CRITIS MEDICAL SYNERGY

CritIS Anesthesia

ANESTHESIA INFORMATION MANAGEMENT SYSTEM

Revolutionizing Anesthesia Documentation for Superior Surgical Care

ISO 9001 CERTIFIED ISO 13485 CERTIFIED ISO 14001 CERTIFIED

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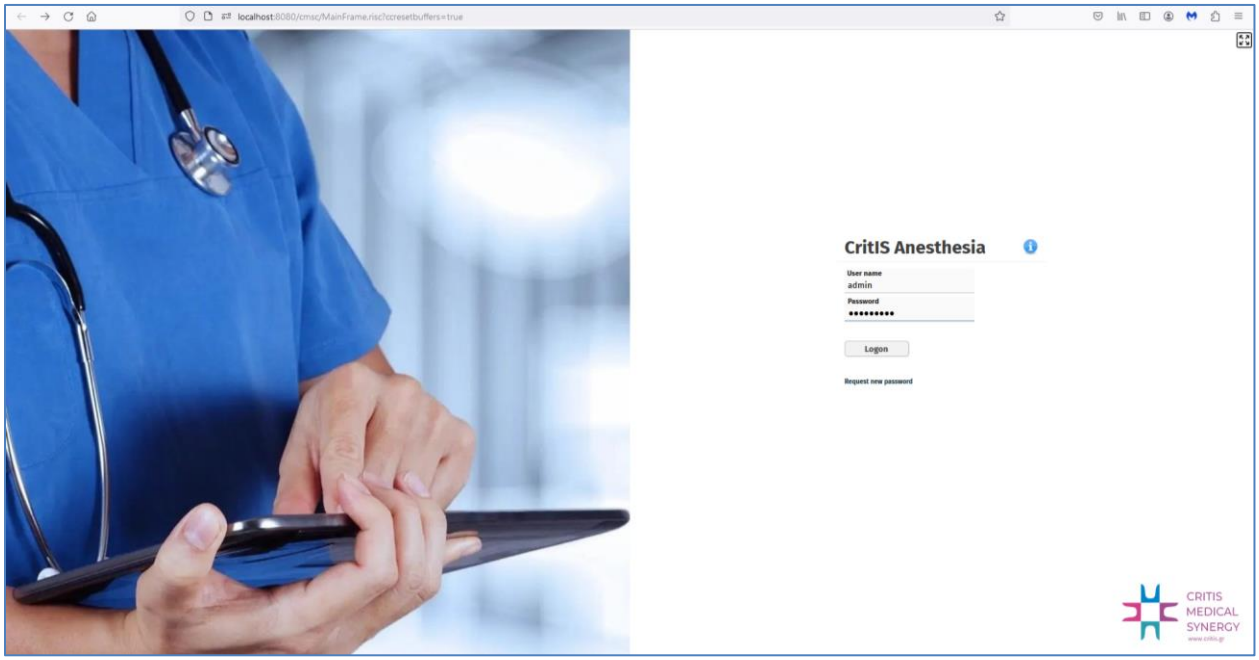
1 Introduction

CritIS Anesthesia is an integrated clinical documentation system used by anesthesiologists for documenting and monitoring their patients during the preoperative, intraoperative, and postoperative stages of surgery, automating the recording of the anesthesia log from start to finish. The system easily manages large volumes of data and consolidates essential information to create a continuous and comprehensive anesthesia chart for the patient.

CritIS Anesthesia is an information management system designed to assist anesthesiologists in accurately, comprehensively, and effortlessly documenting the patient's progress throughout the surgery, from preoperative → intraoperative → postoperative (recovery).

By integrating electronic anesthesia documentation as part of an automated perioperative solution, hospitals benefit from having a complete, reliable, accurate, and easy-to-read record of the surgical process. This enhances the quality of care provided, demonstrates a responsible approach to patient care, reduces medical liability risks, and allows the clinical documentation to be leveraged for improved financial and operational outcomes.



CritIS Anesthesia is a powerful yet highly flexible solution that consistently provides high-quality, patient-centered services, allowing anesthesiologists to focus on the patient rather than on documentation. At the same time, it ensures safety, improved quality assurance functionality through more accurate and complete records, and legal protection by providing more precise and unbiased information.

Key Features of the System:

- Intuitive design that allows for greater focus on the patient.
- Centralized management of information in one place.

- Automatic data collection from medical devices.
- Touchscreen support.
- Customizable screens.
- Personalized and encrypted security codes, with access to available functions based on the user's role.
- Web-based application accessible from anywhere and any operating system.
- Requires only a web browser (Edge, Chrome, Firefox, Safari, etc.) on the workstation.
- Open architecture and integration with other hospital systems such as HIS, LIS, and medical devices via HL7 and ASTM.
- Supports both Windows and Linux platforms.
- Wireless access via tablets, provided there is a wireless network.
- Full interface in English or another language with the ability for real-time switching.

It is worth noting that CritIS Anesthesia can integrate with CritIS Synergy+ (see https://www.critis.gr/critis.html) to meet the needs of patients postoperatively during their stay in High Dependency Units (HDU) or Intensive Care Units (ICU). Additionally, it can connect with other existing OR systems and is interoperable with all major hospital information systems via the international communication protocol HL7.

Designed as a modular application with an integrated interface platform, CritIS Anesthesia offers a simple yet highly functional interface to stored patient data, displaying it in a clinically appropriate, user-friendly, and intuitive manner. More specifically, the system consists of subsystems described in the following sections, which are provided to the client based on the specific needs and requirements of each project.

1.1 Patient Registry Management Subsystem

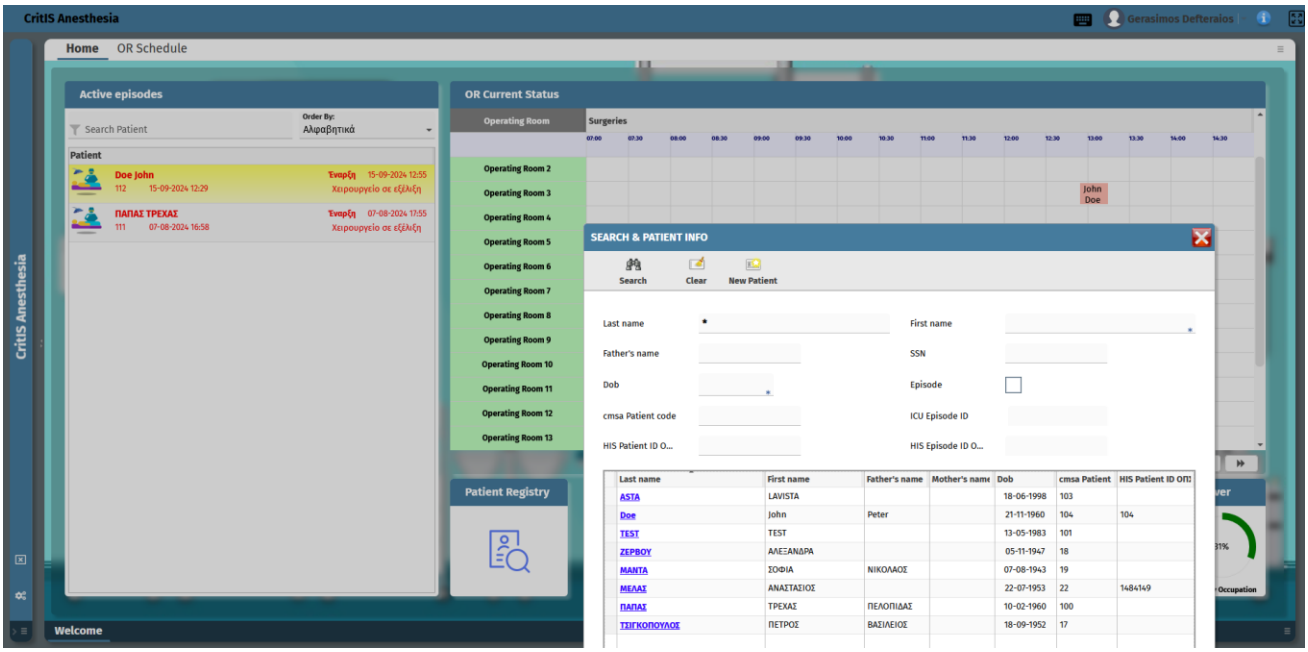
In CritIS Anesthesia, each patient is a unique entity identified by a unique identification code (or in combination with other identifiers, such as the SSN). Under the patient entity, there can be one or more "hospitalization episode" entities (unique visits), which manage and store information regarding each patient's admission to surgery and the administration of anesthesia.

Demographics, allergies, and other patient data are automatically imported through appropriate interfaces (HL7, direct database connection, etc.) from the hospital's information system (HIS), saving time, reducing errors, and freeing up staff to focus on direct patient care.

The system supports two different methods for managing admissions:

- Admission through integration with the hospital's HIS, where the HIS sends all relevant admission information (demographics, diagnoses, allergies, etc.) to CritIS Anesthesia.
- Direct patient entry into CritIS Anesthesia, with the possibility of later linking to the HIS by entering the patient's HIS codes.

Through this subsystem, users can search for patients in the registry, manage their demographic details, create new patients, view associated hospitalization episodes, and create new episodes.



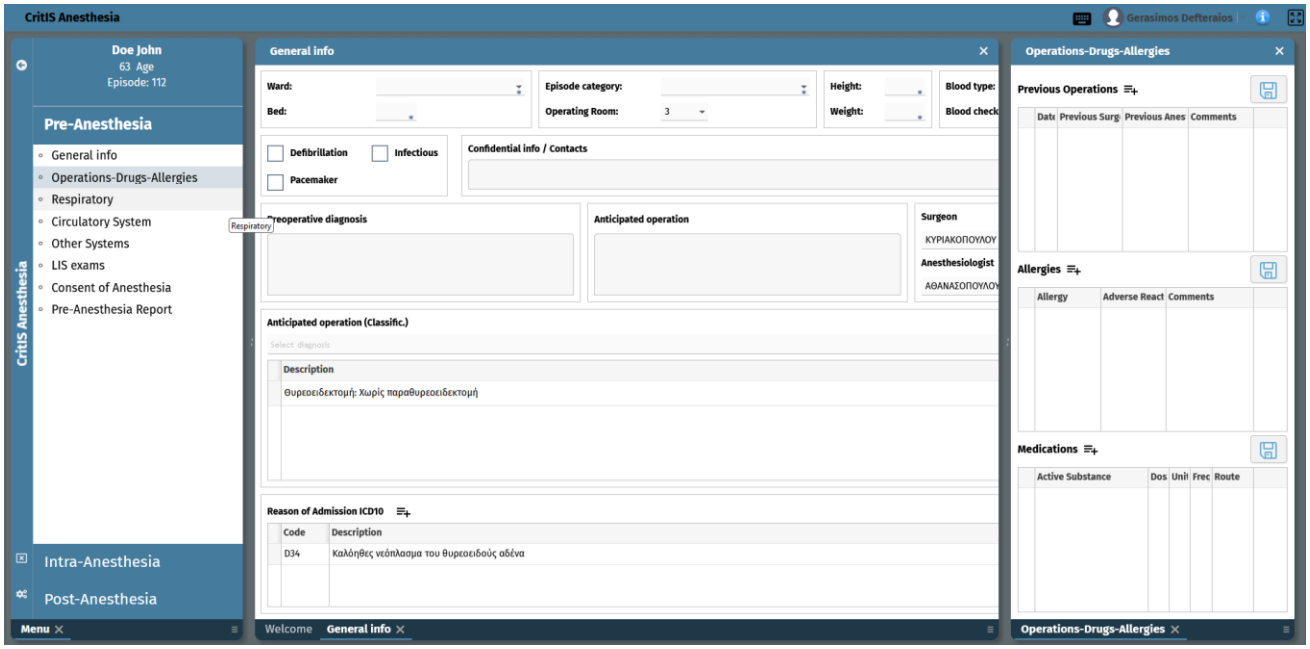
1.2 Preanesthesia Documentation Subsystem

The Preanesthesia Documentation Subsystem is a comprehensive application that records surgical readiness, supporting the entire workflow from the moment the patient is scheduled for surgery until the day of the operation.

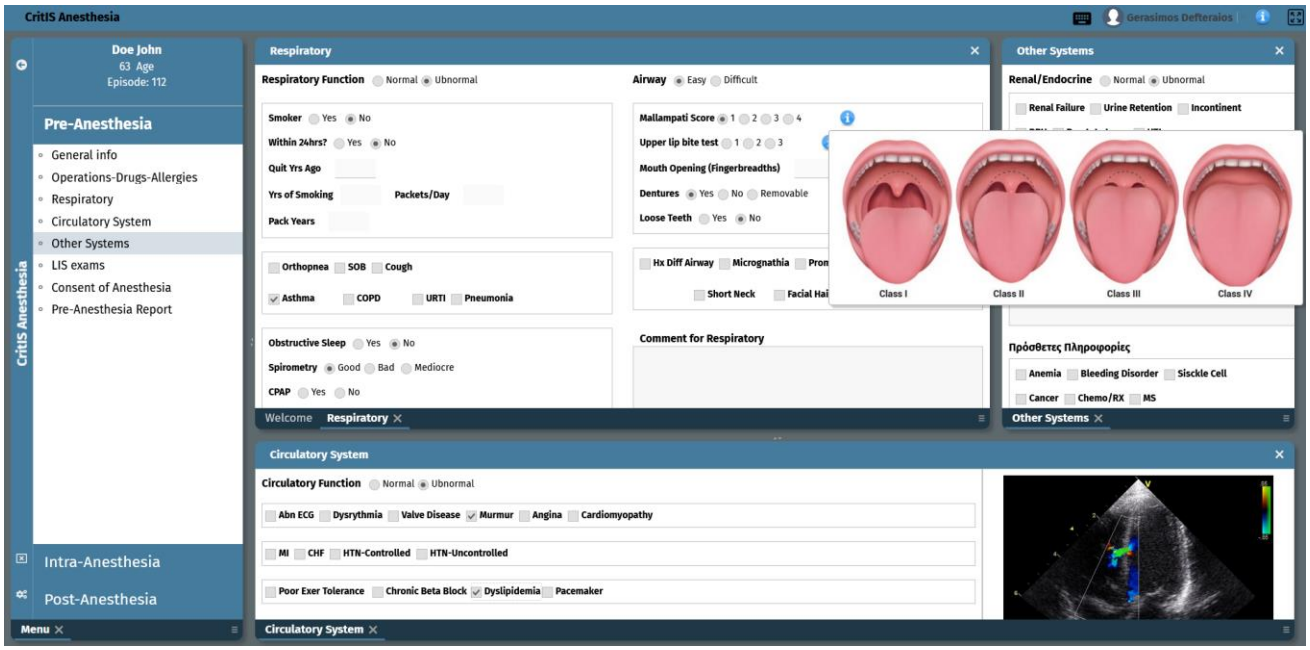
Through flexible screens, the subsystem automates the documentation related to the provision of preoperative assessments with complete and detailed information about the patient's health, including:

- Medical and surgical history
- Medications and allergies
- System-based assessments (respiratory, circulatory, etc.)
- Laboratory results
- Signed consent forms
- Surgical readiness

All the above information is available to users at any time with a single click.



The automated documentation of a patient's readiness for surgery allows staff to immediately identify any missing requirements or medical concerns, ensuring that checklists are completed before a procedure and that relevant preoperative instructions are provided to the patient beforehand.



The application supports the documentation of anesthesia assessments conducted before surgery, enhancing accessibility, clarity, and the quality of anesthesia data while eliminating unnecessary data entry. With its intuitive interface, the software allows anesthesiologists to quickly create concise and comprehensive anesthesia assessments, supporting the workflow surrounding preoperative evaluation.

Configurable forms, dropdown lists, checkboxes, and free text entry simplify and expedite the documentation process while reducing the risk of errors. Copy/paste functionality also enables staff to easily import relevant information from previous preoperative assessments into the current patient's preoperative record.

Through integration with other hospital applications, the subsystem allows clinicians to access relevant patient data, such as laboratory results.

1.3 Intra-Anesthesia Documentation Subsystem

The Intra-Anesthesia Documentation Subsystem is a comprehensive application that automates anesthesia documentation by seamlessly recording patient data, clinical events, and actions.

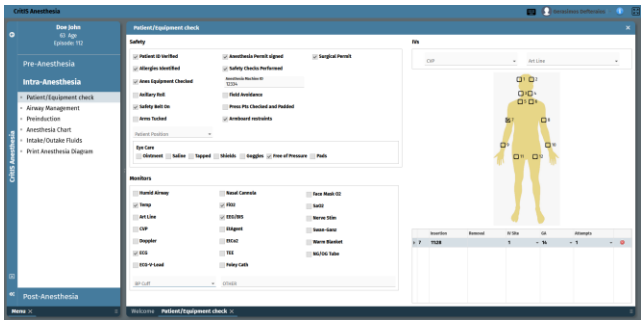
It provides:

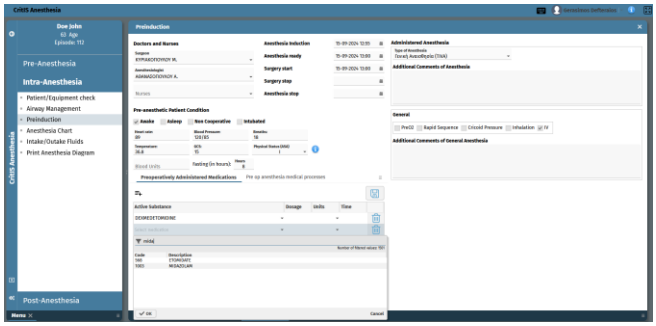
- Easy and fast documentation through automatic capture of information from medical devices.
- High-quality data with complete, accurate, and legible records.
- Improved patient safety by minimizing documentation and medication errors.
- Evidence-based care, promoting the adoption of best practices and the standardization of procedures.

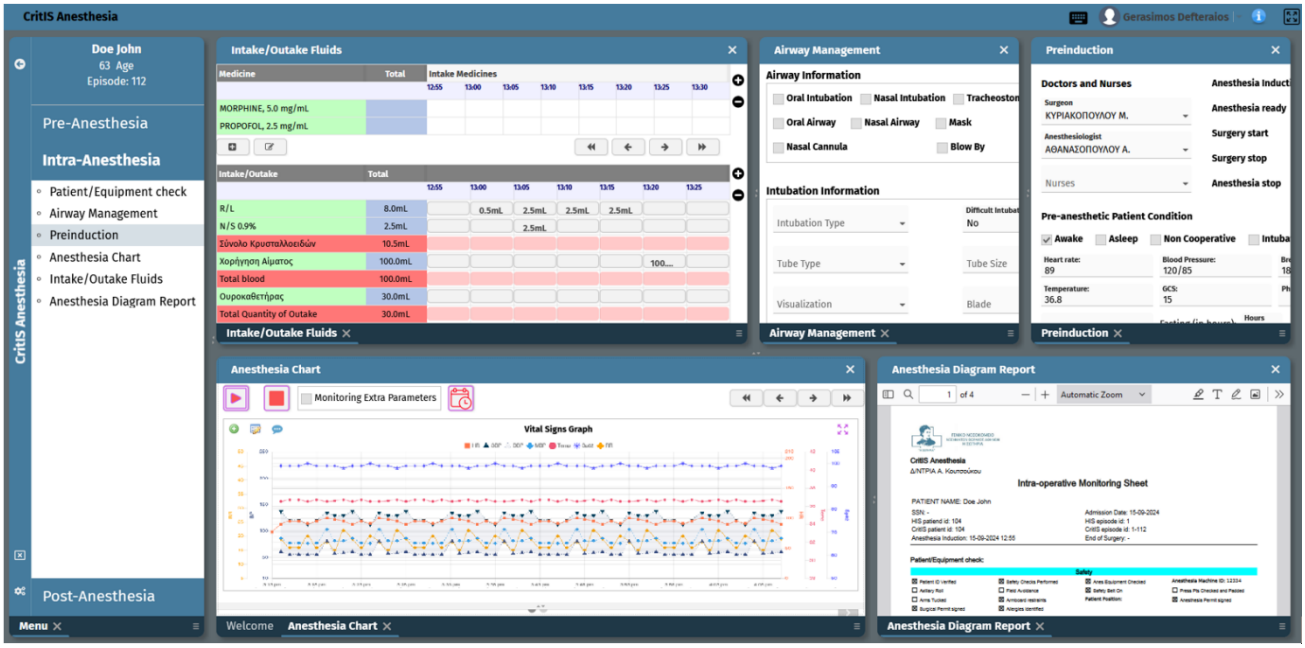
The subsystem offers screens that record information related to patient management during surgery. Specifically, it documents:

- The medical and nursing staff involved in the operation.
- A brief description of the patient's condition before anesthesia administration.
- Procedures and diagnoses performed by the anesthesiologist during surgery.
- The patient and equipment checks conducted during the operation.
- Lines (IV, arterial, etc.) placed in the patient.
- Information related to the patient's intubation.
- Automatic (per minute) recording of vital signs, administered gases, and respiratory parameters in the anesthesia chart.
- Administered medications and fluids.
- Fluid output.
- Clinical events and actions.

It is important to note that although the anesthesia chart is automatically updated via machine integration, users can also manually input or modify values at specific times as needed.



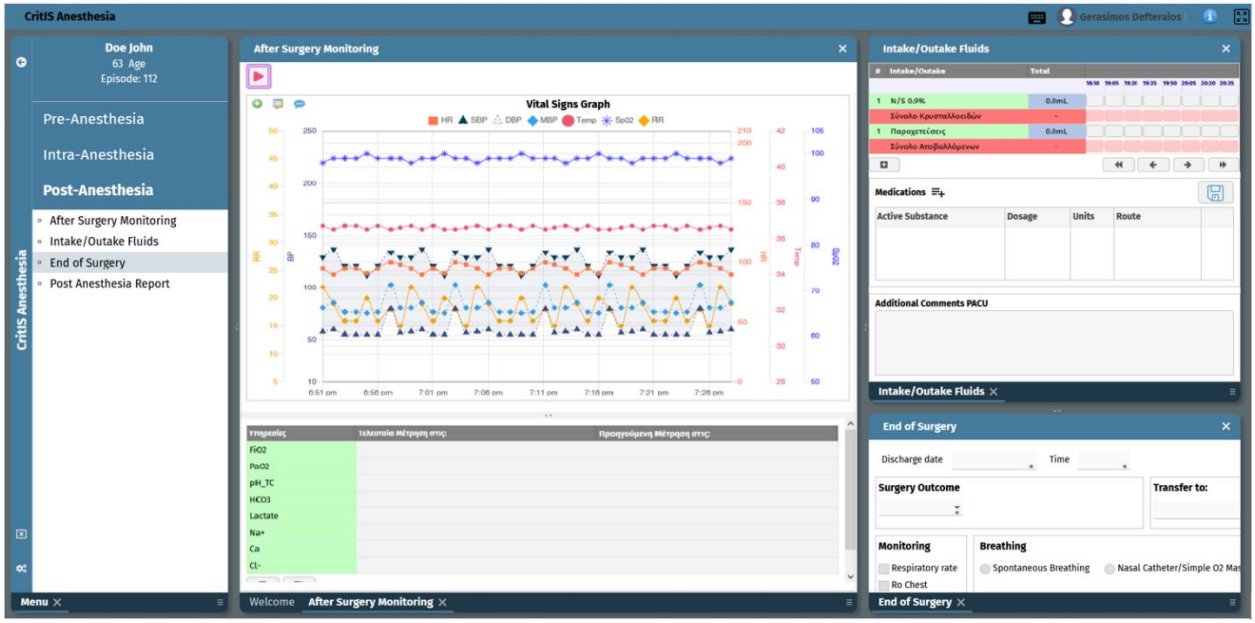




As depicted in the above screens, the system allows users to display multiple screens simultaneously and rearrange them according to their needs, providing greater ease of use.

1.4 Post-Anesthesia Documentation Subsystem

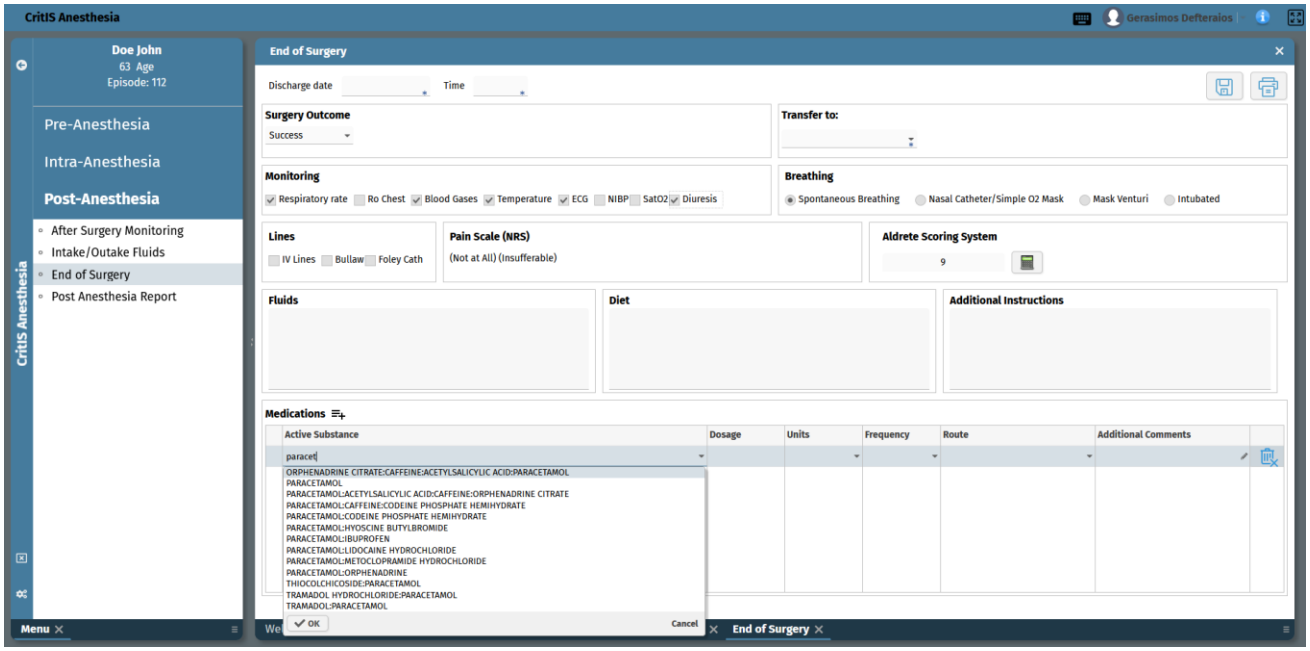
During the patient's recovery period, the Post-Anesthesia Documentation Subsystem is a comprehensive application that automates the collection of patient information from monitors, ventilators, laboratory systems, hospital information systems (HIS), and other medical devices. Effective automated clinical documentation can significantly reduce charting time and contribute to improved accuracy, readability, and availability of information, supporting better decision-making and helping clinicians enhance patient care.



The subsystem provides management capabilities for post-operative cases, including recording the patient's vital signs, blood gases, as well as ingested and expelled fluids and medications.

For discharge from the operating room or recovery, the system captures the information shown in the following image.

It is noted that the post-anesthesia documentation subsystem is offered and activated according to the specific needs of each project.



1.5 Interface Subsystem

As the volume of patient data increases, so does the complexity of interfaces between medical devices, hospital information systems, and electronic health records (EHR). The Interface Subsystem provides seamless connectivity between CritIS Anesthesia and medical devices, as well as other hospital information systems (HIS, EMR, LIS, etc.), enhancing interoperability and data sharing.

Interface messages are based on Health Level 7 (HL7), a standardized protocol for exchanging healthcare information. HL7 messages can be configured according to the requirements of other systems (HIS, EMR, LIS, etc.).

- **Supports HL7 version 2.x**
- **Uses HL7 ORU message types**

The subsystem is implemented as a modular application, where each module manages connectivity with specific information systems or medical devices. It is offered and activated based on the needs of each project.

1.6 Additional Development Services

If additional functionality is required that cannot be achieved through configuration, our company is prepared to undertake the development of the system according to your specifications. In such cases, a detailed financial offer will be provided along with the specifications for the additional functionality.

Additional development may include:

- Creation of new functionalities not included in the offered software.
- Development of new reports/printouts.
- Creation of custom scenarios or interface software with other software or devices.

1.7 Installation Conditions and Equipment Requirements

For CritIS Anesthesia to be functional, the following equipment is required:

- Support Equipment for the Care Point (Bed):
  - Medical equipment Integration device allowing connection of up to 4 medical devices per bed via serial communication. Note that the interface device is not required if the medical devices can communicate via HL7.
  - Medical-grade workstation with a support arm.
- Servers for CritIS Anesthesia Installation.

Necessary conditions to ensure the installation and operation of the offered software include:

- For interfacing medical devices and automatic data acquisition, special interface equipment is required unless the devices can export information through HL7 messages. The provider should specify whether special interface equipment is needed and for which medical devices in both the operating room and the recovery area.
- Installation of provided servers in a hospital space that ensures ideal environmental conditions such as cooling, power supply from an existing UPS, and controlled access. Alternatively, if required by the hospital, instead of rack servers, tower-type servers can be supplied.
- The hospital's technical service should integrate the servers and computers into the existing hospital network infrastructure (Domain, IPs, etc.).
- At the care point, two functional network sockets should be available for use by the offered system: one for the workstation and one for the interface device (if required).
- For each medical device providing an HL7 interface, an additional network socket should be available beyond those required for the workstation and the interface device.
- Electrical power sockets should be available at each location where the workstation and the interface device will be installed.
- Remote access to CritIS Anesthesia servers should be available to ensure immediate investigation and resolution of potential technical issues.
- Any equipment, materials, and work for electrical power supply and network infrastructure are not the responsibility of the Contractor and must be provided by the Hospital.
- Any requirements for special construction to support bedside computers are not the responsibility of the Contractor and must be provided by the Hospital.