

Renal Vignettes – acid base balance

Primary Respiratory Alkalosis

HUMAN vignettes are brief, highly targeted exercises aimed at reinforcing single basic physiological points. A fuller more open ended exercise in acid-base balance can be found in the Acid-Base Balance exercise link on this same page.

A respiratory alkalosis may be induced in HUMAN by assuming control of the model's respiration (artificial respirator) and hyperventilating the model as follows:

a) Set tables under View Output: for acid-base output (and possible use in plotting on a Davenport diagram)

PH, PCO2A, BICARB, AVENT, VENT, UPH (note: look each of these up in Help info on:)
In Patient Charts .. on *each* run ask for a Lungs & Ventilation Summary.

Now execute a baseline run running for 60 min. w/ 15 min. between printouts.

b) Set the artificial respirator (note: look up ARVOL, AART & ARTRES in Help info on:)

1) Set ARVOL (750) ml & ARRT (15) & run for 0 min, 0 min. between printouts.

2) Turn on respirator ARTRES(1) & run for 1H with 10 min. between printouts.

d) Characterize acid-base status at 10 min. & 1H (by a Davenport plot if appropriate), identify the primary acid base problem and characterize the degree of compensation if any.

The screenshot displays the 'View Output:' section with dropdown menus for PH, PCO2A, BICARB, AVENT, VENT, and UPH, each set to 'text'. Below this is the 'Experiment Controls' section containing a table for variable settings and a 'Run Experiment:' section with input fields for time and intervals, and 'Go' and 'Start Over' buttons.

Change Variable	Enter New Value	Info on Variable
ARVOL	750	500ml
ARRT	15	12 per Min

Run Experiment:
for 0 minutes at 0 minute intervals.

Go Start Over

Help
Help info on: ARTRES
Tips: Artificial Respirator

View
Variable Value: Choose
Patient Charts or Lab tests: Lungs and Ventilation Summary
Graph Style Size: 600
Normalized, one graph