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Computerized Anesthesia Record

To the Editor: — The past few years have produced a growing number of articles on how computers have been adapted for use in clinical practice. We want to report on a system that uses proprietary software to generate an anesthesia record.

The computer used is the Radio Shack® Model 100, which is lightweight and portable. It offers several advantages over its larger relatives, most notably, that it has batteries, which allow it to be operated without a power cord and to retain data in its memory while shut off. It rests on the anesthesia machine without obscuring gas gauges or monitors and is easily transportable to recovery room or intensive care unit for final patient evaluation. Despite its compactness, it can drive the same peripherals used by other personal computers.

The computer's liquid crystal display lists subsections of a typical anesthesia record in menu fashion. Once a subsection is selected, the user is prompted to make data entries and also is instructed on how to make them. The operation of the computer becomes familiar in about the same time it takes to learn a video game.

Vital signs data may be entered manually or automatically through the RS-232 interface. This acquires the information from any equipment with a compatible interface. Products that currently or soon will have this capability include monitors, both invasive and noninvasive, mass spectrometers, anesthesia machines, infusion pumps, and even urimeters. The internal clock of the computer assures the timely acquisition of the data without disrupting any ongoing activity.

The system has been designed for flexibility, in that it visually reminds the user to input information but does not require that any entry be made. Furthermore, entries can be made in any order at any time before, during, or after the case. The machine allows full editing of any data, whether entered manually or automatically. Residents or student nurses can devise anesthetic plans that then could be altered if necessary.

Printing of the record takes place outside of the operating room, which means virtually noise-free operation during the case. A Hewlett–Packard® 7470A plotter prints the record with accuracy and clarity, heretofore unattainable. It is equipped with two pens of optional colors, which allow the fixed portions of the record to be plotted with one color and the variable data with another. Any number of identical copies can be made as well as stored on tape or disc. Figure 1 shows a sample record generated by the system. Unlike preprinted records, no information is included unless it has been entered purposely.

What is the cost-benefit of the computerized record? No definitive study has been done. A more legible and accurate record is a better defense in malpractice suits. Use of the automated record therefore may even decrease malpractice premiums.

The software can be obtained from United Medical Technologies, 848 Walnut Street, Allentown, Pennsylvania 18102, for $2,000. The computer and plotter can be purchased for about $2,100.

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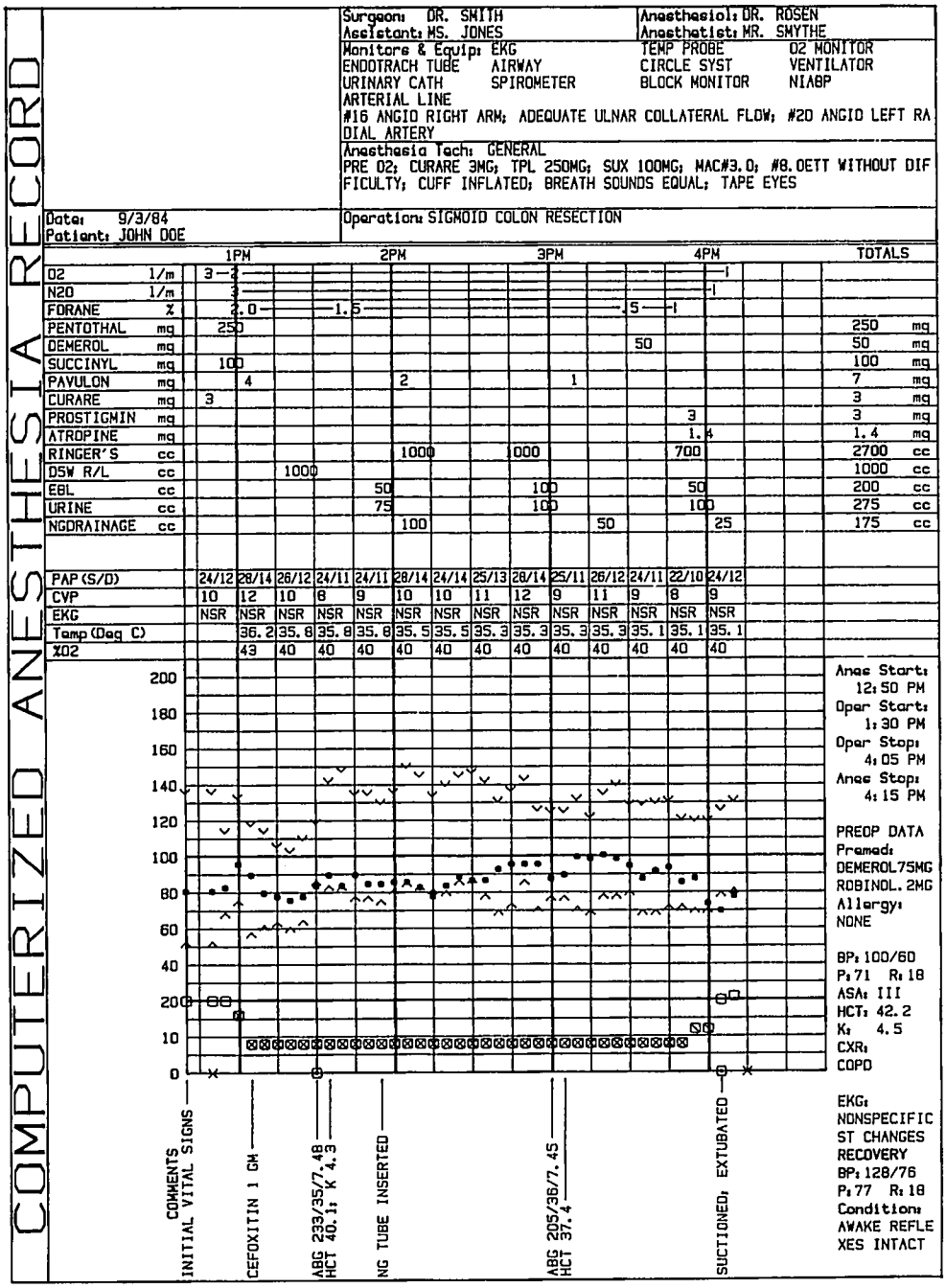

FIG. 1. Sample record generated by system.