

Providence Anesthesiologists, Inc.

RESIDENT ORIENTATION MANUAL

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Table of Contents

	<u>Page(s)</u>
I. DEPARTMENT OVERVIEW	1
Personnel	
Departmental Affiliations	
Clinical Practice Locations	
Continuing Medical Education	
II. CLINICAL RESPONSIBILITIES	3
Daily Schedule	
Room Setup	
Pre-op Routine	
Intra-operative Routine	
III. MISCELLANEOUS TACTICAL ISSUES.....	6
Directions	
Parking	
Hospital Access	
Anesthesia Workspaces	
Call Room	
IV. COMPUTERIZED ANESTHETIC RECORD SYSTEM	8
Overview	
Login	
Environment	
Admission	
Pre-op	
Intra-op	
Events	
Print	

I. DEPARTMENT OVERVIEW

PERSONNEL

The Department of Anesthesia at Rhode Island Hospital is managed by a professional service corporation, Providence Anesthesiologists, Inc. (PAI). PAI is comprised of nearly 35 physicians, 33 nurse anesthetists, three administrative assistants, and two anesthesia technicians. Those personnel critical to the resident's experience include the following:

Department Chair:	Richard Browning MD
Director of Education:	Hugh Cowdin MD
Clinical Directors:	Gregory Towne MD Jonathan Uri MD Lee Wesner MD
Administrative Asst:	Cindy Brewster

PRACTICE PARADIGM

Clinical anesthesia practice at PAI includes both MD anesthesia as well as MD supervision of CRNAs in a clinical care team format. In general, and whenever possible, the MD:CRNA ratio is limited to 1:2. Attending supervision of anesthesia residents will be 1:1 whenever possible. PAI is committed to meeting all Medicare compliance requirements and stipulations.

DEPARTMENTAL AFFILIATIONS

PAI enjoys a unique academic and business relationship with Brown University. Although not a formal academic department, a significant number of PAI physicians hold clinical academic appointments to the Brown University School of Medicine. PAI is committed to Brown's academic endeavor by shouldering a myriad of teaching responsibilities. Individual research projects are supported by the corporation and the University.

Rhode Island Hospital is one of several institutions owned and operated by Lifespan, a regional healthcare system which also includes the Newport Hospital, The Miriam Hospital and Bradley Hospital. Of historical note, Tufts/NEMC was formerly part of the Lifespan system.

CLINICAL PRACTICE LOCATIONS

The **Rhode Island Hospital (RIH)** operating rooms are located on the second floor of the Davol and Bridge buildings (see Figure 1). Operating rooms 1 – 8 are in Davol and typically host Orthopedic, Plastic and Urologic surgical procedures. OR # 8 is a dedicated cystoscopy suite. Operating rooms 9 – 19 are in the Bridge, and typically host Cardiac, General, Neuro, Trauma, Thoracic and Vascular procedures (see Figure 2). OR # 13 is mysteriously absent. Reflecting its status as a Level I Trauma Center, RIH has designated OR # 15 as a dedicated trauma suite available 24/7 for true emergency surgical procedures. It is conveniently located immediately adjacent to the ER elevators. Overall, current adult surgical case volume at RIH is approximately 20,000 cases per year.

The **Hasbro Children's Hospital (HCH)** operating rooms are located just down the hall beyond RIH ORs # 4 and 5 in the Davol building (see Figure 1). The five HCH operating rooms and dedicated procedural suite are serviced by a separate control desk, holding unit and recovery room. Current case volume at HCH is approximately 6,500 cases per year, and include ENT, Urologic, Orthopedic, Neuro, Ophthalmologic and General surgical procedures.

The **Ambulatory Surgery Center (ASC)** operating rooms are located on the ground floor in the northeast corner of the COOP building at 2 Dudley Street (see Figure 1). This remote clinical location is accessed from the main hospital by a walking bridge extending over Dudley Street (parallel to the new Bridge building) and joining the COOP building on its first floor (one level above the surgicenter). The eight ASC operating rooms and dedicated lithotripsy unit host a variety of outpatient Orthopedic, Plastic, ENT, Ophthalmologic, and General surgical procedures. Current case volume at ASC is approximately 7,500 cases per year.

CONTINUING MEDICAL EDUCATION

Weekly departmental meetings are held on Wednesday mornings between 0715 – 0800, in accordance with the following monthly rotation:

- 1st Wed – business and administrative staff meeting
- 2nd Wed – faculty lecture
- 3rd Wed – Journal Club / M&M
- 4th Wed – faculty lecture

II. CLINICAL RESPONSIBILITIES

DAILY SCHEDULE

One's daily assignment is determined by consulting the handwritten schedule located in the Anesthesia Coordinator's Office at or before 0700. Notably, the schedule is dynamic and assignments may change overnight. Setting up someone else's room is a gracious but inefficient use of time.

Each **NEMC** resident will rotate through RIH for one calendar month. The schedule for CA-2 residents is designed to capture as much trauma as possible. In contrast, the CA-3 resident schedule is designed to maximize exposure to thoracic and major vascular cases. Each NEMC resident will have one weekend off during the month. Replacement day shifts will be scheduled.

CA-2:	Wednesday.....0700-1730	[7am-5:30pm]
	Thursday.....0700-1730	[7am-5:30pm]
	Friday.....1900-0700	[7pm-7am]
	Saturday.....1730-0700	[5:30pm-7am]

CA-3:	Wednesday.....0700-1730	[7am-5:30pm]
	Thursday.....0700-1730	[7am-5:30pm]
	Friday.....0700-1730	[7am-5:30pm]
	Saturday.....1730-0700	[5:30pm-7am]

Each **UMASS** resident will rotate through Rhode Island Hospital for one calendar month. The schedule will reflect five (5) weekday shifts (0700-1730), and is designed to maximize exposure to pediatric anesthetics.

ROOM SETUP

Each resident will be required to set up his/her own room. During the first several days at RIH, one may wish to arrive a bit early to facilitate timely preparation. Generic room setup will require that anesthesia machines be turned on and tested, the computerized record be accessed, and the pyxis machine be entered to allow drug preparation.

PAI uses a variety of **Drager anesthesia machines**. Although a handful of Narkomed 2Bs and 4s can still be found, the real workhorse is its newest iteration, the Apollo. This anesthesia machine offers multiple ventilation options including volume-control, pressure-control, and pressure-

support. It has a self-contained testing protocol that must be performed on a daily basis. The sodasorb has never been easier to change. And the ventilator is so quiet it requires computer-generated lip synch.

The **Innovian Electronic anesthesia record system** is deployed in each operating room at RIH, HCH, and ASC. Innovian is a touch screen computer with a retractable keyboard that is mounted on a rotating arm on the side of each anesthesia machine. Innovian is designed not only to record data accumulated during the conduct of anesthesia, but also to facilitate creation of a text narrative of events. A user ID and password is required for startup, and a working environment must be chosen to arrive at the starting point of each case. Detailed operating instructions are available for your review (See Section IV).

All requisite medications are located in each operating room's **Pyxis** adjacent to the anesthesia machine and equipment cart. Individual user ID and access codes will be assigned on arrival. Additionally, there are two generic Pyxis machines for general use located in the Bridge and Davol buildings.

PRE-OP ROUTINE

Surgical patients typically arrive in the Holding Unit at 0700, where pre-operative anesthetic evaluations are performed, lines are placed, and sedative is administered. Full monitoring is available at each patient station. Several equipment carts are on site to facilitate IV and arterial line placement. Central lines and PA catheters are placed in the operating

room. A regional anesthesia cart is also on site in the Holding Unit to facilitate epidural and peripheral nerve block placement.

Two mandatory protocols deserve special mention. The first is the **“Site Verification” protocol** required prior to the performance of any peripheral nerve block. This protocol stipulates that the anesthesia provider confer with a Holding Unit nurse to verify the appropriate block site, based on written informed surgical consent as well as the patient’s own verbal acknowledgement. The second is the **“Sign-Out” protocol** required before moving a patient from the Holding Unit into the operating room. This protocol stipulates that the anesthesia provider confer with a Holding Unit nurse to verify that the right patient is going to the right operating room for the right surgical procedure with the right surgeon. Or left, as the case may be.

INTRA-OPERATIVE ROUTINE

In a perfect world, first-case patients will enter their respective operating rooms at 0745. It is courteous to check with the RN in the OR prior to transferring the patient. The attending surgeon is required to perform the **“Patient ID” protocol** with the circulating nurse and anesthesia provider before general anesthesia is induced. The attending anesthesiologist must be present for induction and emergence. It is expected of all residents that attending anesthesiologists be consulted regarding all major decision points during the conduct of anesthesia. Text-message paging is available within the Innovian electronic record system on each anesthesia machine.

An **Airway Cart** is available in the anesthesia workroom located along the back hall of the Bridge building, opposite the entrance to OR#16. An assortment of airway devices are stored in this cart, including fiber optic scopes and battery packs, intubating LMA’s, Trachlight lightwands, Cook and Aintree catheters, a Bullard, a Shikani, and several Melker cricothyrotomy kits. Note that the anesthesia technicians are trained in the cleaning and sterilization procedures for these multi-use devices.

As per local custom, **Cell Saver** operation is the responsibility of the anesthesia provider. An in-service regarding set-up and operation of this machine will be provided.

In accordance with corporate policy, anesthesia providers can reasonably expect a 15-minute morning and afternoon break, as well as a 30-minute lunch. The hospital cafeteria and Au Bon Pain are available for service on the first floor of the main hospital. Feel free to brown bag it, as refrigeration is available in the anesthesia office.

POST-OPERATIVE ROUTINE

Anesthetic records will print in the Davol PACU. These are to be reviewed and signed after admission vitals are recorded. A succinct report will be given to the cognizant PACU RN. The attending anesthesiologist is responsible for writing post-op orders and signing for PACU discharge.

III. MISCELLANEOUS TACTICAL ISSUES

DIRECTIONS

Toward RIH from I-95 southbound, take Exit # 19 (Eddy Street). The traffic light at the end of the ramp marks the intersection of Dudley and Eddy streets. From here, the Lifespan campus sprawls in three directions (see Figure 3).

Leaving RIH toward Boston, the most direct way to access I-95 north is to head south on Eddy Street for about one mile. At the Thurbers Avenue traffic light, turn left and proceed under I-95 to the northbound on-ramp (see Figure 4).

PARKING

On your first day, before you have an RIH badge, take a right from the Exit # 19 off-ramp onto Eddy Street and a quick left into the hospital's main entrance. Park in visitor's Lot A on the right, and the ticket will be validated in the anesthesia office (see Figure 5).

Once you have obtained an RIH badge, all subsequent parking will be in Lot E-11 approximately four blocks straight down Dudley Street from the Exit # 19 off ramp.

HOSPITAL ACCESS

Access to RIH parking as well as most hospital buildings will require an RIH badge. This photo ID will be obtained from the security office on your first day, and should be kept on your person at all times.

ANESTHESIA WORKSPACES

The Anesthesia Office is located in Davol # 129 (see Figure 6). The male and female locker rooms are directly across the hall. The access code for both is **4152**. A locker will be provided. Bring your own lock. Scrubs are available in the surgical lounge immediately adjacent to the locker rooms. Hats and masks are also available in the lounge. Shoe covers are not required. The operating rooms are up the stairs at the far end of the lounge. The Anesthesia Coordinators Office is next to the OR desk, between the Davol and Bridge buildings.

CALL ROOM

Currently Room # 42 in the **Gerry House** residence hall is the assigned call room (see Figure 5). Given the circuitous underground route, however, it is wise to have Security or Anesthesia staff escort you on your first visit.

MEETING ROOM

Room 139, just down the hall from the Anesthesia Staff Office (see Figure 6), serves as a dedicated anesthesia meeting room. Lockers are also available for student use. The keypad access code for Room 139 is 1-9-5-3.

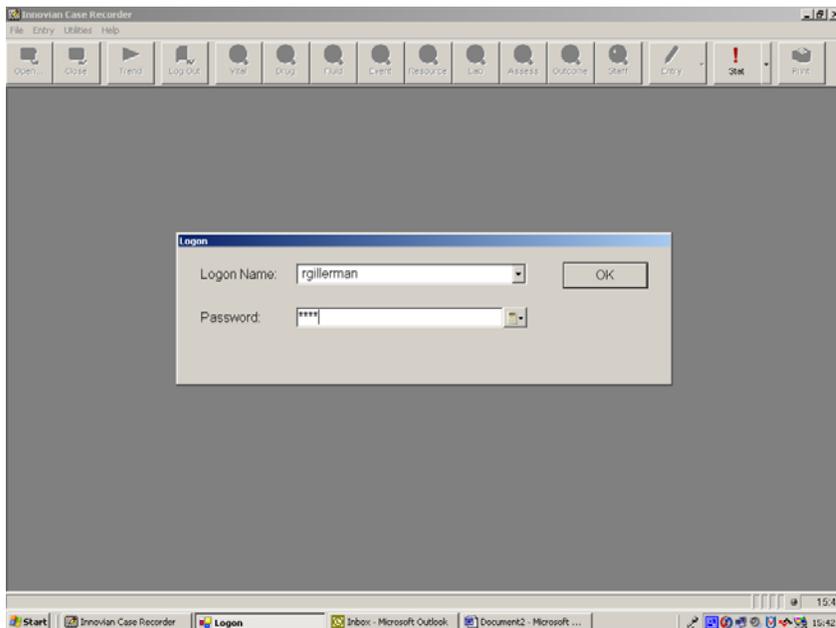
IV. COMPUTERIZED ANESTHETIC RECORD SYSTEM

OVERVIEW

Mastering this computerized record system will be your biggest challenge here at RIH. You will find, however, as we all have, that this system allows the conduct of a more vigilant anesthetic while generating a more accurate record of events. The purpose of this primer is to introduce you to the system and thereby facilitate its assimilation into your practice.

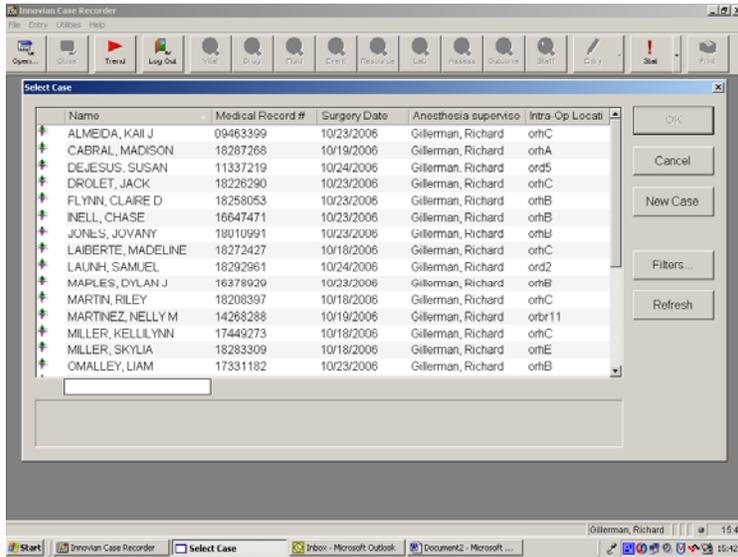
LOGIN

Your **user ID** is simply the initial of your first name followed by your last name (in lower case). Your **password** will be one of your choosing after initial logon. Then press the “Open” toolbar key.



LOGIN (continued)

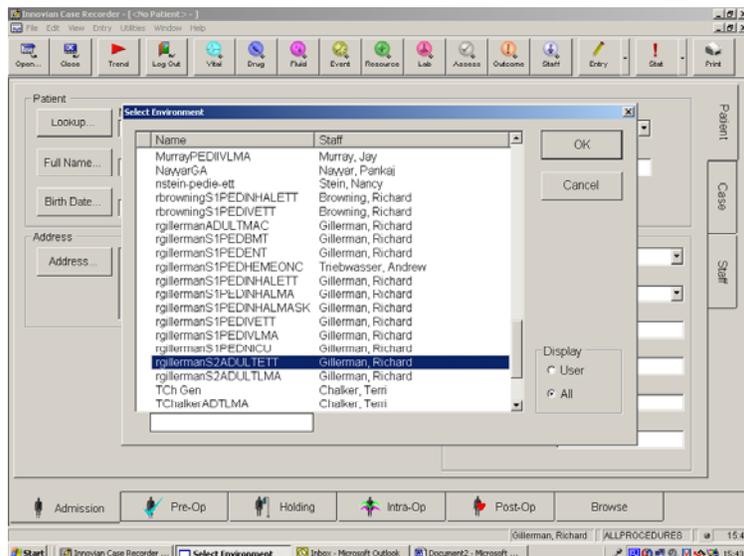
To initiate a new anesthetic record, highlight the patient name and hit “Enter.” If patient name does not appear in the list, then press the “New



Case” tab.

ENVIRONMENT

Once logged in, you will be prompted immediately to choose an environment. This is a pre-programmed framework upon which to build each individual anesthetic record. There are dozens from which to choose. My recommendation is to choose one and stick with it for the entire month. **rgillermanS2ADULTETT** works for me. **rgillermanS2ADULTLMA** would be the appropriate alternative in selected clinical situations, as would be **rgillermanADULTMAC**. An environment is designed to pre-select event notes and organize the chart in terms of drugs / fluids / monitoring data that will ultimately comprise the printed record.



ADMISSION

This section is critical in that it identifies the data being collected for this particular case. Should the system shut down for any reason, the data already collected is irretrievable without patient demographics. Therefore, the requisite information herein should be entered sooner than later.

The **Patient** demographics page will auto-load with the entry of your patient's medical record number.

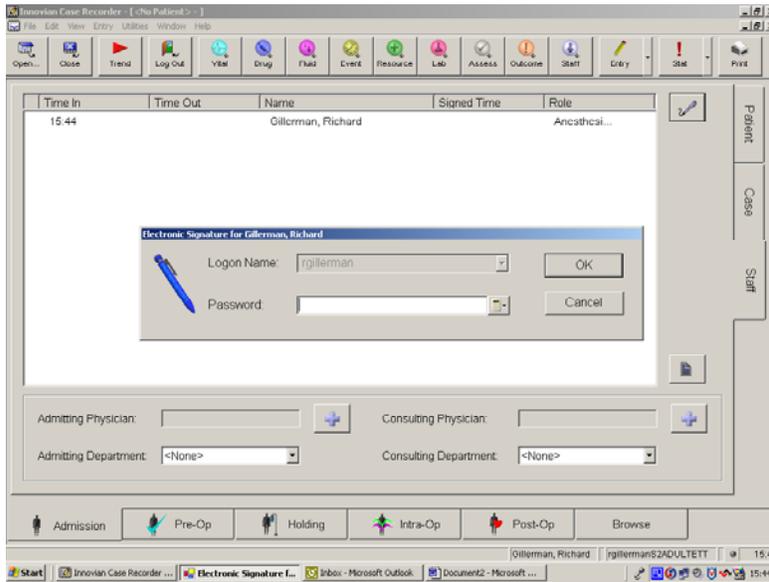
The screenshot shows the 'Patient' demographics page in the Innovian Case Recorder software. The page is divided into several sections: Patient Information, Address, and Contact Information. The Patient Information section includes fields for Medical Record #, Social Security Number, Gender, Marital Status, Full Name, Alias, Maiden, and Birth Date. The Address section includes a text area for the address. The Contact Information section includes fields for Referring Physician, Referring Group, Contact 1 Name, Contact 1 Phone, Contact 2 Name, and Contact 2 Phone. A vertical sidebar on the right side of the page has buttons for Patient, Case, and Staff. At the bottom of the page, there are navigation buttons for Admission, Pre-Op, Holding, Intra-Op, Post-Op, and Browse. The software interface also shows a menu bar at the top with options like File, Edit, View, Entry, Utilities, Window, and Help, and a toolbar with various icons for actions like Open, Close, Trend, Log Out, View, Drug, Full, Eval, Resource, Lab, Assess, Outcome, Staff, Entry, Stop, and Print.

The **Case** surgical descriptor page is self-explanatory. Do not attempt to select individual diagnosis and procedure codes, rather enter a detailed text description of each. Ask the surgeon to corroborate if necessary.

The screenshot shows the 'Case' surgical descriptor page in the Innovian Case Recorder software. The page is divided into several sections: Admission Information, Surgery, Location, Patient Information, and Remarks. The Admission Information section includes fields for Account #, Type, Priority, Status, ASA Status, Date, and Time. The Surgery section includes a field for Date. The Location section includes fields for Holding, Intra-Op, and Post-Op. The Patient Information section includes fields for Diagnosis, Procedure(s), Height, Weight, BSA, and BM. The Remarks section includes a text area for remarks. A vertical sidebar on the right side of the page has buttons for Patient, Case, and Staff. At the bottom of the page, there are navigation buttons for Admission, Pre-Op, Holding, Intra-Op, Post-Op, and Browse. The software interface also shows a menu bar at the top with options like File, Edit, View, Entry, Utilities, Window, and Help, and a toolbar with various icons for actions like Open, Close, Trend, Log Out, View, Drug, Full, Eval, Resource, Lab, Assess, Outcome, Staff, Entry, Stop, and Print.

ADMISSION (continued)

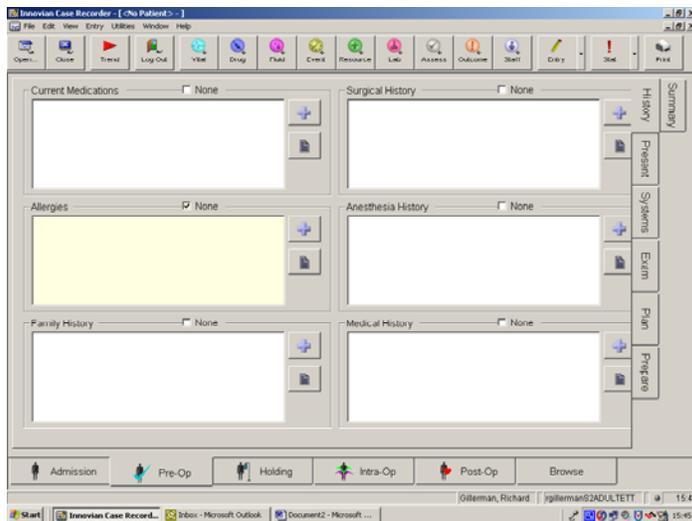
The **Staff** page requires a surgeon and anesthesiologist name entry, as well as your own. Your electronic signature is required.



PRE-OP

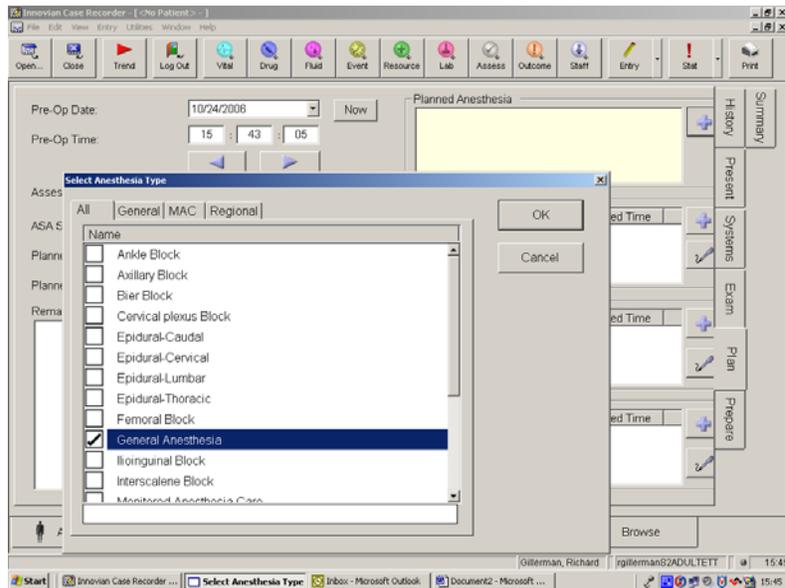
This data is not high priority, but should be entered before the end of the case, as it is requisite prior to printing the record.

The **History** page records patient allergies.



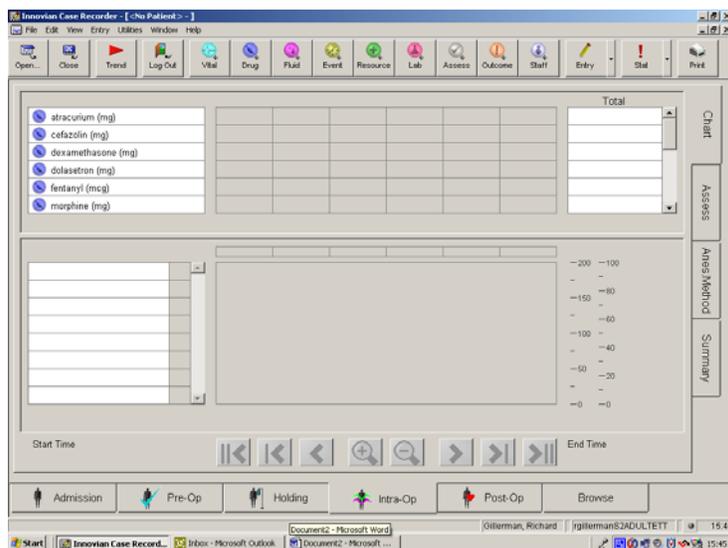
PRE-OP (continued)

The **Plan** page records your pre-operative planned anesthetic technique.



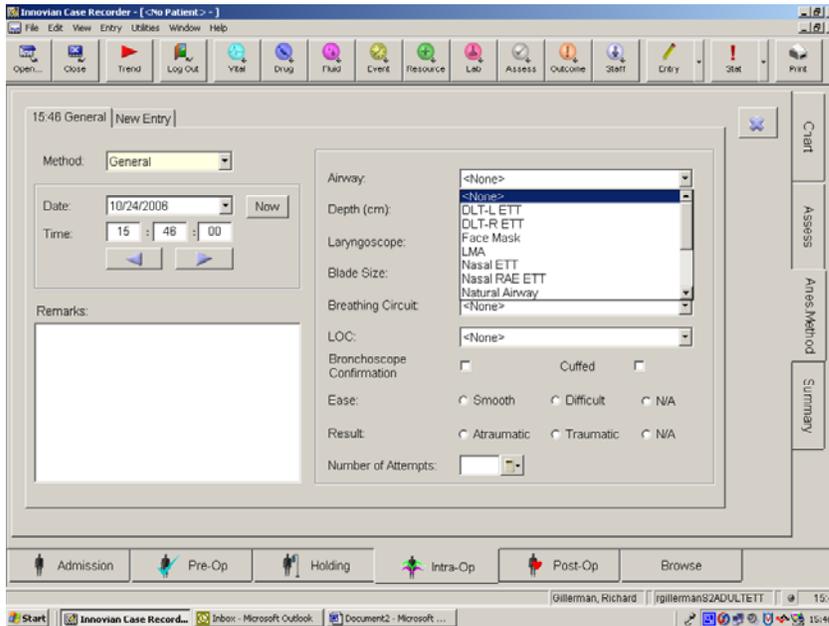
INTRA-OP

The **Chart** page allows you to view data as it will be printed on the final record. The periodicity of data recording within Gillerman's environment is 15 minutes. One may find it useful to shorten that periodicity to 5 or 10 minute increments by depressing the + icon at the bottom of the page. The division line between drug / fluid recording and monitoring data may be pulled up or down to your liking. Take care, though, not to draw the shade so low as to obscure the time line at the bottom of the chart.

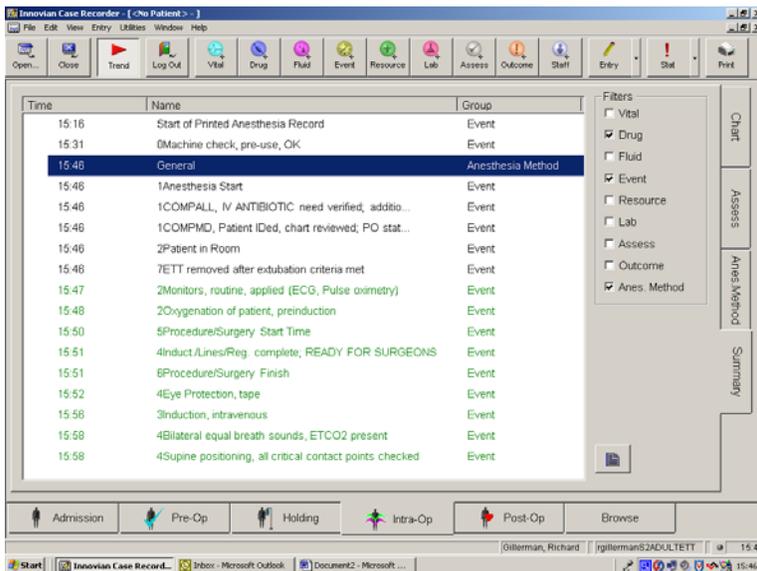


INTRA-OP (continued)

The **Anes-Method** page affords documentation not only of airway management techniques, but also of regional anesthetics performed. These entries should coincide temporally with like event notes on the events page.



The **Summary** page is where most of your efforts will be focused. It is here that one records drugs administered, fluids infused, and events performed.



INTRA-OP (continued)

The **Drugs** tab within the summary page will record the drug, the dosage and the time of administration for each documented intervention. Each drug administration will also automatically show up on the chart page in its appropriate place along the time line. Documentation of drug administration is made by pressing the **Drug** key along the toolbar at the top of any page (which is to say that drug administration may be documented no matter what page is being displayed).

The **Fluids** tab within the summary page will record the crystalloid, colloid or blood product administered, including when and how much. Estimated blood loss and urine output will also be documented. Each fluid entry will automatically show up on the chart page in its appropriate place along the time line.

The **Events** tab within the summary page will document the chronology of events as they apply to the conduct of each case. Each practitioner must find his own balance between succinct and comprehensive. The difference between environments is essentially a reflection of how each designer has struck that balance. It is worth emphasizing at this point that the anesthetic record is a legal document. It is expected that a skeleton of fundamental data and events will be recorded in each case. Fleshing the skeleton, however sophisticated, must reflect accuracy and attention to detail. If critical entries don't match up, or are missing altogether, the record will not support and defend the practitioner. If it isn't written, it didn't happen. The computerized record system is designed to help you conduct a better anesthetic, but you still have to prove it.

EVENTS

The beauty of this system is that it does not take your focus away from the patient. There are only three entries required during the induction and incision phase of the procedure, all of which may be made on the events tab within the summary page: 1) the first notes the time of patient entry into the operating room by pressing the **Trend** key on the toolbar at the top left of the events page; 2) the second notes the induction of anesthesia time by highlighting the **induction, intravenous** event and pressing the “now” button in the prompt window (alternatively, one may simply press **stat event** on the toolbar at the top right of the events page); 3) the third notes the time of surgical incision by highlighting the **Procedure/Surgery start** event and pressing the “now” button in the prompt window. With these three real-time sentinel events duly noted, one may then return and build a reasonable and accurate record at a later time during the course of the case.

The environmental design determines the event notations that appear on the events page. When the **Trend** toolbar key is pressed to initiate case recording, this is represented real-time as **Patient in room** on the events page. You will find a number of events that predate room entry along the time line, the most important of which is **Start of printed anesthetic record**. Any entries made before this time (usually 30 minutes before room entry) will not appear on the printed chart. Anesthetic evaluation and line placement should occur between these two events. Note that **Anesthesia start** should be moved five minutes back in time to account for transport of the patient to the operating room.

The time between **Patient in room** and **induction, intravenous** should include the application of monitors and pre-oxygenation prior to induction.

The time between **induction, intravenous** and **Procedure/Surgery start** should include documentation of airway management, eye protection, OGT/NGT and temp probe placement, patient positioning and Bair Hugger application, as well as antibiotic administration.

Sentinel procedural events and decisions should be documented between **Procedure/Surgery start** and **Procedure/Surgery finish**. The procedure is complete upon application of the dressing.

EVENTS (continued)

The last event recorded is documentation of airway device removal. At this point, one presses the **Trend** toolbar key to stop recording for the case. Recording cessation will automatically cause several notations to appear on the events page. **Anesthesia finish** should be moved forward along the time line only if the patient was transferred directly to an ICU. Any event occurring after **End of printed anesthetic record** will not appear on the printed anesthetic record.

PRINT

The final function to be performed before leaving the operating room is to print the record. This is accomplished by pressing the **Print** toolbar key. All of the computers in rooms # 1-19 will automatically print to the Davol PACU. Your pen-and-ink signature is required on each page of the printed anesthetic record.

Between cases, one may close the existing record by pressing the **Close** toolbar key. At this point, the practitioner may log out, or press the **Open** toolbar key to initiate a new record for the next case.