

Renal Vignettes

Thirst Stimulation By Hypovolemia

HUMAN vignettes are brief, highly targeted exercises aimed at reinforcing single basic physiological points. The student may then continue to explore by further modifying the experimental design as they wish.

Responses via the extracellular fluid regulation mechanisms involve the coordination of both renal output and fluid input (e.g. drinking).

Below you induce a hypovolemia and follow both fluid intake and fluid output to obtain an appreciation of their coordination.

We deplete blood volume via hemorrhage and then monitor fluid intake in addition to fluid output. [Further discussion of this topic can be found in Guyton 361].

Below please find the experimental protocol to carry out this investigation. Note well that *you should understand each of the variables employed*; use Help info on: or from a Help screen pick the View summary of [all variables](#) link.

The screenshot shows a software interface for a physiological simulation. It is divided into several sections:

- View Output:** A row of dropdown menus for variables: H2OIN, EXH2O, BV, AP, ADH, POSM. Below this is a row of dropdown menus for the output format: graph, graph, graph, text, graph, text.
- Experiment Controls:** A table with three columns: Change Variable, Enter New Value, and Info on Variable.

Change Variable	Enter New Value	Info on Variable
HEMVOL	1000	ml
HEMMIN	10	Minutes
- Run Experiment:** Text indicating the duration and interval: "for 24h minutes at 4h minute intervals." Below this are "Go" and "Start Over" buttons.
- Help:** A section with "Help info on:" (H2OIN), "Tips:" (Hemorrhage), "View" (Variable Value: Choose), "Patient Charts or Lab tests:" (Choose One), "Graph Style" (Normalized, one graph), and "Size:" (600).

Comment of the coordination of input and output regulation.