

systolic blood pressure results below ($\bar{X}$, SE) were expressed as a % of their pre-test value. Significant differences from the WKY group were designated with an asterisk.

Group	N	-2.5 mmHg	-5.0 mmHg	-7.5 mmHg
WKY	5	-13.9 $\pm$ 2.4	-49.2 $\pm$ 2.5	-69.5 $\pm$ 6.2
SHR	9	-10.5 $\pm$ 1.9	-24.4 $\pm$ 3.9*	-39.1 $\pm$ 3.9*
A-SHR	5	-15.9 $\pm$ 2.9	-51.8 $\pm$ 6.0	-86.1 $\pm$ 3.1*

These findings suggest that the vasoconstricting ability of the SHR group was more responsive to a LBNP stress than the other two groups and that the antihypertensive agents employed were partially successful in normalizing such a response. To what effect these differences are due to alterations in chemoreceptors, low or high pressure baroreceptors, or resting sympathetic tone remains to be determined. (Supported in part by HL-014388-5)

4. TOXIC EFFECTS OF POLYCHLORINATED BIPHENYLS ON MAMMALIAN HEART MITOCHONDRIAL ACTIVITY. Russell Rulon,* Decorah, Iowa, Jerry Hewey and Carlos Harrison, Rochester, Minn.

The effects of 2 polychlorinated biphenyls (PCBs) on oxidative phosphorylation were defined in isolated cat mitochondria utilizing a Gilson oxygraph equipped with a vibrating platinum electrode. The PCBs investigated were Aroclor 1016, a component of capacitors and Aroclor 1254 which is a major environmental contaminant. Using 13 mM glutamate as substrate, ADP stimulated State 3 respiration was significantly depressed ($p < .01$) at 20, 50, and 100 ppm Aroclor 1254 and by Aroclor 1016 at 5, 10, 20, 50 and 100 ppm. The Respiratory Control Indices (RCI), which measure the "tightness" of coupling in mitochondria, were depressed at 10 ppm and higher concentrations. At 50 ppm, both Aroclors depress the ADP:O ratios; however, 1016 seems to be more toxic. Much attention has focused on the long term toxic effects of PCBs. However, these data indicate the potential the material has for acute toxic effects in tissues, such as the heart, which are highly dependent on oxidative metabolism.

5. GROWTH AND SEXUAL DEVELOPMENT IN COTURNIX (*Coturnix C. japonica*) AS AFFECTED BY CONTINUOUS PHOTOPERIOD. K.L. Arora, Des Moines, IA

Following 21 d of brooding under continuous light, some males and females were shifted to standard lighting conditions (14L) leaving the remainder under continuous light (24L). Lighting was provided by 100 watt bulbs fixed one foot above the level of birds. Food and water were provided ad lib. Sexes were kept apart as groups. The birds were weighed regularly and the onset of egg laying was determined by palpating eggs in the uterus. At 72 d of age, the birds were killed and reproductive organs and visceral organs collected and weighed. Sex and treatment differences in body wt were evident following 55 d

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