The Ghost in the Machine Can Be Exorcised

R.M.		Rault
R.	Robert	Bennett
E.	Elijah	Valentine
W.	William	Willingham
B.	Bonnie	Freed
P.	Patti	Gurgiolo

Renal-Electrolyte Division, UPMC Dialysis Center, University of Pittsburgh School of Medicine, Pittsburgh, Pa., USA

Prof. R.M. Rault, Renal-Electrolyte Division, University of Pittsburgh School of Medicine, F I 159 Presbyterian University Hospital, Pittsburgh, PA 15213 (USA)

Dear Sir

The introduction of new technology into a dialysis unit is often associated with difficulties not anticipated by either the manufacturer or the purchaser. To illustrate this point, we would like to draw your readers' attention to a recent problem encountered in our center. Two years ago we decided to replace our single-patient dialysis machines with a more advanced model. The new machine offered the following advantages: ultrafiltration control, computerized monitoring, a video display and various automated functions. Following a period of orientation for the nurses and technicians, the machines were utilized regularly and the usual teething troubles emerged. One was of particular concern and, at first, baffled both the staff and the manufacturer's representative. On more than 10 well-documented occasions, the unit ceased functioning and the computer screen went blank. There had been no interruption of the power supply and the treatment could be resumed shortly afterwards with the same machine, but the computer memory for the 'pre-blackout' stage was lost. Later, it was noted that the computer screen lights up

again after about 10-15 s and by pressing the 'continue' button, the memory is preserved. The apparently random nature of these occurrences and the absence of an obvious technical fault in the equipment seemed to defy rational analysis and led some of us to invoke 'a ghost in the machine'. Eventually, careful review of the events surrounding these occurrences indicated that sometimes a staff member had brushed against the machine or had pulled the bedside curtain immediately beforehand.

After much discussion between the staff and the manufacturer, it was suspected that release of static electricity might be the culprit. An antistatic device (ESD suppression core) provided by the company was installed in the back of each machine and the problem resolved.

However, we recently noted 3 further occurrences in a new machine in which the antistatic device had inadvertently been omitted. Mechanical failures are disconcerting for patients and staff and, since this particular one is readily prevented, we feel that our experience may be of interest to other dialysis units.

© 1995 S. KargerAG, Basel
0028-2766/95/0703-0387
\$8.00/0