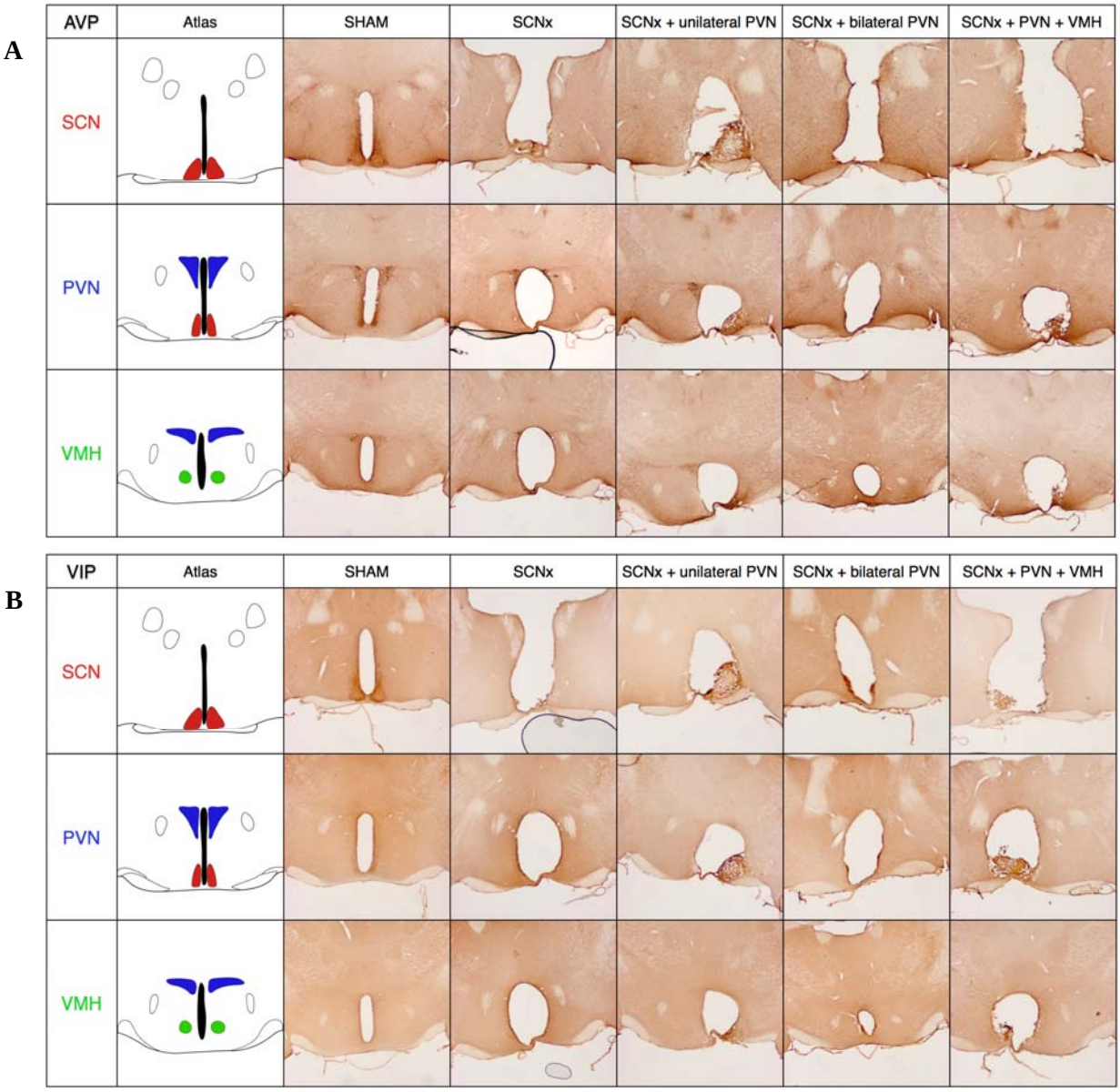
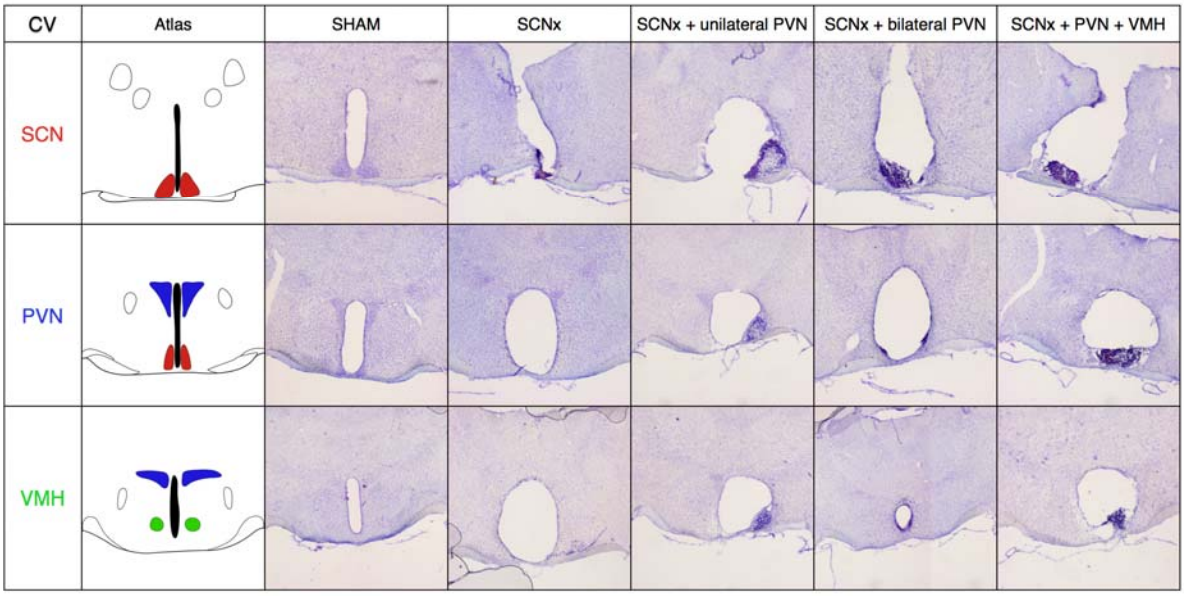
SUPPLEMENTARY DATA

Supplementary Figure 1. Representative histological sections of the hypothalamus, illustrating the histological verification of lesion position and size. 40 micrometer coronal sections were alternately stained for arginine vasopressin (AVP, immuno-histochemical staining, panel A), vasoactive intestinal peptide (VIP, immuno-histochemical staining, panel B) and cresyl violet (CV, cell-nuclei staining, panel C). For each animal, the location of lesion-induced damage was judged by independent researchers. Animals were classified based on (I) the presence of a bilateral ablation of the suprachiasmatic nucleus (SCN, top row of each panel) and for the presence of additional damage: (II) unilateral or bilateral ablation of the paraventricular nucleus (PVN, middle row in each panel) and (III) damage to the rostral part of the ventromedial hypothalamus (VMH, bottom row in each panel). For comparison, schematic drawings of the mouse hypothalamus (first column) and stainings of sham-operated animals (second column) are included.



SUPPLEMENTARY DATA

C



Supplementary Table 1. Glucose (*A*) and tracer specific activity (*B*) data for all groups during the basal and hyperinsulinemic period of the clamp. Data are represented as mean ± SD.

A

	Basal 1 [Glucose] (mmol/l)	Basal 2 [Glucose] (mmol/l)	Hyper 1 [Glucose] (mmol/l)	Hyper 2 [Glucose] (mmol/l)	Hyper 3 [Glucose] (mmol/l)
Sham	5.0 ± 0.7	4.9 ± 1.0	4.6 ± 0.8	4.7 ± 1.0	4.7 ± 1.0
SCNx	6.6 ± 1.1	6.8 ± 1.4	7.4 ± 1.3	6.7 ± 1.1	6.8 ± 1.1
SCNx + unilat PVN damage	6.7 ± 0.6	7.3 ± 2.0	7.0 ± 1.1	7.1 ± 1.2	7.1 ± 1.2
SCNx + bilat PVN damage	7.2 ± 0.9	7.4 ± 1.5	7.2 ± 0.7	7.2 ± 0.9	7.2 ± 1.3
SCNx + PVN/VMH damage	7.6 ± 1.7	7.6 ± 1.9	6.8 ±1.0	7.4 ± 1.7	7.4 ± 1.6

B

	Basal 1 SA (DPM/µmol)	Basal 2 SA (DPM/µmol)	Hyper 1 SA (DPM/µmol)	Hyper 2 SA (DPM/µmol)	Hyper 3 SA (DPM/µmol)
Sham	12100 ± 3966	12855 ± 4176	7831 ± 2283	7519 ± 2587	7398 ± 1990
SCNx	8849 ± 1828	8891 ± 1803	6066 ± 283	5452 ± 1044	6659 ± 1241
SCNx + unilat PVN damage	9925 ± 2274	9383 ± 2606	6842 ± 1804	7085± 1365	7109 ± 2013
SCNx + bilat PVN damage	6450 ± 1098	6887 ± 1864	5775 ± 1339	6031 ± 1625	6755 ± 2227
SCNx + PVN/VMH damage	7532 ± 4189	8174 ± 5039	5302 ± 1906	6068 ± 2177	5920 ± 2677

SUPPLEMENTARY DATA

Supplementary Table 2. Indirect calorimetry/metabolic cage (*A*), hyperinsulinemic-euglycemic clamp (*B*) and plasma insulin data of sham and SCN lesioned (SCNx) mice with collateral damage. Data are represented as mean ± SD, * $P<0.05$ *vs.* sham, ** $P<0.01$ *vs.* sham, $^{\#}$ $P<0.05$ light *vs.* dark, $^{\$}$ $P<0.05$ basal *vs.* hyperinsulinemic-euglycemic clamp period.

A

Dark			
	VO2 (ml/kg/h)	Activity (bb/12 h)	FI (g/12 h)
Sham	3386 ± 173	195 ± 67	3.20 ± 0.53
SCNx + unilat PVN damage	3107 ± 162*	74 ± 22*	2.24 ± 0.54*
SCNx + bilat PVN damage	2530 ± 196*	61 ± 23*	2.52 ± 0.73*
SCNx + PVN/VMH damage	2594 ± 513*	57 ± 29*	2.42 ± 0.72*
Light			
	VO2 (ml/kg/h)	Activity (bb/12 h)	FI (g/12 h)
Sham	2992 ± 154$^{\#}$	79 ± 32$^{\#}$	1.53 ± 0.23$^{\#}$
SCNx + unilat PVN damage	3130 ± 200	92 ± 41	2.27 ± 0.92*
SCNx + bilat PVN damage	2600 ± 167*	93 ± 34$^{\#}$	1.60 ± 0.38
SCNx + PVN/VMH damage	2579 ± 495*	73 ± 45	2.27 ± 0.55*
24 h			
	VO2 (ml/kg)	Activity (bb)	FI (g)
Sham	76531 ± 3831	273 ± 123	4.73 ± 0.50
SCNx + unilat PVN damage	74849 ± 4302	166 ± 62*	4.51 ± 1.43
SCNx + bilat PVN damage	61561 ± 4327*	154 ± 55*	4.13 ± 1.06
SCNx + PVN/VMH damage	62075 ± 12070*	131 ± 73*	4.69 ± 0.84

B

	Basal Rd (µmol/min/kg)	Hyperinsulinemic Rd (µmol/min/kg)	Hyperinsulinemic EGP (µmol/min/kg)
Sham	53.6 ± 16.6	83.9 ± 23.8	8.8 ± 12.2
SCNx + unilat PVN damage	61.1 ± 17.9	77.5 ± 31.6	36.2 ± 29.3*
SCNx + bilat PVN damage	61.0 ± 9.5	61.7 ± 21.1*	37.8 ± 18.3*
SCNx + PVN/VMH damage	51.2 ± 24.4	55.6 ± 19.8*	40.2 ± 23.1*

SUPPLEMENTARY DATA

C

	Insulin (ng/ml)	
	Basal	Hyperinsulinemic
Sham	0.5 ± 0.3	5.2 ± 1.1$^{\$}$
SCNx + unilat PVN damage	0.8 ± 0.3	4.8 ± 1.1$^{\$}$
SCNx + bilat PVN damage	2.9 ± 1.5**	8.6 ± 2.4$^{\$}$**
SCNx + PVN/VMH damage	1.4 ± 0.6**	4.6 ± 1.7$^{\$}$