	0.021 \pm 0.004	0.024 \pm 0.004	0.018 \pm 0.004	0.014 \pm 0.003
Tetradecadienoylcarnitine	0.016 \pm 0.006	0.021 \pm 0.003	0.013 \pm 0.003	0.004 \pm 0.002
3-hydroxytetradecanoylcarnitine	0.021 \pm 0.004	0.026 \pm 0.003	0.023 \pm 0.002	0.026 \pm 0.006
Palmitoylcarnitine	0.126 \pm 0.019	0.155 \pm 0.014	0.096 \pm 0.008	0.089 \pm 0.006
3-hydroxyhexadecenoylcarnitine	0.011 \pm 0.003	0.013 \pm 0.003	0.009 \pm 0.002	0.010 \pm 0.002
3-hydroxyhexadecanoylcarnitine	0.009 \pm 0.003	0.008 \pm 0.001	0.006 \pm 0.001	0.009 \pm 0.001
Octadecanoylcarnitine	0.045 \pm 0.006	0.048 \pm 0.004	0.036 \pm 0.006	0.028 \pm 0.004
Octadecenoylcarnitine	0.119 \pm 0.023	0.158 \pm 0.025	0.073 \pm 0.016	0.066 \pm 0.011
3-hydroxyoctadecadienoylcarnitine	0.009 \pm 0.003	0.017 \pm 0.002	0.008 \pm 0.001	0.011 \pm 0.001
3-hydroxyoctadecanoylcarnitine	0.014 \pm 0.001	0.008 \pm 0.002	0.009 \pm 0.002	0.009 \pm 0.003

C = control offspring, U = *in utero* undernourished offspring, L = fed *ad libitum*, R = after a 4 wk 40% calorie restriction.