

MENU FATIGUE DURING 70-DAY 6° HEAD-DOWN TILT: INITIAL RESULTSB. J. Caldwell¹, B. P. Halpern², K. Binsted³, and J. B. Hunter¹¹Dept. of Biological and Environmental Eng'g, Cornell Univ., ²Depts. of Psychology and Neurobiology and Behavior, Cornell Univ., and ³Dept. of Information and Computer Sciences, Univ. of Hawai'i at Manoa.**OVERVIEW**

The objective of this study was to determine whether the acceptability of foods in the diet of bed rested subjects, and subjects' willingness to eat the foods, would change during the experience of extended bed rest, to determine whether the pleasantness of food-related odors, both related and unrelated to the menu, would change during the experience of extended bed rest or isolated and confined mission analog conditions and to explore the extent to which subjects' mood and the acceptability of the day's food are correlated.

METHODS

Sixteen subjects of a 70-day HDT study at the NASA FARU in Galveston, TX, the CFT70e complement, were assigned as exercisers or low exercise controls. Of these five exercisers and 7 controls have completed the study. Subjects consumed a standard diet on an 11 day menu cycle with minimal exemptions for religious practice and for food intolerance. Each subject was polled before and after each meal for hunger/satiety, evaluating their food before the meal for appearance, aroma and their interest in consuming it, and after the meal for its appeal on a 9 point Likert scale. A survey of mood and perceived health was administered in the evening.

RESULTS AND DISCUSSION

Menu fatigue varied markedly among subjects, with about half showing no change in measures of food liking and the remainder a decrease of 1 or more points on the Likert scale over the 98 to 105 day bed rest experience. In some subjects the decline was observed across the board, continuously from the beginning of the study, but in most cases it began with an objection to a single food or beverage item part way through the bed rest experience. Loss of appeal was most commonly reported for oatmeal, egg salad, tuna salad and fish, items with initially lower approval ratings. Once an objection to a single food item was established, the discontent generally worsened and spread to other meal items. Of special note were specific instances of correlation in appeal ratings for certain foods between subjects rooming together, attributed to their informal discussions of the meal items.

Patterns of menu fatigue did not appear to be correlated with nasal cavity volume, nasal airflow rate, smelling acuity, or the ability to identify food-related odorants either orthonasally or retronasally. A weak correlation with mood was evident but the cause and effect relationship is difficult to discern.