

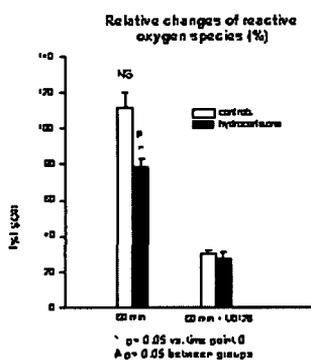
**Results:** The severity of the injuries after shooting were assessed using the Abbreviated Injury Scale and did not differ significantly between the animals. All survived the first 60 min. The production of ROS significantly was lower in the group that had received hydrocortisone (see figure). Administration of U0126 reduced the synthesis of ROS by about two-thirds in both groups, independently of time.

**Conclusion:** Early treatment with hydrocortisone after trauma inhibits the synthesis of ROS. The results also suggest that the ERK branch of the MAP-kinase signalling cascade is an important transduction pathway in trauma. The capacity of selective ERK inhibitors to modulate the post-traumatic inflammatory response is promising, but compelling evidence of their usefulness in vivo still is lacking.

**References:** Duncia JV, et al: MEK inhibitors: The chemistry and biological activity of U0126, its analogs, and cyclization products. *Bioorg Med Chem Lett* 1998;8:2839–2844.

**Keywords:** glucocorticoids; gunshot; MAPK; reactive O<sub>2</sub> species; trauma

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### Impaired Recognition of Novelty in Rats with Mild Hypothermia Observed in Body or Brain

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**Introduction:** Optimal cognitive function is dependent on normal body/brain temperature in both humans and animals. Relatively low temperatures have been linked to cognitive deficits in humans (33°C) and in rats (30°C). A link between body and brain temperatures has been reported for the rat. The purpose of the present study was two-fold. First, it was to examine whether the two categories of mild hypothermia (32–34°C and 35–37°C) might result in cognitive impairment in a novelty test previously shown to be sensitive to subtle brain lesions. Second, it was investigated whether recording body temperature and brain temperature might yield parallel results.

**Materials and Methods:** Male Wistar rats were provided with a transmitter in the peritoneum for monitoring body temperature or a thermistor probe in the frontal cortex for monitoring brain temperature. The rats were cooled in water (14–16°C) for 6–8 min., and then were allowed to dry for 30 min before behavioral testing. Following a pre-training procedure, the rats were twice given a novelty test in which optimal performance requires the detection of a discrete novel object.

**Results:** It was found that both levels of hypothermia resulted in a decreased ability to detect environmental changes; the deepest hypothermia (32–34°C) produced the most pronounced effects. A very close correspondence was noted between body and brain temperatures and behavioral effects. In

normothermic control animals, the body and brain temperatures virtually were identical in the standardized test situation.

**Conclusion:** It is evident that a modest decline in body/brain temperature of 1–3°C is sufficient to impair cognitive functions.

**Keywords:** brain; cognition; hypothermia; temperature  
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### Reproductive Health Characteristics in the Danish Gulf War Study

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**Introduction:** An increased prevalence of neuropsychological, gastrointestinal, and skin symptoms<sup>1–7</sup> has been found in Danish Gulf War Veterans (GWV). The hypothesis was tested that the male reproductive system also could have been affected by various exposures.

**Methods:** A cross-sectional study was performed during the period of 1997 to 1998, involving 661 male subjects deployed in the Gulf between 02 August 1990 and 31 December 1997. A control group of 215 Danish military men was selected with random matching by age and type of work. All participants were interviewed based on a previously completed comprehensive questionnaire, and underwent clinical and para-clinical examinations. A venous blood sample was drawn to determine serum concentrations of the follicle-stimulating hormone, the luteinizing hormone, testosterone, serum hormone binding globulin, and inhibin B.

**Results:** No differences were found between GWV and controls with respect to any of the reproductive hormones, nor with respect to fertility or the prevalence of spontaneous abortions, congenital diseases, or malformations among the offspring. Also, cohabitational characteristics were similar. These results are in agreement with later unpublished data from an explorative, tentative study looking at specific diagnoses in children of GWV and in those of controls. Only self-assessed sexual problems were more prevalent among GWV, 12%, as compared with 3.7% among controls,  $p < 0.001$ . A statistically significant association was found for self-reported sexual problems and psychological exposures related to specific traumatic events during deployment.

**Conclusion:** The biological reproductive health of male GWV seemed to be unaffected by their engagement in the post-war peacekeeping mission.<sup>8</sup>

#### References

1. *Dan Med Bull* 1999;46(5):416–419.
2. *Ugeskr Laeger* 1999;161(39):5423–5428.
3. *Dan Med Bull* 1999;46(5):420–423.
4. *Dan Med Bull* 1999;46(5):423–427.
5. *Ugeskr Laeger* 2000;162(49):6687–6691.
6. *APMIS* 2001; 109(7–8):517–524.
7. *Dan Med Bull* 2001;48(1):29–32.
8. *Scand J Sex* 2001;1(4):43–55.

**Keywords:** health, reproductive; Gulf War; peacekeeping; resources

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### Exercise-Induced Bronchial Obstruction and Weather

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