

# BINGHAMTON UNIVERSITY

STATE UNIVERSITY OF NEW YORK

**Binghamton University study exposing people to 45 minutes per day in a Clearlight Infrared Sauna to measure the effects on body temperature, physiologic measures and long-term body weight changes.**

--Kenneth McLeod, professor of bioengineering at Binghamton University

## **Phase One (16 week study):**

Participants were exposed 3 times per week for a 45 minute infrared sauna at 110 degrees for 16 weeks. Compliance ranged from a low of 12 sessions completed to 45 sessions.

Findings: Participants who had high compliance (used the sauna regularly) had a greater loss in body fat. Participants measured up to a 4% drop in body fat over the four months. However, interestingly, those that came in late in the day or evening lost significantly more body fat than those using the sauna in the morning. The change in body fat was confirmed by measurements of serum glucose levels.

Our hypothesis is that increasing core body temperature will increase human growth hormone production and that should increase serum glucose levels, which is what was found. In addition, we observed that the higher the core body temperature reached, the larger the decrease in body fat, also consistent with the HGH hypothesis.

## **Phase Two (8 week study):**

Participants were exposed 5 times per week for a 30 minute infrared sauna at 110 degrees after 3pm. On average, the study subjects lost about 0.25% body fat per week totaling approximately 4% over 8 weeks. This resulted in approximately twice the rate of fat loss as compared to Phase 1 (8 weeks vs. 16 weeks). A control population was used in Phase Two of the study and the body fat of the control group did not change over the 8 week study.