

An Improved Anesthesia Record

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Of the more than 60 specialties of medicine, anesthesiology, perhaps more than most, recognizes the value of concise, accurate and complete records. Typically, the anesthetic record reports the events of only a brief time span of the total period of any hospitalization, but this page contains more data per inch of space than any other single document in the hospital chart.

At the Ellis Fischel State Cancer Hospital (EFSCHE) we are in the process of revising all clinical records to make them easier to use and more adaptable to electronic data processing. We felt the anesthetic record provided an opportune point from which to begin. We therefore have examined the design of this record form as it is currently used in 15 large medical centers in the United States. From our distillation of the best features of each we have been able to produce and test a new anesthetic record which we think is a considerable improvement over what has been used before. The purpose of this presentation is to describe this new record so that it may be examined critically and perhaps adopted by others.

METHOD AND MATERIALS

Anesthesia record forms from 15 departments of anesthesiology were examined. Their contents were found divisible into the following general categories: 1) Who was the subject? 2) What was the subject's condition? 3) What precautions did the condition merit? 4) What was done? 5) How was it done? 6) What was the result? 7) When did each event occur?

Because we wished to keep narrative content to a minimum, elements of each category were selected according to their frequency and

structured so that each could be recorded by a check mark or number. The multiple-choice format not only makes input quicker but also eliminates misspelling, illegible entry, voids due to forgetfulness, and delay and tedium in data retrieval.

Few practitioners can be expected to know the code numbers for the names of surgical operations. Therefore, this element was retained in narrative form and provided with adequate additional space to permit a stenographer to label it later with the proper code. At EFSCHE all operating-room personnel have on file nine-digit rotating-wheel rubber stamps of their social security numbers. With this tool all necessary personnel involved are recorded easily and accurately on each anesthesia record as its preparation is started. All patients at the hospital are identified by addressograph plates which also have data in numeric form.

At the outset we realized it would be impossible to structure every possible element. Therefore, a third of a page of the record was left blank for narrative input. Where narrative is necessary, each entry is numbered, its time-of-appearance is signaled numerically from the time record of physiologic events of the operation.

A trial was made at recording blood pressure, pulse and respiration directly in numbers on a graph. This innovation was abandoned because our personnel preferred the standard method which depends on lines and symbols and is converted back to numbers mentally by the user. Fluids, agents, other drugs and major activities are recorded numerically (vertically) in five-minute intervals—a time increment judged sufficiently small for most requirements.

In designing the form we separated the several categories into two classes and placed those having greatest immediate need during the conduct of anesthesia on one side of the page and the remaining data on the other. In this way, the anesthetist does not find it neces-

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sary to turn the page frequently while recording data derived in the operating room. To make the final product attractive and easy to use, each category was set off in bold blocks. The form is printed in black ink on white, 28-pound ledger stock. This tough paper is

available but not unduly expensive. A numbered acetate overlay guide and code are available for the keypunch operator when the data is to be analyzed with the computer.

The final form has been in use for nine months and serves its purpose well.

Protective Draping of Patients for Surgical Operations on the Chest

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Protecting the patient's head and upper airway during thoracic and upper abdominal surgery is a problem for both surgeon and anesthesiologist. For the safety of the patient, the anesthesiologist must be able to ensure an adequate airway at all times. He must have access to the endotracheal tube with enough room to be able to replace it in the midst of the procedure if necessary without disturbing the sterility of the operative field. Present protective shelves all fit into place in a vertical manner and can be removed only by lifting them vertically from the fixed position. Removal of the shelf during the procedure is cumbersome and unsatisfactory. The drapes must be removed and the sterility of the field compromised.

We have designed a protective frame (fig. 1) which has the following features: 1) The horizontal portion of the lightweight protective plastic shelf (fig. 1A) slides into its locked position parallel to the tabletop. If the need to remove this shelf arises, it can be unlocked and removed quickly. 2) The vertical supports (fig. 1B) are scored so that they can be securely fastened in the special rail extensions (C). Shelf (A) provides a stable and safe leaning area or instrument tray for the surgeon. 3) An "ether" screen or drape support (fig. 1D), attached to the same vertical support, is

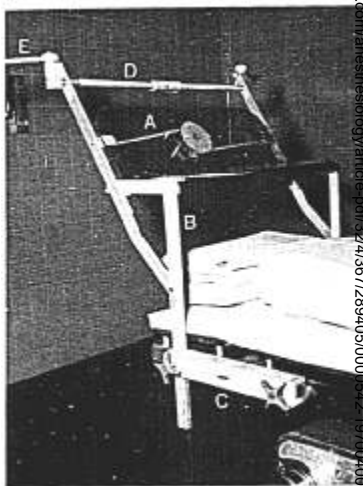


FIG. 1. Protective operating-table screen. See text for details of A-E.

provided to fasten the drapes above the protective shelf. The anesthesiologist has adequate access to the patient's airway without imperiling the sterility of the surgical field simply by removing the shelf. 4) The drape support has arms (fig. 1E) which extend on either side of the operating table. Their cephalad angulation ensures adequate room for the assistant surgeons.‡

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