

A COMBINED KEYSORT ANESTHESIA AND RECOVERY  
ROOM RECORD \* †HUBERTA M. LIVINGSTONE, M.D.; WARREN K. WILNER, JR., M.D.; MARGARET P.  
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THE direct recording of all important anesthesia data on special cards which can be sorted at a later date for compilation of statistics or evaluation of clinical experiences has definite advantages. In addition to its educational value such a procedure is time-saving owing to the simplicity of charting, punching and sorting.

Nosworthy (1), in 1943, introduced an anesthesia record which combined the clinical anesthesia chart with a simple means of classifying pertinent data. Pender (2), in 1946, devised a card which allowed for greater scope and amount of detail but necessitated the use of a separate code card, which was a modified form of that employed with the more complicated Hollerith punch card system (3, 4). Conroy, Cassels and Stodsky (5), in 1948, developed the Chicago Keysort Anesthesia Record which provided a larger graph and opportunity for a more detailed record, not only of the course during anesthesia but also of the preoperative and postoperative periods.

The advent of the recovery room has made it possible to observe and record more accurately and in greater detail the important events during the immediate postanesthesia period. Special forms for recovery room records have been devised (6). More recently it has seemed advisable to incorporate the recovery room record as an integral part of the complete anesthesia record. Such a combined record has proved useful and we wish to discuss briefly its structure in this communication.

The combined anesthesia and recovery room record (fig. 1) has the same general appearance as the Chicago Keysort Anesthesia Record. It differs essentially in that considerably more detailed information concerning particularly the course in the operating room and the recovery room can be recorded in the same space. The record is printed on both sides of cream-colored Manila cardboard measuring 11 by 8¼ inches, which is surrounded by holes for subsequent punching. White paper copies of the obverse and reverse records, with the marginal punching holes eliminated, are glued firmly along the top edges to

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The form is titled "ANESTHESIA RECORD" and is designed for use in an operating room and recovery room. It includes the following sections:

- Patient Information:** Name, sex, age, date of birth, and hospital number.
- Procedure:** Type of operation and surgeon's name.
- Vital Signs Grid:** A large grid for recording heart rate, blood pressure, and respiratory rate at 15, 30, 45, and 60-minute intervals.
- Physiological Data:** Fields for pulse, temperature, and oxygen saturation.
- Medication and Anesthetics:** Sections for recording administered anesthetics and other drugs.
- Operative Details:** Fields for the type of operation and the anesthesiologist's name.
- Checkboxes:** Numerous circular checkboxes for recording specific events and observations throughout the procedure.

FIG. 1. A combined anesthesia and recovery room record.

permit the use of a carbon for the double recording of all data. One sheet of carbon paper is supplied with this combination and is transferred from side to side as needed. These two original white paper copies provide a complete record of the course of the patient in both the operating room and the recovery room, and accompany the patient

as an integral part of the chart. At the same time complete records in carbon, on both sides of the one Manila card, are available for punching, sorting, filing and future study in the department of anesthesiology.

In order to make the record more compact, the name and personal identification of the patient appear on both sides of the card but in as abbreviated a form as is compatible with correct identification of the individual.

In addition to the information which appears on the Chicago Key-sort Anesthesia Record the following have been added: headings for the use of ethylene, helium, continuous spinal, saddle block, unilateral spinal block or sitting position. A recording and coding can be made if an adrenergic drug is employed before anesthesia, during operation, or added directly to the anesthetic drug. In addition to the use of a code number to identify the anesthetist, provision is made for a code number for the surgeon. The graph has been enlarged to cover a four-hour anesthesia period.

A coding area has been included for the recording of the kind and amount of parenteral therapy, including normal salt solution, dextrose solution, plasma, blood or other substances. The condition of the blood as regards anemia, blood dyscrasia, positive serologic findings and the presence of isotopes is also added for coding purposes. The coding for site of operation has been increased to include pancreas and spleen.

All previous anesthetic history, preoperative complications and the preanesthetic summary are included on the obverse side of the card. These headings appear above the graph and necessitate the recording of only the positive history and preoperative findings in relationship to the various systems, which in turn may be punched as major or minor complications of these systems.

The reverse side of the card which is devoted entirely to the post-operative period includes headings for detailed notation of the events during this period (fig. 2). Above the graph appear the names of the nurse and the anesthetist in the recovery room, and a space for the recording of the time and condition of the patient both on arrival and departure from the recovery room.

The graph provides for a four-hour period of blood pressure, pulse and respiratory observations made at ten-minute intervals. Below this graph is the infusion record for the recovery room period. Spaces are provided for the recording of the patient's blood type, kind of and amount of each type of fluid received, and the time it was administered, as well as the transfusion number and any notation in regard to reactions to the infusion or other observations.

To the right of the graph is a space for the intern to write and sign the orders for specific management in the recovery room.

Below the infusion record is an area for notation of the time of return of consciousness or sensation, and the frequency of nausea or emesis. In addition, there is a table for the recording of additional

UNIT NO. **POST OP. RECOVERY RECORD**  
UNIVERSITY OF CHICAGO CLINICS

PATIENT NO. **BYSTION** **NUMBER**

RECOVERY ROOM NO. **RECOVER ROOM**

TIME & COMMENTS **TIME & COMMENTS**

[Large empty grid for patient monitoring]											
SIGNED ORDERS											

15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

**INFUSION RECORD** **PATIENT'S BLOOD TYPE**

FLUID	TRANSFUSION NUMBER	TYPE	WITH PLASMA (Y/N)	TIME BEGAN	REACTIONS AND DELAYS
STATE BLOOD PLASMA, SALINE, DEXTROSE, ETC.					

**RECOVERED** **RESENSATION** **AT** **TIME** **REACTED** **(THRESH)** **(THRESH)**

**CONSCIOUSNESS** **AT** **TIME** **(THRESH)** **(THRESH)**

TIME	DOSE TITRATED & COMMENTS	THERAPY (DRUGS, OXYGEN, ETC.)	REMARKS

**P O COMPLICATIONS & TIME**

TEMP \_\_\_\_\_

HR \_\_\_\_\_

S.P. \_\_\_\_\_

CO<sub>2</sub> \_\_\_\_\_

RESPIRATIONS - PER MIN \_\_\_\_\_

ECG \_\_\_\_\_

FLUENCY  YES  NO

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FIG. 2. Reverse side of record card shown in figure 1.

observations or therapy, such as the administration of drugs, oxygen, Wangensteen or chest suction, body temperature, skin condition, and so forth, including the time specific observations were made, treatments instituted or discontinued.

Below this table appears a space for the recording of postoperative

complications after the patient has left the recovery room, including the specific system involved, time of complication or death and autopsy report.

Around the edge of the reverse side of this card it is possible to code and punch the following material for later studies: condition on arrival and departure from the recovery room, type of oxygen therapy administered, degree of nausea or vomiting, time of return of consciousness or sensation, patient's blood type, kind of parenteral therapy received, system involved and time of postoperative complication, and in the event of a fatality, whether or not an autopsy was performed. With the use of this card it is necessary to hand-sort if a study of a specific complication of any one system is desired. It is thought that such hand-sorting is not disadvantageous.

After the patient has been discharged from the hospital, or after all possibility of complications is past, the anesthetist who has been responsible for a complete recording of the entire course of the patient then punches the card and files it for future sorting and study. The punching of this card is performed the same as with the Chicago Keysort Anesthesia Record, and requires a minimum of time. These Manila cards must be carefully filed and handled so that the corners do not bend. Sorting may be performed either with the use of special needles or by a portable sorting machine.

#### SUMMARY

A single card for the coding, detailed case recording and sorting of data concerning the course of surgical patients previous to and during the operation, in the recovery room, and during the later postoperative period is presented. With the use of a carbon, simultaneous records are made for inclusion in the patient's chart. Such a record entails the minimum of expenditure of time for anesthesiologists and surgeons. It eliminates duplicate charting for the nurses during the postoperative recovery period, and yet provides a complete, more detailed and readily accessible reference both in the patient's chart and in the anesthesia office for later study. This card should provide a means of making better records as well as more frequent and thorough evaluation of clinical results.

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