Saturn Information System

Driving Clinical Pathways
Overview

The Saturn Information System is a comprehensive suite of clinical-based software applications that allow organizations to measure and improve the quality, efficiency and cost effectiveness in their perioperative environments. Additionally, the use of the Saturn Information System helps facilitate JCAHO and CMS (formerly HCFA) compliance.

System Design

The Saturn Information System is a true 32-bit application designed to take advantage of the performance, reliability and security within the Microsoft® Windows operating system. It employs an industry standard ODBC compliant database, which supports SQL queries for seamless integration with the hospital information system's database. A graphical user interface using optimized Windows controls makes the system extremely user-friendly. The open architecture design allows the system to be upgraded today as well as in the future as new hardware and software technologies emerge.

User Interface

The application is designed to simulate a handwritten patient chart organized within a notebook. The notebook design is divided into various tabs that follow the perioperative process: Admission, Pre-Op, Holding, Intra-Op and Post-Op. Within each tab are multiple pages that pertain to that specific section.

The system was designed around a touch screen user interface, which remains consistent at each workstation location. Large controls and display fields ensure data is easy to edit and view.

Clinical Hardware

Although the system is designed to operate on most industry standard hardware platforms, the OR is a unique environment. Leakage requirements, contamination issues and continuous reliability under stringent conditions often preclude a standard computer from meeting the requirements of an operating room.

Dräger Medical understands these challenges and has taken standard PC components and packaged them for a medical grade OR environment. A splash resistant case and 4-port serial card facilitates connection to your patient monitors and anesthesia delivery system at the point-of-care. As an extra measure of safety and reliability, an isolation transformer and an uninterruptible power supply is included.
Documenting the Continuum of Care ...

**Admission**
Demographics Page
- Patient and Admissions Information
- Patient Pathway Status

Surgery & Anesthesia Page
- Diagnoses with (ICD-9) Code Sets
- Procedures with (CPT®) Code Sets
- Surgical Staff
- Anesthesia Staff
- Anesthesia Type

**Pre-Op Patient Assessment**
History Page
- Medications
- Allergies
- Family History
- Surgical History
- Anesthesia History
- Medical History

Systems Page
- Respiratory
- Hepato/Gastrointestinal
- Cardiovascular
- Neuro/Musculoskeletal
- Renal/Endocrine
- Other

Exam Page
- Hearing Impairment
- ADLAssist
- Visual Impairment
- Dental
- Airway Classification
- Other
- Labs & Vitals
- Speech Impairment
- Alcohol, Drug, Tobacco Use

**Plan Page**
- Process Verification
- Discussion of Anesthesia Plan
- Anesthesiology Review
- Surgeon Review
- HPI Page (History of Present Illness)
  - Free Text

**OR Holding**
- Vital Sign Recording
- Pre-Op Status
- Drug/Fluid Administration
- Notes Documentation
- Charge Documentation
- Summary
Intra-Op Anesthesia Charting
- Automatic Vital Sign Recording
- Drug/Fluid Administration
- Fluid Balance
- Notes Documentation
- Lab Results Documentation
- Charge Documentation
- Configurable Default Data
- Configurable Time Resolution
- Configurable Trend Display

Summary

Post-Op Nurse Charting
- Vital Sign Recording
- Fluid Balance
- Drug Administration
- Care Notes
- Patient Scoring
- Patient Assessment
- Patient Checks
- Discharge Documentation

Features:
- Industry standard database
- Automatic data collection
- Touch screen user interface
- Medical grade browser
- Multi-level configuration
- Password protection
- Rapid data entry
- Report capabilities

Benefits:
- Simplified accreditation
- Optimized for user environment
- Upgradable hardware and software
- Charge capture at point-of-care
- Continuous quality improvement
- Improved drug and OR utilization
- Data security with audit trails
- Efficient JCAHO and CMS compliance
**Data Entry**

Information is entered into the patient chart manually or automatically. Manual data entry is simple and minimizes typing through exclusive use of pick lists optimized for the current case. The most common and frequently documented information is easily accessed via a simple touch on the tool bar. Lists can be tailored to particular needs and will interface to other information available over the network. Data from medical devices occurs automatically through a serial communications interface.

**Interfaces**

Additionally, the application incorporates a secure medical grade browser that allows users to view Web-based applications or medical devices without having to exit the core application. A watchdog feature monitors the use of browsing to safeguard against potential loss of data during the automatic recording phase of the case. Should browsing begin to consume CPU resources to the point where data collection could be jeopardized, a warning message will appear notifying the clinician to terminate browsing.

The medical grade browser broadens the clinician’s ability to capture a wide range of vital information such as laboratory results, radiology images and other pertinent applications without having to invest in costly interfaces.

The application also complies with the Health Level Seven (HL7) CCOW standard for context management, which can be used effortlessly in conjunction with other important healthcare applications. You now have the ability to select a patient and, through the browser, view associated patient data that resides in other CCOW compliant hospital systems (i.e. laboratory, cardiology and radiology) thus accelerating the decision-making process.

**HL7**

The Saturn Information System contains a native HL7 scheduling message interface. Customers who can supply a HL7 Scheduling Interface can pre-populate the largest number of data fields found on the typical anesthesia record. Although other HL7 interfaces such as ADT (Admission, Discharge, Transfer) are widely found in hospitals, these interfaces do not supply all the information necessary for the typical anesthesia record.

**Reporting**

Because of the nature of ODBC/SQL databases, reports can be generated using any commercially available, off-the-shelf reporting application. The Saturn Information System also has the ability to generate a variety of standard reports with filtering capabilities.
Specifications

**Workstation**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>1024 by 768 pixels</td>
</tr>
<tr>
<td>Processor</td>
<td>Pentium 400MHz (minimum)</td>
</tr>
<tr>
<td>Memory</td>
<td>256 MB (minimum)</td>
</tr>
<tr>
<td>Operating System</td>
<td>Microsoft® Windows NT 4.0 and later</td>
</tr>
</tbody>
</table>

**Server**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Dual Pentium 700MHz (minimum)</td>
</tr>
<tr>
<td>Memory</td>
<td>1-8 GB (minimum)</td>
</tr>
<tr>
<td>Operating System</td>
<td>Microsoft Windows NT 4.0 and later</td>
</tr>
</tbody>
</table>

**Network**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP/IP</td>
<td></td>
</tr>
</tbody>
</table>

**Database**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SQL, ODBC Compliant</td>
</tr>
</tbody>
</table>

Dräger Medical understands the specialized support needs of point-of-care applications in a critical environment. System support services provide comprehensive and timely system maintenance, with full network, database and application support. Certified engineers are on-staff to address all customer inquiries and concerns.

Let us demonstrate how Dräger’s Information System can be your acute point-of-care information solution.