

Medical Physiology

Renal Function Overview- Renal Handling of Increased Dietary Salt Intake

The following steps reproduce in HUMAN an experiment close to that shown in the course text Figure 26-1 ("Effects of increasing Na intake ..."). Be *careful* to follow each step *exactly* as shown as this protocol takes advantage of some 'hidden' aspects of HUMAN 9 plotting.

The protocol here is basically 4 days control->8 days on 5 times increased Na->4 days recovery.

4 days control - Set up your screen as follows and run:

The screenshot shows the HUMAN 9 software interface. The 'View Output' section at the top has dropdown menus for DIETNA, EXNA, UNA, ECFV, EXH2O, and EXER, with corresponding 'as:' options of graph or text. The 'Experiment Controls' section contains a table for changing variables:

Change Variable	Enter New Value	Info on Variable
Choose		
Choose		

Below the table, it says 'Run Experiment: for 4d minutes at 1d minute intervals.' and includes buttons for Logout, Prefs., Go, Start Over, and Expt: Save Get. The 'Help' section on the right has 'Help info on: EXUR' and 'Tips: How Do I?'. The 'View' section has 'Variable Value: ECFV', 'Patient Charts or Lab tests: Urine Specimen', 'Graph Style' set to 'Normalized, one graph', and 'Size: 600'.

8 days of salt loading via DIETNA. Set up your screen as follows and run:

The screenshot shows the HUMAN 9 software interface for the 8-day salt loading phase. The 'View Output' section is identical to the control phase. The 'Experiment Controls' section table is updated:

Change Variable	Enter New Value	Info on Variable
DIETNA	900	180 mEq/Day
Choose		

Below the table, it says 'Run Experiment: for 8d minutes at 1d minute intervals.' and includes buttons for Logout, Prefs., Go, Start Over, and Expt: Save Get. The 'Help' section on the right has 'Help info on: Choose' and 'Tips: How Do I?'. The 'View' section has 'Variable Value: Choose', 'Patient Charts or Lab tests: Urine Specimen', 'Graph Style' set to 'Normalized, one graph', and 'Size: 600'.

4 days recovery. Set up your screen as follows and run:

View Output:

DIETNA ▾ EXNA ▾ UNA ▾ ECFV ▾ EXH2O ▾ EXER ▾

as: graph ▾ graph ▾ text ▾ graph ▾ text ▾ text ▾

Experiment Controls

Change Variable	Enter New Value	Info on Variable
DIETNA ▾	180	180 mEq/Day
Choose ▾		

Run Experiment:
for 4d minutes at 1d minute intervals.

[Logout](#) [Prefs.](#) Expt: [Save](#) [Get](#)

Help

Help info on: Choose ▾

Tips: How Do I? ▾

View

Variable Value: Choose ▾

Patient Charts or Lab tests:
Urine Specimen ▾

Graph Style Size: 600 ▾

Normalized, one graph ▾

Note that in addition to the kind of information you have in the text

1) there are *other renal variables* here. How do they behave.? Can you explain their behavior?

2) there is a urine specimen at the end of each period. How many of the variables/responses in that Chart can you explain based on your reading thus far?