

Figure S1. Standardized residuals plotted against the fitted values (estimated means from the model) from linear models. The header over each model result follows the conventions of the abbreviations described below.

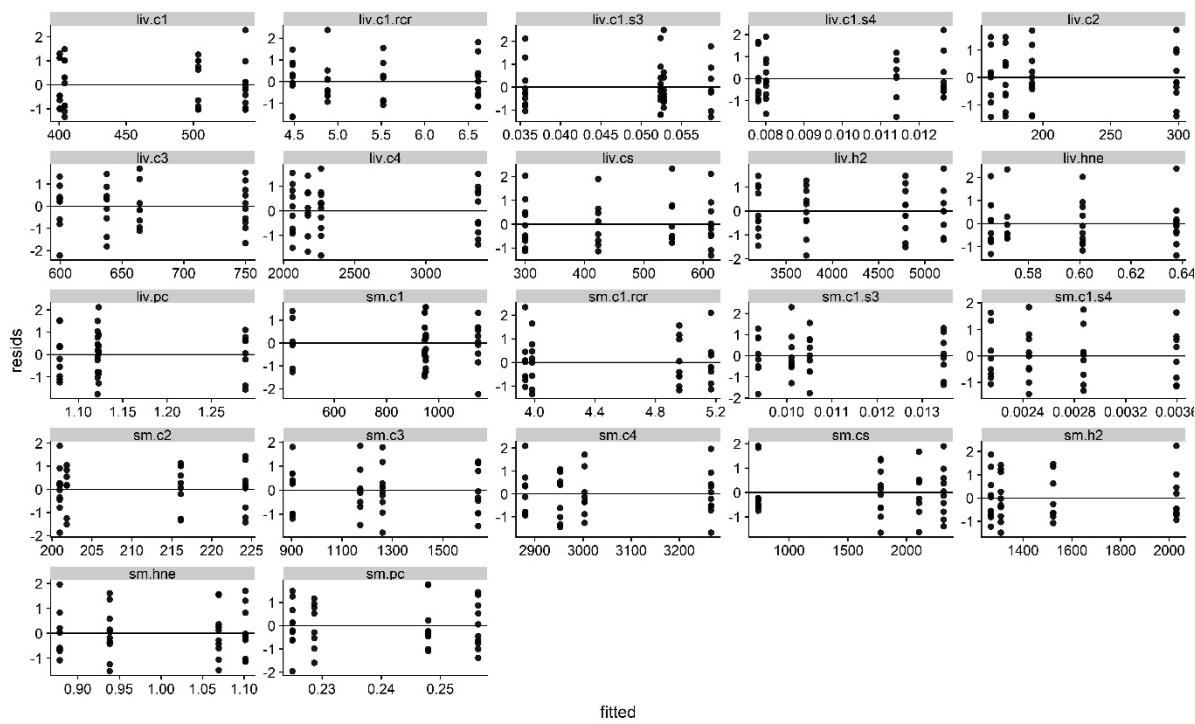


Figure S2. Standardized residuals plotted against the fitted values (estimated means from the model) from generalized least squares models. The header over each model result follows the conventions of the abbreviations described below.

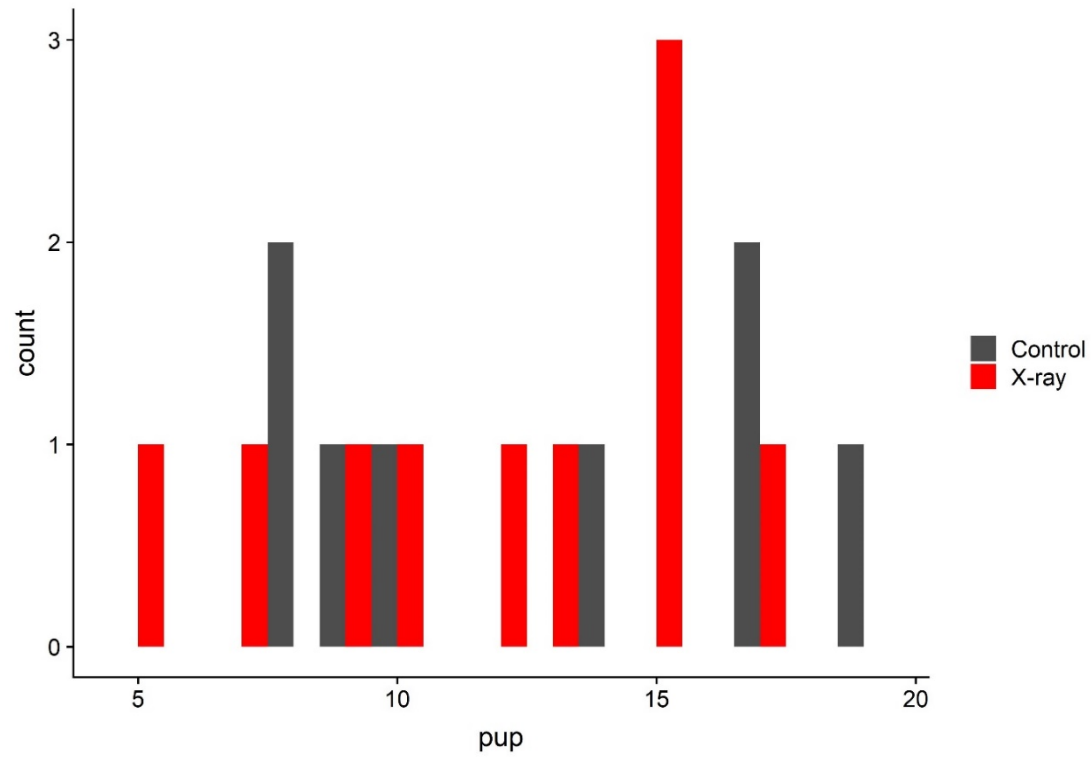


Figure S3. The number of pups weaned by x-irradiated (red) and non-irradiated (gray) female mice.

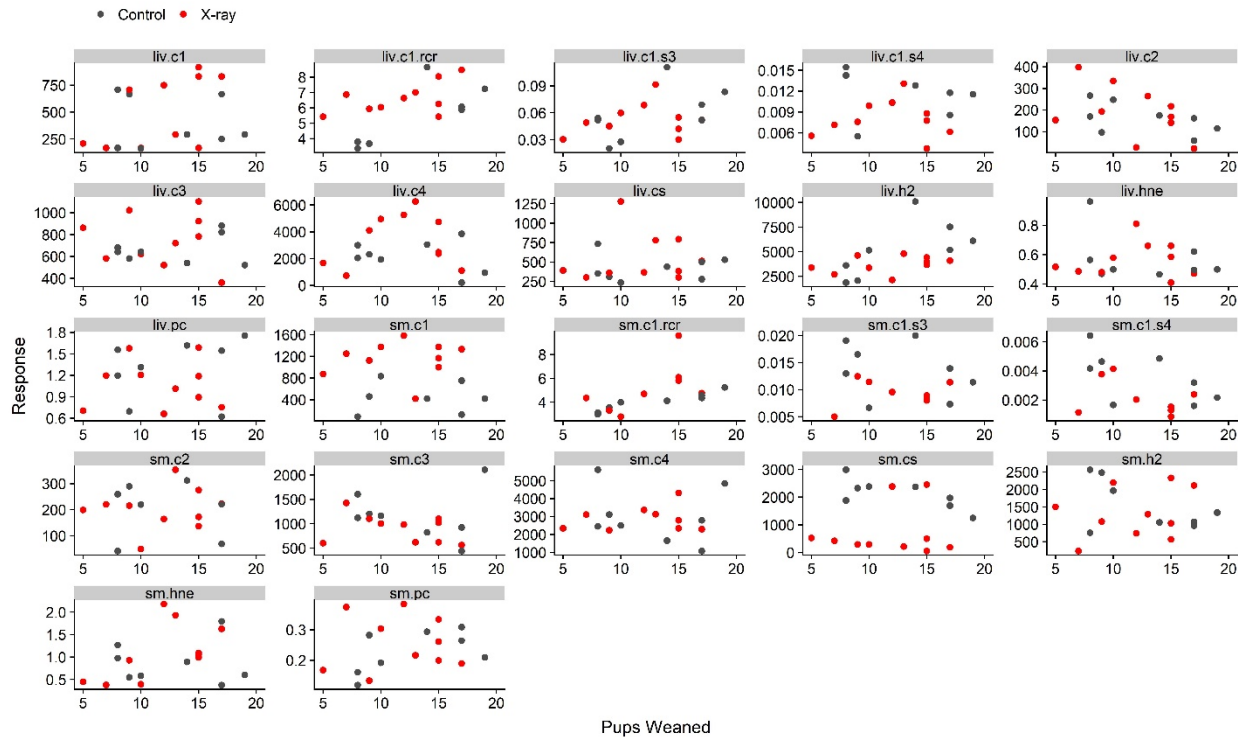


Fig S4. The effect of number of pups weaned on each measure of mitochondrial performance and oxidative stress for x-irradiated mice (red dots) and non-irradiated mice (gray dots). Results are from a generalized least squares model. The y-axis units for each model are presented in the main text. The header over each model result follows the conventions of the abbreviations described below.

Abbreviations

nr = non-reproductive, virgin mice

r = reproductive mice

x = x-irradiated mice

con = non-irradiated mice

liv = liver

sm = skeletal muscle

c1 = complex I of the electron transport system (ETS)

c2 = complex II activity of ETS

c3 = complex III activity of ETS

c4 = complex IV activity of ETS

cs = citrate synthase activity

s3 = state 3 respiration

s4 = state 4 respiration

rcr = respiratory control ratio

h2 = H₂O₂ production

hne = 4-Hydroxynonenal

pc = protein carbonyl

The header above each model result represents a specific measure taken from the tissue listed. For example, liv.c1.s3 is state 3 respiration of liver mitochondria using complex I substrates. sm.c2 is complex II activity of skeletal muscle, and so on.

Table S1. Raw means and standard deviations for mitochondrial measurements and p-value results of the effect of reproduction, x-irradiation (x-ray) exposure, and their interaction from Generalized Least Squares linear models. Significant values are in bold.

	Virgin females		Reproductive females		P-values			
	Control (A) n = 10	X-ray (B) n = 10	Control (C) n = 8	X-ray (D) n = 10	Repro (C vs. A) n = 18	X-ray (B vs. A) n = 20	Repro + X-ray (D vs. A) n = 20	Interaction (all data) n = 38
Liver								
Mitochondrial density - CS activity (nmol/min/mg protein)	613 _± 197	300 _± 135	423 _± 164	548 _± 314	0.032	0.0002	0.580	0.003
<i>Respiration via complex 1 substrates</i>								
RCR (state 3/state 4 respiration)	4.48 _± 1.25	4.88 _± 1.14	5.52 _± 2.01	6.61 _± 1.02	0.233	0.468	< 0.001	0.493
state 3 respiration (pmol/min/CS activity)	52.8 _± 27.9	35.6 _± 11.5	58.6 _± 29.3	52.4 _± 18.3	0.670	0.081	0.971	0.478
state 4 respiration (pmol/min/CS activity)	12.6 _± 7.3	7.80 _± 2.64	11.4 _± 3.40	8.01 _± 2.66	0.647	0.060	0.070	0.626
<i>Complex activity</i>								
complex I (nmol/min/mg protein)	404 _± 177	539 _± 385	400 _± 237	504 _± 327	0.971	0.322	0.403	0.868
complex II (nmol/min/mg protein)	172 _± 99	299 _± 96	162 _± 72	192 _± 120	0.791	0.007	0.691	0.138
complex III (nmol/min/mg protein)	599 _± 197	638 _± 141	664 _± 129	750 _± 234	0.408	0.623	0.129	0.680
complex IV (nmol/min/mg protein)	2063 _± 813	2263 _± 983	2171 _± 1176	3368 _± 1931	0.827	0.623	0.057	0.240
ROS indicator - H ₂ O ₂ (pmol/min/mg protein)	4790 _± 1784	3197 _± 826	5203 _± 2772	3718 _± 847	0.717	0.015	0.095	0.928
<i>Oxidative damage</i>								

Lipids - 4HNE adducts (arbitrary units)	0.601 \pm 0.166	0.638 \pm 0.179	0.572 \pm 0.16 7	0.565 \pm 0.119	0.711	0.639	0.584	0.683
Proteins - Protein carbonyls (arbitrary units)	1.12 \pm 0.37	1.12 \pm 0.19	1.29 \pm 0.43	1.08 \pm 0.33	0.388	0.991	0.789	0.359
Muscle								
Mitochondrial density - CS activity (nmol/min/mg protein)	1779 \pm 944	2316 \pm 493	2107 \pm 526	735 \pm 899	0.359	0.120	0.016	< 0.001
<u>Respiration via complex 1 substrates</u>								
RCR (state 3/state 4 respiration)	3.94 \pm 1.71	4.96 \pm 1.65	3.98 \pm 0.76	5.17 \pm 2.11	0.944	0.208	0.201	0.884
state 3 respiration (pmol/min/CS activity)	10.1 \pm 4.62	10.5 \pm 3.39	13.5 \pm 4.95	9.37 \pm 2.40	0.150	0.830	0.665	0.102
state 4 respiration (pmol/min/CS activity)	2.87 \pm 1.34	2.44 \pm 1.28	3.59 \pm 1.73	2.15 \pm 1.22	0.347	0.497	0.255	0.302
<u>Complex activity</u>								
complex I (nmol/min/mg protein)	945 \pm 450	950 \pm 592	440 \pm 282	1150 \pm 328	0.008	0.986	0.254	0.016
complex II (nmol/min/mg protein)	224 \pm 129	216 \pm 85	202 \pm 106	201 \pm 81	0.705	0.874	0.645	0.920
complex III (nmol/min/mg protein)	1640 \pm 306	1261 \pm 360	1173 \pm 504	904 \pm 288	0.029	0.016	< 0.001	0.660
complex IV (nmol/min/mg protein)	2952 \pm 734	3266 \pm 1136	3003 \pm 1525	2880 \pm 686	0.932	0.469	0.825	0.550
ROS indicator - H ₂ O ₂ (pmol/min/mg protein)	2029 \pm 1493	1267 \pm 754	1524 \pm 714	1309 \pm 720	0.351	0.159	0.178	0.391
<u>Oxidative damage</u>								
Lipids - 4HNE adducts (arbitrary units)	0.938 \pm 0.371	1.069 \pm 0.433	0.878 \pm 0.46 7	1.102 \pm 0.635	0.768	0.472	0.487	0.772

Proteins - Protein carbonyls (arbitrary units)	0.248 _± 0.086	0.225 _± 0.057	0.229 _± 0.06 ₉	0.256 _± 0.089	0.601	0.489	0.830	0.314
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