

Supplementary

Table S1. Fold change in expression of selected genes, effects of feed restriction and refeeding on mRNA abundance of key regulatory molecules in testes of young rats ($n = 8/\text{group}$). CON (Control), ad libitum feeding; MR (Mild Restriction), 75% of CON intake; PR (Profound Restriction), 50% of CON intake; and RF (Refeeding group), 50% of CON intake for 14 days, and then ad libitum.

Groups	CON	MR	PR	RF
IGF-1	-	0.76	1.53	0.61
IGF-1R	-	1.11	0.75	0.35

Table S2. Mean (\pm SEM) epididymal sperm motility parameters at Day 64 (birth = Day 0) in rats fed various diets from Days 29 to 64 (8 rats per group).

	CON	MR	PR	RF
Motile (%)	43.08 \pm 3.33	46.11 \pm 3.66	40.30 \pm 3.46	43.08 \pm 3.33
Progressive (%)	26.20 \pm 3.21	29.22 \pm 3.3	22.88 \pm 2.8	22.1 \pm 2.58
Immobile	55.74 \pm 3.58	53.82 \pm 3.87	60.97 \pm 2.89	58.32 \pm 2.66
Hyperactive	7.99 \pm 1.37	9.77 \pm 2.59	12.92 \pm 4.68	8.12 \pm 1.53
Linear	11.98 \pm 1.72	14.01 \pm 1.76	11.82 \pm 1.96	13.21 \pm 2.23
Non-linear	10.42 \pm 2.71	9.62 \pm 2.44	7.83 \pm 1.43	9.4 \pm 1.34
Curvilinear	6.28 \pm 1.06	5.31 \pm 0.64	4.29 \pm 0.46	6.51 \pm 1.69

CON (Control), ad libitum feeding; MR (Mild Restriction), 75% of CON intake; PR (Profound Restriction), 50% of CON intake; and RF (Refeeding group), 50% of CON intake for 14 days, and then ad libitum.

Table S3. Mean (\pm SEM) epididymal sperm morphology and acrosome integrity at Day 64 (birth = Day 0) in rats fed various diets during Days 29–64 (8 rats/group).

End Point	CON	MR	PR	RF
Normal	95.31 \pm 1.10	96.43 \pm 1.53	93.78 \pm 3.7	94.08 \pm 1.6
Bent tail	1	1.16 \pm 0.31	1.5 \pm 0.71	1 \pm 0.58
Distal droplet	1.21 \pm 0.81	0.83 \pm 0.17	2.33 \pm 1.83	0.63 \pm 0.2
Coiled tail	0	0.6 \pm 0.37	0.83 \pm 0.44	0.5
Detached head	2.25 \pm 0.92	1.21 \pm 0.19	2.28 \pm 1.91	3.75 \pm 1.48
Bent neck	2 \pm 1.48	1.13 \pm 1.19	0.83 \pm 0.22	1.1 \pm 0.18
Flat head	0.5	1	1	0.5
Abnormal tail	1.44 \pm 0.99	1.64 \pm 0.97	3.43 \pm 2.16	1.17 \pm 0.8
Abnormal head	3.31 \pm 1.24	2.0 \pm 0.69	2.79 \pm 2.13	4.75 \pm 1.59
Acrosome integrity	98.87 \pm 1.12	99.0 \pm 0.38	99.07 \pm 0.43	99.08 \pm 0.13

CON (Control), ad libitum feeding; MR (Mild Restriction), 75% of CON intake; PR (Profound Restriction), 50% of CON intake; and RF (Refeeding group), 50% of CON intake for 14 days, and then ad libitum.