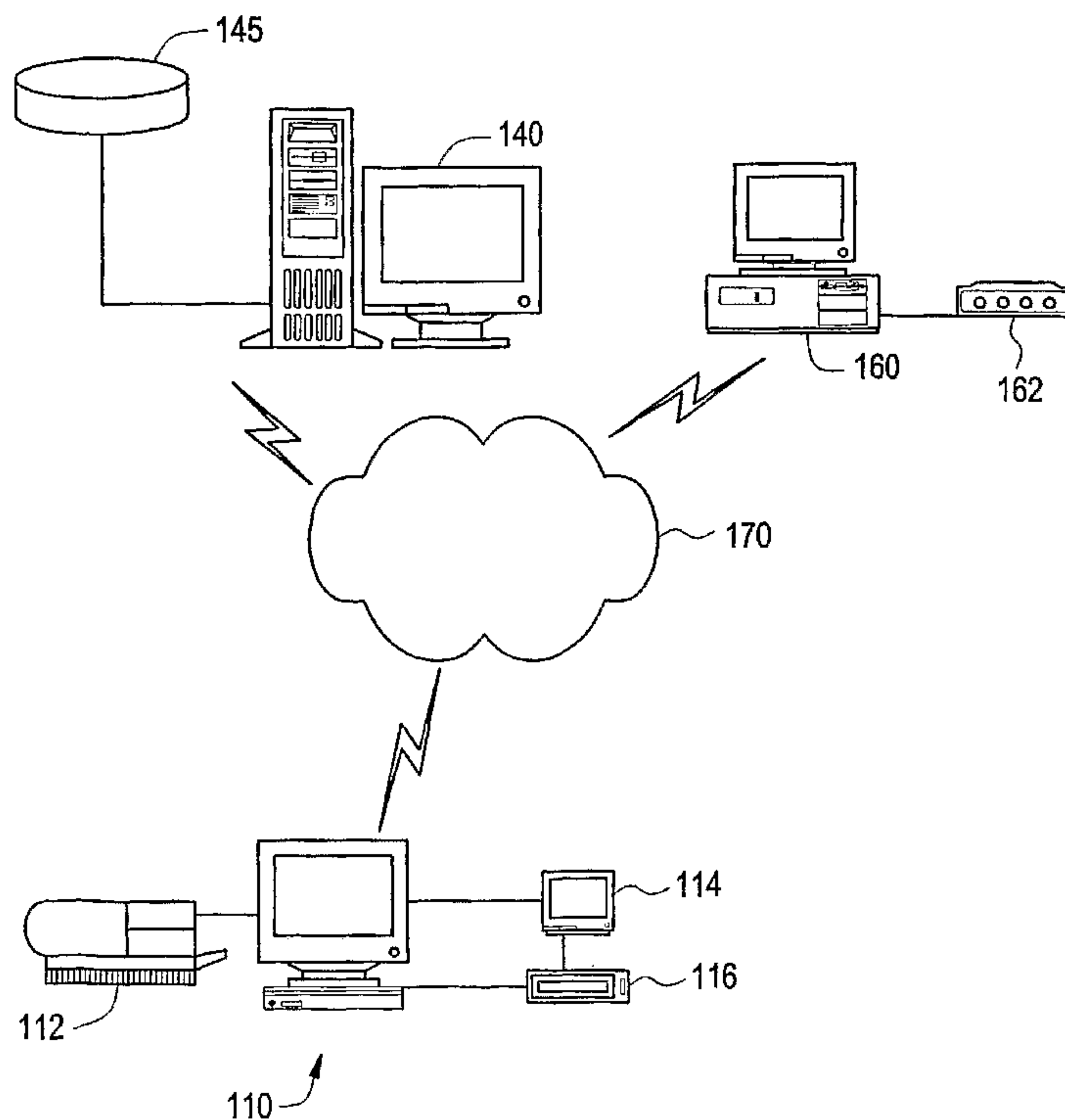




(86) Date de dépôt PCT/PCT Filing Date: 2004/05/14
 (87) Date publication PCT/PCT Publication Date: 2004/12/02
 (85) Entrée phase nationale/National Entry: 2005/11/16
 (86) N° demande PCT/PCT Application No.: US 2004/015014
 (87) N° publication PCT/PCT Publication No.: 2004/103151
 (30) Priorité/Priority: 2003/05/16 (60/471,349) US

(51) Cl.Int./Int.Cl. *A61B 1/04* (2006.01),
G06F 19/00 (2006.01), *A61G 12/00* (2006.01)
 (71) Demandeurs/Applicants:
SHAPIRO, MARC, US;
ODLIVAK, ANDREW, US;
...
 (72) Inventeurs/Inventors:
SHAPIRO, MARC, US;
ODLIVAK, ANDREW, US;
PEARSON, PHILIP, US;
AGARWAL, DEEPAK, US;
...
 (74) Agent: MCFADDEN, FINCHAM

(54) Titre : **SYSTEME D'ENTREE DE DONNEES POUR EXAMEN ENDOSCOPIQUE**
 (54) Title: **DATA ENTRY SYSTEM FOR AN ENDOSCOPIC EXAMINATION**



(57) **Abrégé/Abstract:**

A method and system for capturing patient related data in an endoscopic system comprising an imaging node adapted to capture and display endoscopic images during the course of an endoscopic examination. The patient data capture system and method includes a display device that provides an interface to enable a user to enter data relating to a patient examined during the examination, including patient vital sign information at various phases of care: relating to the endoscopic examination and, further including individual graphic controls for enabling entry of values relating to the patient's vitals information. The entered patients vitals information is associated with a timestamp. The patient vitals information and associated timestamps are stored in a database record associated with the patient. Further data capable of being entered into the system includes medications administered, Aldrete scores and intraprocedural assessments.

(71) **Demandeurs(suite)/Applicants(continued)**: PEARSON, PHILIP, US; AGARWAL, DEEPAK, US; COHEN, MICHAEL, US; DIVINSKY, AARON, US; COTTON, PETER, B., US

(72) **Inventeurs(suite)/Inventors(continued)**: COHEN, MICHAEL, US; DIVINSKY, AARON, US; COTTON, PETER, B., US

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 December 2004 (02.12.2004)

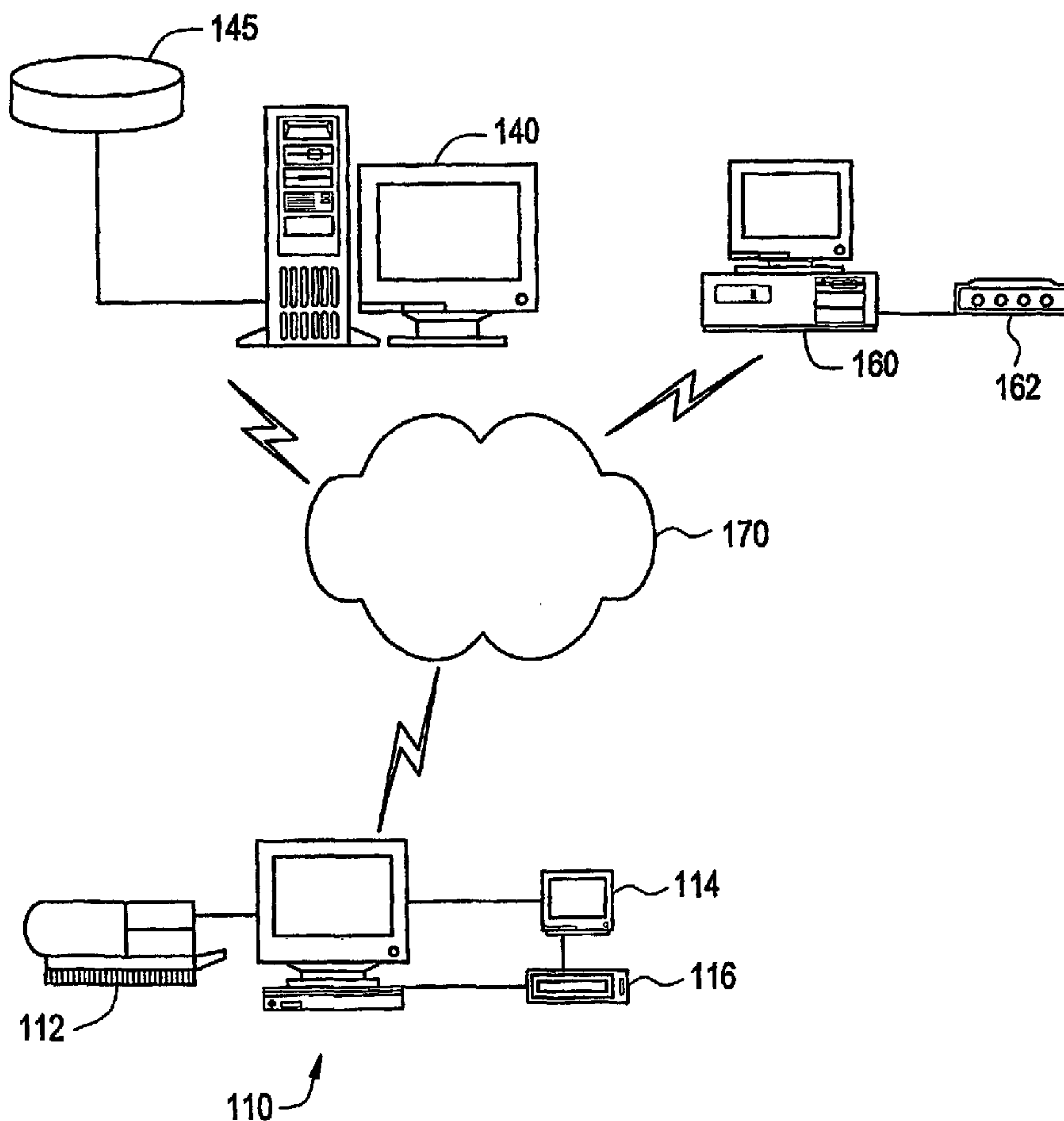
PCT

(10) International Publication Number
WO 2004/103151 A3

- (51) International Patent Classification⁷: **G06F 17/60**
- (21) International Application Number:
PCT/US2004/015014
- (22) International Filing Date: 14 May 2004 (14.05.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/471,349 16 May 2003 (16.05.2003) US
- (71) Applicants and
(72) Inventors: **SHAPIRO, Marc** [US/US]; 53 Shoreham Drive East, Dix Hills, NY 11746 (US). **ODLIVAK, Andrew** [US/US]; 7 Katherine Court, Oakdale, NY 11769 (US). **PEARSON, Philip** [US/US]; 82 Fairview Place #7, Sea Cliff, NY 11579 (US). **AGARWAL, Deepak** [IN/US]; 1412 Blueberry Lane, Hicksville, NY 11801 (US). **COHEN, Michael** [US/US]; 73 - 26 136 Street, Flushing, NY 11367 (US). **DIVINSKY, Aaron** [CA/US]; 104 Cliff Avenue, Sayville, NY 11782 (US). **COTTON, Peter, B.** [US/US]; 1557 Aztec Lane, Mt. Pleasant, SC 29466 (US).
- (74) Agent: **GROLZ, Edward, W.**; Scully, Scott, Murphy & Presser, 400 Garden City Plaza, Garden City, NY 11530 (US).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

[Continued on next page]

(54) Title: DATA ENTRY SYSTEM FOR AN ENDOSCOPIC EXAMINATION



(57) Abstract: A method and system for capturing patient related data in an endoscopic system comprising an imaging node adapted to capture and display endoscopic images during the course of an endoscopic examination. The patient data capture system and method includes a display device that provides an interface to enable a user to enter data relating to a patient examined during the examination, including patient vital sign information at various phases of care: relating to the endoscopic examination and, further including individual graphic controls for enabling entry of values relating to the patient's vitals information. The entered patients vitals information is associated with a timestamp. The patient vitals information and associated timestamps are stored in a database record associated with the patient. Further data capable of being entered into the system includes medications administered, Aldrete scores and intraprocedural assessments.

WO 2004/103151 A3



CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:

20 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**DATA ENTRY SYSTEM FOR
AN ENDOSCOPIC EXAMINATION**

5

10

BACKGROUND OF THE INVENTION

Field of the Invention

15

The present invention relates generally to entry and recordation of medical information, including the recordation of a patient's vital and medication information, particularly, in the context of a medical procedure such as an endoscopic examination.

Discussion of the Prior Art

20

There currently exists a clinical information management system known as Endoworks (hereinafter "EW system" manufactured by Olympus Corporation) that provides functionality for automating the endoscopy lab by managing patient examination data at different phases of patient care, including the capture of images, data and written Procedure Notes, and further, the generation and storage of medical records and procedure reports.

25

Particularly, the EW system, designed for the practice of endoscopy, is a comprehensive, real-time, interactive clinical information management system with integrated reporting features, that manages and organizes clinical information, endoscopic images and related patient data, at various levels of detail, for creating efficiencies and facilitating functions performed by users of endoscopic equipment, e.g., physicians, nurses, clinicians, etc.

30

Integral to the performance of an endoscopy procedure via the EW system is the real-time capture of endoscopic images and entry of examination data (e.g., patient ID, practitioner information, endoscope ID type). Part of the examination data captured includes what are known as "vitals," i.e., that patient data relating to pulse rate, respiration, blood pressure (systolic), etc. and "medications" for a patient including, for example, medications administered during the different phases of care. These data are entered and stored with the patient record via a graphical user interface (GUI) provided with the EW system.

It would be highly desirable to provide an intuitive, novel interface enabling users to capture a patient's vital signs and medications administered at specific times for an endoscopy examination.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a novel system and method for capturing, recording and displaying medical information such as a patient's vitals and medication administered during various phases of a given medical procedure such as an endoscopic procedure.

Further to this object is the ability of the system to enable entry and recordation of Aldrete Scores, and intraprocedural assessments for the patient being examined.

According to one aspect of the invention, there is provided a novel user interface, that enables a user to configure a vitals and medications graph view, and particularly the ability to create new time entries by entering a start date and time, and further specify a time increment and number of entries.

According to another aspect of the invention is the option that enables a user to view a graph of vitals and medications administered, and further, via the graphical view, the ability to add a column with current time (if the column is not already present) for all the four sections (Vitals, Medications, Aldrete, and Intraprocedural Assessments) during pre-procedure, procedure and post-procedure phases of the endoscopic examination. In this manner, a user is provided with the ability to associate Vitals, Medications, Aldretes, and Intraprocedural Assessments with a timestamp that is unique for the exam during pre-procedure, procedure and post-procedure phases of the

examination.

Thus, according to a preferred aspect of the invention, there is provided a system and method for capturing patient related data in an endoscopic system comprising an imaging node adapted to capture endoscopic images during the course of an endoscopic examination. The patient data capture system comprises a display means for providing an interface to enable user to enter data relating to a patient examined during the endoscopic examination, the data including patient vital sign information of the patient at various phases of care relating to the endoscopic examination and, the interface including individual graphic controls for enabling entry of values relating to the patients vitals information; a means for associating entry of patients' vitals information with a timestamp; and, a means for storing the patient vitals information and associated timestamps in a database record associated with the patient.

Advantageously, the capturing, recording and displaying medical information is implemented in a comprehensive, browser-based, clinical information management system designed for the practice of endoscopy that further includes the ability to capture, process and record endoscopic images during a procedure and further includes an Image Management function enabling a user to annotate, label, import, export, and enhance the quality of images, including the ability to manage, record, and export live video clips and generate reports that include the stored images and captured patient information.

BRIEF DESCRIPTION OF THE DRAWINGS

The objects, features and advantages of the present invention will become apparent to one skilled in the art, in view of the following detailed description taken in combination with the attached drawings, in which:

Figure 1 illustrates an overview of an endoscopic examination system according to the invention;

Figure 2 illustrates a Registration and Scheduling clinical flow interface according to the invention;

Figure 3 illustrates a Pre-Procedure clinical flow interface according to the invention;

Figure 4 illustrates a Procedure clinical flow interface according to the invention;

Figure 5 illustrates a Post-Procedure clinical flow interface according to the invention;

5 Figure 6 illustrates a Home tab of a user interface interface according to the invention;

Figure 7 illustrates a Patient File tab of a user interface interface according to the invention;

10 Figure 8 illustrates a Registration tab of a user interface interface according to the invention;

Figure 9 illustrates a Pre Procedure tab of a user interface interface according to the invention;

Figure 10 illustrates a Procedure tab of a user interface interface according to the invention;

15 Figure 11 illustrates a Post-Procedure tab of a user interface interface according to the invention;

Figure 12 illustrates an Analysis tab of a user interface interface according to the invention;

20 Figure 13 illustrates an Admin tab of a user interface interface according to the invention;

Figure 14 illustrates the Vitals and Meds interface screen according to the invention;

Figure 15 illustrates the addition of columns relating to different time intervals via the Vitals And Meds screen of Figure 14 according to the invention;

25 Figure 16 illustrates the an exemplary search screen that enables a user to enter search criteria and initiate search functionality for medications (both Drug Name and Brand Name) according to the invention;

Figure 17 illustrates the Aldrete scores interface screen according to the invention;

30 Figure 18 illustrates the Intraoperative Assessments interface screen according to the invention; and,

Figure 19 illustrates the Unplanned Events interface screen according to the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Overview of the system

As shown in Figure 1, the EW system includes an endoscopic workstation
5 110, a printer device 112 (e.g., a Mavigraph printer), an RGB monitor 114 and processor
116. The user provides inputs to the workstation 110 via a keyboard, mouse interface, or
the like. The workstation may be coupled with a web browser interface that provides the
necessary information to perform exams, and facilitates for users of endoscopic equipment,
e.g., physicians, nurses or clinicians, the efficient capture, management, organization and
10 presentation of endoscopic images and patient and examination data. The workflow
processes associated with this aspect of the system are flexible enough to support small
endoscopic practices in addition to endoscopic departments within large healthcare
institutions.

The system may function as a stand-alone system including memory for
15 storing patient data and image information. The system may also include a server 140 and
database element 145 that may be connected via a gateway application to various
“external” systems such as a hospital information system where the gateway facilitates the
transfer of healthcare information between the system and other applications. Patient
information stored in the system may be downloaded to external systems (e.g., a legacy
20 system) via a gateway interface. The workstation 110 may communicate with the server
140 via the Internet 170 or other network, such as a LAN or intranet. The workstation 110
may also communicate with a fax server 160, for instance, for faxing reports via a fax
modem 162. Generally, software instructions, including firmware and microcode, may be
stored in any type of program storage device or devices, also referred to as computer-
25 readable media. The software is executed by a processor in a known manner to achieve
the functionality described herein.

In a particular aspect, the system includes an Image Management function
enabling a user to annotate, label, import, export, and enhance the quality of images,
including the ability to manage, record, and export live video clips. Further to this is an
30 “auto-masking” feature that automatically selects an appropriate video mask based on a
particular endoscope device being utilized by the health care practitioner.

In another particular aspect, the system includes a medical terminology "Knowledge Base" (KB) comprising keywords relating to the procedure, e.g., such as gastrointestinal, endoscopic and bronchoscopic terminology keywords. The keywords are captured via a graphical user interface (GUI) before, during, and/or after a procedure. The keywords are made available for labeling images captured during an examination to be used in reports, auto-populating appropriate sections of a report such as a Procedure Note, described further below, based on patient history, and building Procedure Note templates or models to auto-populate sections of information. The system also facilitates the use of custom terms that apply to a specific department or location. Thus, for example, during an exam, a user may select KB terms for a procedure via a common user interface, which is employed wherever the user needs to locate or extract keywords. This also provides a consistent way to select and use terminology.

Clinical Flow

Figures 2-5 illustrate clinical flow diagrams that describe the most common activities associated with the system and their relationship in time in the context of one possible application of the invention. Clinical flow is based on patient flow, which relates to how a patient is processed before, during, and after an endoscopic procedure. The overall flow across all lifecycle stages starts with an exam request and ends with the generation of a Procedure Note, the release of the patient, and the generation of a set of related reports. User roles are represented as horizontal bands.

The registration and scheduling clinical flow 200 of Figure 2 includes a collection of all the information necessary to set up a visit. It is initiated through an exam request made by either the patient, a surrogate for the patient, or a referring physician. The nurse and physician share the activity of preparing prep instructions and medical advice for the patient.

The Pre-Procedure clinical flow 300 of Figure 3 starts with the arrival of the patient at the endoscopy facility and addresses all administrative and medical activities necessary to prepare the patient for the exam.

The Procedure clinical flow 400 of Figure 4 depicts the actual examination that takes place during the Procedure lifecycle stage. The system is used to capture images, record vital signs, and administer medications during this stage.

The Post-Procedure clinical flow 500 of Figure 5 depicts the activities that take place after the completion of an exam. These activities include a nurse continuing to monitor the patient's recovery, a nurse completing discharge instructions, releasing the patient, and preparing billing code reports, and a physician reviewing and editing the analysis of an exam by generating a Procedure Note. A physician signs the Procedure Note when it is complete. Afterward, management reports, patient recall requests, and referral letters can be created and distributed.

User Interface

The invention is next described in connection with a user interface that allow the user to select different features under different tabs.

I. Home tab 600 (Figure 6). The Home tab is the default home page, and is pre-defined for each role. However, the user can modify the page to suit the user's needs. The following are the most common tasks that can be performed in the Home tab. Access to these tasks is based on the user's role. For example, if the user logs into the application as a scheduler, then the user would not see the Sign Reports menu option, since that option is reserved for the physician role.

1) Scheduled Exams – used to view a list of scheduled exams and create a new visit and exam.

2) Create a New Visit – allows the user to schedule a new visit for a patient.

3) Pending Items - used to view all of the pending tasks. The user can also select one or more pending items and close them.

4) Pathology Status – used to view the status of outstanding pathology requests or search the database for an existing record. The user can also edit or delete existing pathology records. When a pathology record is deleted, all data of the specimens associated with that record are deleted.

5) Unsigned Reports - an attending physician can use the Unsigned Reports screen to view and sign unsigned Procedure Notes.

6) Sign Reports - A system administrator can use the Sign Reports screen to view unsigned Procedure Notes for a specific physician and mark them as signed.

7) Carbon Copies - When the user distributes a document to a medical provider, clinical staff, or contact via email, a notification is sent to the recipients that a document is available for them in the system. Recipients can then log on to the system and view a list of documents on the Carbon Copies screen.

5 8) Intensive Care Unit (ICU) Synchronization - when the user performs an exam in ICU mode, the user's imaging station is not connected to the network server. When the user finishes the exam, the user must upload images and data from the workstation to the server repository. When the workstation is re-connected to the network, a series of simple commands will upload the data and images captured during the exam.
10 After the data is uploaded, the user uses the ICU Synchronization option to synchronize images and data.

9) Recall Letters - used to recall a patient for another examination. The user can use this option to add an item to the Recall Letter Queue to remind a patient of a follow-up examination.

15 10) System Log - Allows the system administrator to view errors and messages generated by the application.

20 II. Patient File tab 700 (Figure 7) - allows a user to capture information specific to the individual patient. This tab is used to record a patient's demographic information; a patient's medical alerts, GI/pulmonary, medication, family, and social history information, and view a summary of the patient information.

III. Registration tab 800 (Figure 8). This tab is used to: (a) create and modify visit and/or exam information; (b) view past, current, or future schedules; (c) assign resources for an examination including procedure rooms and equipment; and (d) distribute registration documents.

25 IV. Pre-Procedure tab 900 (Figure 9). This tab is used to: (a) record care plan information for a specific visit; (b) record medical alert information; (c) record GI, pulmonary, family, and social history information, (d) manage physical examination, patient assessment, and physician check information, (e) manage prep status information for the patient; (f) manage consent information for a visit; (g) capture vital signs and
30 medications administered before the examination; (h) display a summary of selected Pre-Procedure information and capture nurse handoff information; and (i) distribute Pre-Procedure documents.

V. The Procedure Tab 1000 (Figure 10). This tab is used to: (a) capture images during an endoscopic procedure; (b) record live video clips; (c) record scope time used during an examination; (d) view images and Procedure Notes from a previous exam; (e) print images for an exam on a laser jet or a Mavigraph printer; (f) record nurse administration information; (g) record accessories and equipment used during an examination; (h) generate pathology requests; (i) distribute procedure documents; and, (j) according to the present invention, capture vital signs and medications administered during the examination.

VI. The Post Procedure Tab 1100 (Figure 11) - After an examination is completed, this tab is used to perform post-procedural tasks. These tasks include synchronizing images in the ICU mode; monitoring a patient's vital sign and medication information, managing captured images, and writing Procedure Notes. Images from a current procedure, e.g., image 1 and image 2, and from a prior procedure, e.g., image 3, image 4, and image 5, can be displayed together for comparison. This tab is used to: (a) record patient recovery information; (b) manage images captured during an exam; (c) label, annotate, enhance, and print images; (d) import and export images to and from the current examination; (e) manage video clips recorded during an examination; (f) write and sign Procedure Notes; (g) capture patient recall information; (h) assess performance of a trainee participating in an examination; (i) capture patient survey information; (j) distribute Post-Procedure documents; and (k) perform ICU synchronization.

VII. The Analysis Tab 1200 (Figure 12) - used to generate redefined template-based management reports to satisfy end-user administrative reporting requirements related to patient, procedure and facility management, efficiency analysis, and resource utilization. This tab is used to generate: (a) Continuous Quality Improvement (CQI) reports; (b) efficiency reports; (c) equipment analysis reports; (d) procedure analysis reports; and (e) administration reports.

VIII. The Admin Tab 1300 (Figure 13) - used to perform administrator tasks and ensure the efficiency and security of the system. The system can be customized based on the needs and requirements of the facility, physician, and clinical staff. This tab is used to: (a) maintain system data (such as Patient ID type and department information); (b) maintain application resource data (such as clinical staff and contact information); (c) perform system configuration (such as configure Mavigraph printer and video settings); (d) customize how the application will flow and generate information (for example, changing

the order and location of menus within the application and editing or creating templates/models that are used to create Procedure Notes); (e) customize user-defined fields (such as other patient information and other visit information); (f) control access to or within the application (such as user and role maintenance); and (g) maintain equipment used during the procedure.

The novel graphical user interface used to enter a patient's vital and administered medication information during an endoscopic exam is now described with respect to Figure 10. Via the procedure the Procedure Tab 1000 (Figure 10), a user may select an exam, and then, via the left hand menu list 1001, select the "Vitals and Meds" choice 1002 which initiates generation of the Vitals and Meds interface screen 10 such as shown in Figure 14. As shown in Figure 14, the Vitals And Meds screen interface 10 includes two tabs: a Vitals And Meds tab 12 and Assessments tab 14. The Vitals And Meds tab 12 includes two sections: Vitals section 15 which include, for example, rows for entry of patient vital signs (vitals) information for a patient such as pulse rate 16a, respiration 16b, systolic 16c, diastolic 16d, O₂ saturation 16e, quantity and method of O₂ 16f, and temperature 16g, for example; and, Medications 20 for a patient including information 22 about medications administered during the different phases of care. As will be explained in greater detail herein, the Assessment tab 14 includes sections for entering patient data such as: Aldrete Scores which are scores for activity, respiration, circulation, consciousness, O₂ saturation, dressing, pain, ambulation, fasting - feeding, and urine output; and, Intraprocedural Assessments which include intraprocedural observations for the patient before and during an exam. This information comprises of LOC, skin/circulation, rhythm strip, emotional status, pain, and notes.

As shown in a right side portion 50 of the interface 10 of Figure 14 are generated columns 52 populated with values of the patient's vitals 16a,...,16g and medications data 26 at the time of each reading. That is, each column is created and associated with an instant of time 54 (hereinafter "timestamp") as entered by a user and indicated via the interface. It should be understood that if any information was recorded during a pre-procedure phase of the examination, this information will be displayed in the screen. For each time new patient vital data is entered, the endoscopic workstation generates for display a column 52 in the right side portion of the interface 10. To add a column via the Vitals And Meds screen, a user may click an icon 57 to initiate functionality for causing the addition of a column associated with a current time. A

column 52 is thus added to the vital and meds display with the current time. A patient's vitals and meds information may be captured at different time-intervals. However, by default, a user may only see one column in the Vitals And Meds screen portion 50 of Figure 14. Preferably, the user may add more columns for different time intervals as shown in the vitals and meds interface screen 10 of Figure 15. To add multiple columns via the Vitals And Meds screen, a user may click an icon 58 to initiate functionality for causing the addition of multiple columns 52,a,...,52c, etc. Particularly, an add multiple columns window 59 is displayed as shown in Figure 15 which provides entry fields 56a-56d enabling a user to specify the addition of a number of columns for an associated date and time and time interval. For instance, via interface 59, a user is able to click a Date icon 51a to enter the date or, type it in manually in field 56a. By default, the current date is populated. The user may further click a Time icon 51b to enter the time or type it in manually. By default, the current time is populated. Further, the user is enabled to enter the time intervals and a number of columns to the respective Interval and Columns fields 56c, 56d. Thus, for instance, a user may specify for the periodic capture of vitals and medications data and associate timestamps at the specified periods, before during and after a procedure.

Referring back to Figure 14, according to the present invention, there are three (3) ways to enter each vitals information: 1) a Slider mechanism whereby a user may set a value by clicking and dragging a control sliding element 17 either left (to decrease) or right (to increase). The position of the slider represents the value of the vital sign; 2) a Spinner mechanism 18 comprising two arrows, one for increasing the value in the associated text box and one for decreasing that value; and 3) a Text box 19, whereby a user may choose to enter the data using the keyboard, a value up to 10 times the associated slider value, for example, may be recorded. If the value entered exceeds 10 times the maximum slider value, the system automatically sets the value to the maximum allowable number.

To record a patient's vital information it is first required that a column is available to record the vitals values in the Vitals section of the Vitals And Meds tab. If not, the user will be prompted to add a column or add multiple columns. The value may then be entered to any or all of the vitals (except O₂) using the slider, the spinners, or text box. With respect to the entry of O₂ vitals information 16f, referring back to Figure 14, the user may select an O₂ application method from the method dropdown list 31, a quantity

from the Quantity text box 32, and units from the Unit dropdown list 33. An Update Values icon may then be selected at the top of the added column where the values are to be recorded and the timestamp associated. The specified values are copied into the selected column. Each of these steps may be repeated to add another value, and the data are recorded when save is selected.

Referring to Figure 15, with respect to the entry of Medications information, the Medications section 20 of the screen interface is used to record information about medications administered during the phases of care. The patient's weight information 23 in both kilograms (kg) and pounds and ounces (lb and oz) are displayed in an area below the Medications legend. To record the patient's meds information 22, it is imperative that a column 52a is available to record the meds values in the Meds section of the Vitals And Meds tab. The user may first select by clicking a New Row button 25 to display the New Medication screen 20. The user may then enter search criteria to the Drug (Brand) Name field 22, for example, search for a medication from an encyclopedia of medications. To perform a search, a user may select a search icon which causes display of a search screen 44, as shown in Figure 16, that enables a user to enter search criteria including alphanumeric characters in the Name field 41 and initiate search functionality which responds by returning a list 43 of all medications (both Drug Name and Brand Name) matching the search criteria are displayed. It is understood that, via the interface of Figure 16, a user is enabled to insert a new medication including a Drug/Brand name, strength for the selected drug/brand, route and unit Any medication name, strength, route and unit that exceeds the display width will be available for viewing via the mouse over tool tip, or similar cursor or pointer display device.

The user then will select the desired medication. The screen closes and the Drug (Brand) Name field is populated with the selected medication 22. The user may then enter the strength for the medication. Further selections enable a user to Select a Route for the medication from the Route dropdown list 36 and select a Unit for the medication from the dropdown list 37. Once this information is added, a user may then enter a dosage for the medication to the Dose field 38. As shown in Figure 15, the system additionally displays a total dose 39 with unit for each medication which is the sum of dose for each timestamp for each medication. An Update Values icon 55 may then be selected at the top of the column where the specified values are to be recorded and the timestamp associated.

The specified values are copied into the selected column. Each of these steps may be repeated to add other medications, and the data are recorded when save is selected.

With respect to the entry and recordation of Aldrete scores, via the interface 40 of Figure 17, a user may select radio buttons 42 associated a score for each Aldrete, including entry of a score for activity 46a, respiration 46b, circulation 46c, consciousness 46d, O₂ saturation 46e, dressing 46f, pain 46g, ambulation 46h, fasting – feeding 46i, and urine output 46j. Although each Aldrete has the same range of possible values, the meaning associated with the values differs. For example, a score of 1 for respiration is different than a score of 1 for pain. For a description of each Aldrete and its associated values, an icon 45 located on the Assessments tab may be selected to explain a particular Aldrete Score. Particularly, a window is displayed (not shown) that explains all Aldrete values for the current facility. To record a patient's aldrete score, the user first selects an Assessments tab, and ensures that a column 52 is available to record Aldrete Scores values in the Aldrete Scores section. As described herein, a user may add a single or multiple column at a time. Then, after selecting the appropriate radio button corresponding to the desired Aldrete, a user may click Update Values icon 55 at the top of the column where the values are recorded. The specified values will populate the selected column. It should be understood that a total Aldrete Score 57 for each timestamp is calculated and displayed.

With respect to the entry and recordation of Intraoperative Assessments, via the exemplary interface window 60 depicted in Figure 18, a user may document intraoperative information for the patient before and during the exam. This information includes an LOC (Level of Consciousness), skin/circulation, rhythm strip, emotional status, pain, notes, and two user-definable values. To record any patient's intraoperative assessments record, the user first selects the Assessments tab, and ensures that a column is available to record Intraoperative Assessment values in the intraoperative assessment section. Then, the user may select the appropriate values from each of the corresponding dropdown lists 63 for each assessment. Then after selecting the appropriate values corresponding to the desired intraoperative assessment, a user may click Update Values icon 55 at the top of the column 52 where the values are recorded. The specified values will populate the selected column. These steps may be repeated to add another intraoperative assessment record.

With respect to the entry and recordation of Unplanned Events, via the exemplary interface 70 depicted in Figure 19, a user may record an unplanned event. By

clicking on an Unplanned Events button 72 shown in Figure 19, a New Unplanned Event window 75 is displayed, enabling the user to Enter date, time, and details of the event. Further with respect to the recordation of an unplanned event, a "Notify Attending" checkbox 76 may be selected that initiates functionality to inform the attending about the
5 unplanned event. It is understood that each Unplanned Event is captured with a timestamp, for example, which may be entered by selecting the clock icon 77.

It should be understood that for any Vitals, Meds, Aldrete and Assessments entered, a user may enter the timestamp and edit the date and time values. This would change timestamp in all the sections – Vitals, Meds, Aldrete and Assessment. The Task
10 Details Notes values are additionally time stamped with the Unplanned Event Date and Time and the Unplanned Event Notes.

While there has been shown and described what is considered to be preferred embodiments of the invention, it will, of course, be understood that various modifications and changes in form or detail could readily be made without departing from
15 the spirit of the invention. It is therefore intended that the invention be not limited to the exact forms described and illustrated, but should be constructed to cover all modifications that may fall within the scope of the appended claims.

CLAIMS:

Having thus described our invention, what I claim as new, and desire to secure by Letters Patent is:

- 5 1. A system for capturing patient related data in an endoscopic system comprising an imaging node adapted to capture endoscopic images during the course of an endoscopic examination, said patient data capture system comprising:
- a display means for providing an interface to enable user to enter data relating to a patient examined during said endoscopic examination, said data including patient vital
10 sign information of said patient at various phases of care relating to said endoscopic examination and, said interface including individual graphic controls for enabling entry of values relating to said patients vitals information;
- a means for associating entry of patients' vitals information with a timestamp;
- a means for storing said patient vitals information and associated timestamps in
15 a database record associated with said patient.
2. The system for capturing patient related data as claimed in Claim 1, wherein said interface provides a grid of rows associated with a patient data to be captured and columns associated with different time intervals, said system providing means for enabling
20 display of multiple columns for association with said timestamps.
3. The system for capturing patient related data as claimed in Claim 1, wherein an individual graphic control comprises a slider mechanism adapted to be manipulated by a user controlled pointer device for entering said vitals information, wherein a position of
25 the slider represents the value of the patient's vital sign.
4. The system for capturing patient related data as claimed in Claim 1, wherein an individual graphic control comprises a spinner mechanism comprising a first selectable display element for increasing the value in an associated text box and a second selectable
30 display element for decreasing that value.
5. The system for capturing patient related data as claimed in Claim 2, wherein

said data relating to a patient examined during said endoscopic examination includes medication administered to said patient, said associating means further associating a timestamp with the medication administered.

5 6. The system for capturing patient related data as claimed in Claim 5, further comprising search means for enabling query of a particular type of medication to be administered.

10 7. The system for capturing patient related data as claimed in Claim 5, wherein said interface comprises means enabling entry of the strength for the medication.

15 8. The system for capturing patient related data as claimed in Claim 5, wherein said interface comprises means enabling user entry of the dosage of the medication administered.

 9. The system for capturing patient related data as claimed in Claim 5, wherein said interface comprises means enabling user entry of a route taken for the medication and a unit for the medication.

20 10. The system for capturing patient related data as claimed in Claim 2, wherein said data relating to a patient examined during said endoscopic examination includes a patient's Aldrete score, said associating means further associating a timestamp with the recordation of the Aldrete score values.

25 11. The system for capturing patient related data as claimed in Claim 10, further including means selectable by said user for providing a description of each Aldrete and associated score values.

30 12. The system for capturing patient related data as claimed in Claim 2, wherein said data relating to a patient examined during said endoscopic examination includes any intraprocedural assessment, said associating means further associating a timestamp with the recordation of the assessment.

13. The system for capturing patient related data as claimed in Claim 1, wherein said data relating to a patient examined during said endoscopic examination includes data relating to a date, time, and details of an unplanned event.

5 14. A method for capturing patient related data in an endoscopic system comprising an imaging node adapted to capture endoscopic images during the course of an endoscopic examination, said method comprising steps of:

10 a) displaying an interface to enable user to enter data relating to a patient examined during said endoscopic examination, said data including patient vital sign information of said patient at various phases of care relating to said endoscopic examination;

b) manipulating individual graphic controls provided via said interface for enabling entry of values relating to said patients vitals information;

c) associating entry of patients' vitals information with a timestamp; and,

15 d) storing said patient vitals information and associated timestamps in a database record associated with said patient.

15. The method for capturing patient related data as claimed in Claim 14, wherein the step of displaying individual graphic controls comprises displaying a slider mechanism for one or more patient's vital signs, said slider mechanism adapted to be manipulated by a user controlled pointer device for entering said vitals information, wherein a position of the slider represents the value of the patient's vital sign.

25 16. The method for capturing patient related data as claimed in Claim 14, wherein an individual graphic control comprises a spinner mechanism comprising a first selectable display element for increasing the value in an associated text box and a second selectable display element for decreasing that value.

30 17. The method for capturing patient related data as claimed in Claim 14, wherein said data relating to a patient examined during said endoscopic examination includes medication administered to said patient, said associating step c) includes associating a timestamp with the medication administered.

18. The method for capturing patient related data as claimed in Claim 17, further comprising the step of: enabling query of a particular type of medication to be administered via said interface.

5 19. The method for capturing patient related data as claimed in Claim 17, further comprising the step of enabling entry of the strength for the medication and a dosage administered.

10 20. The method for capturing patient related data as claimed in Claim 17, further comprising the step of enabling entry of a route for the medication and a unit for the medication.

15 21. The method for capturing patient related data as claimed in Claim 14, wherein said data relating to a patient examined during said endoscopic examination includes a patient's Aldrete score, said associating step c) includes associating a timestamp with the recordation of the Aldrete score values.

20 22. The method for capturing patient related data as claimed in Claim 14, wherein said data relating to a patient examined during said endoscopic examination includes any intraprocedural assessment, said associating step c) includes associating a timestamp with the recordation of the assessment.

25 23. The method for capturing patient related data as claimed in Claim 14, wherein said interface provides a grid of rows associated with a patient data to be captured and columns associated with different time intervals, said method further including the step of enabling display of multiple columns for association with said timestamps.

30 24. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for capturing patient related data in an endoscopic system comprising an imaging node adapted to capture endoscopic images during the course of an endoscopic examination, said method steps comprising:

a) displaying an interface to enable user to enter data relating to a patient

examined during said endoscopic examination, said data including patient vital sign information of said patient at various phases of care relating to said endoscopic examination;

b) manipulating individual graphic controls provided via said interface for enabling entry of values relating to said patients vitals information;

c) associating entry of patients' vitals information with a timestamp; and,

d) storing said patient vitals information and associated timestamps in a database record associated with said patient.

10 25. The program storage device readable by a machine as claimed in Claim 24, wherein the step of displaying individual graphic controls comprises displaying a slider mechanism for one or more patient's vital signs, said slider mechanism adapted to be manipulated by a user controlled pointer device for entering said vitals information, wherein a position of the slider represents the value of the patient's vital sign.

15 26. The program storage device readable by a machine as claimed in Claim 24, wherein said data relating to a patient examined during said endoscopic examination includes medication administered to said patient, said associating step c) includes associating a timestamp with the medication administered.

20 27. The program storage device readable by a machine as claimed in Claim 24, wherein said data relating to a patient examined during said endoscopic examination includes a patient's Aldrete score, said associating step c) includes associating a timestamp with the recordation of the Aldrete score values.

25 28. The program storage device readable by a machine as claimed in Claim 24, wherein said data relating to a patient examined during said endoscopic examination includes any intraprocedural assessment, said associating step c) includes associating a timestamp with the recordation of the assessment.

30 29. The program storage device readable by a machine as claimed in Claim 24, wherein said interface provides a grid of rows associated with a patient data to be captured and columns associated with different time intervals, said method further including the step of enabling display of multiple columns for association with said timestamps.

FIG. 1

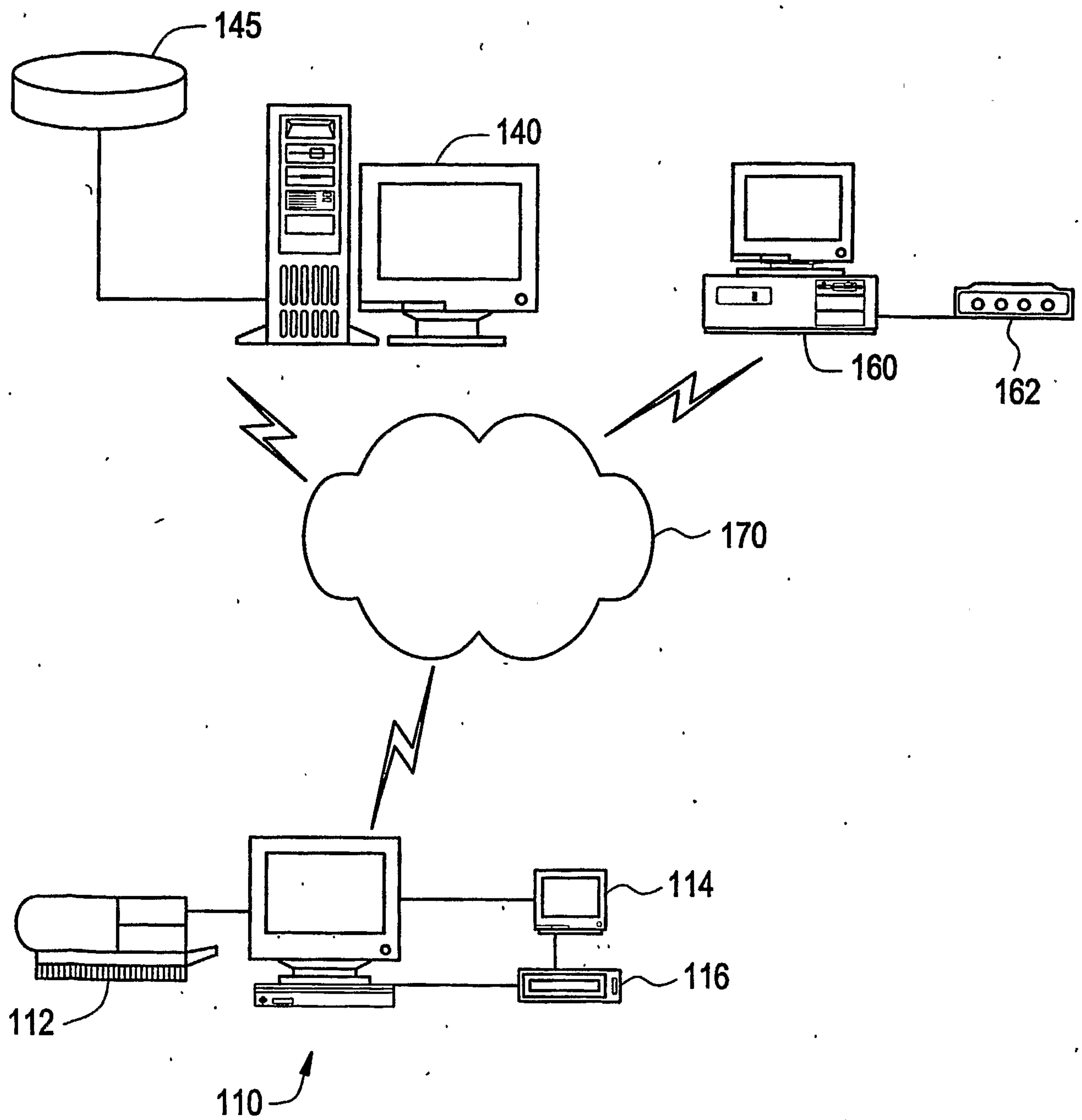


FIG. 2

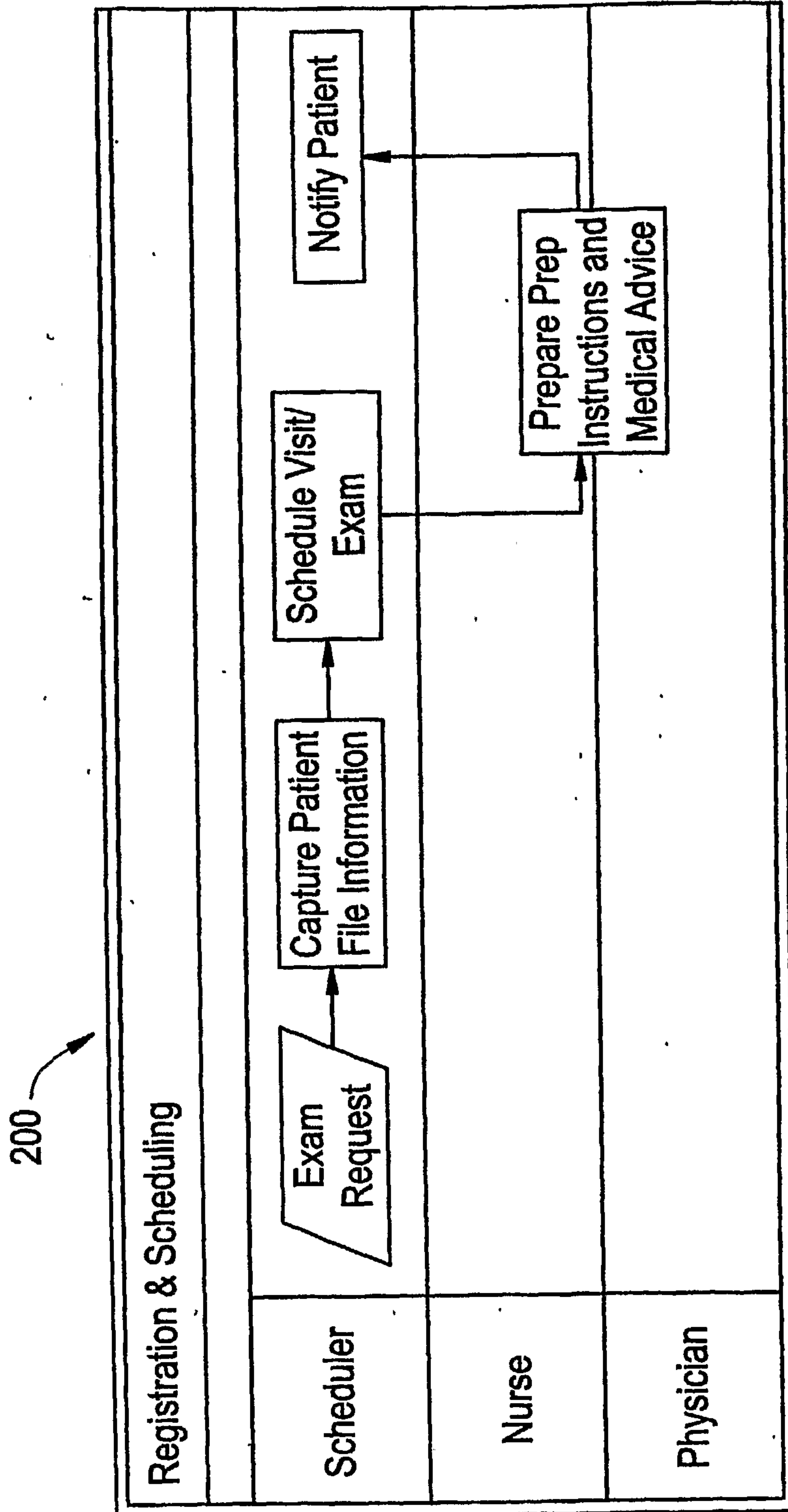


FIG. 3

300

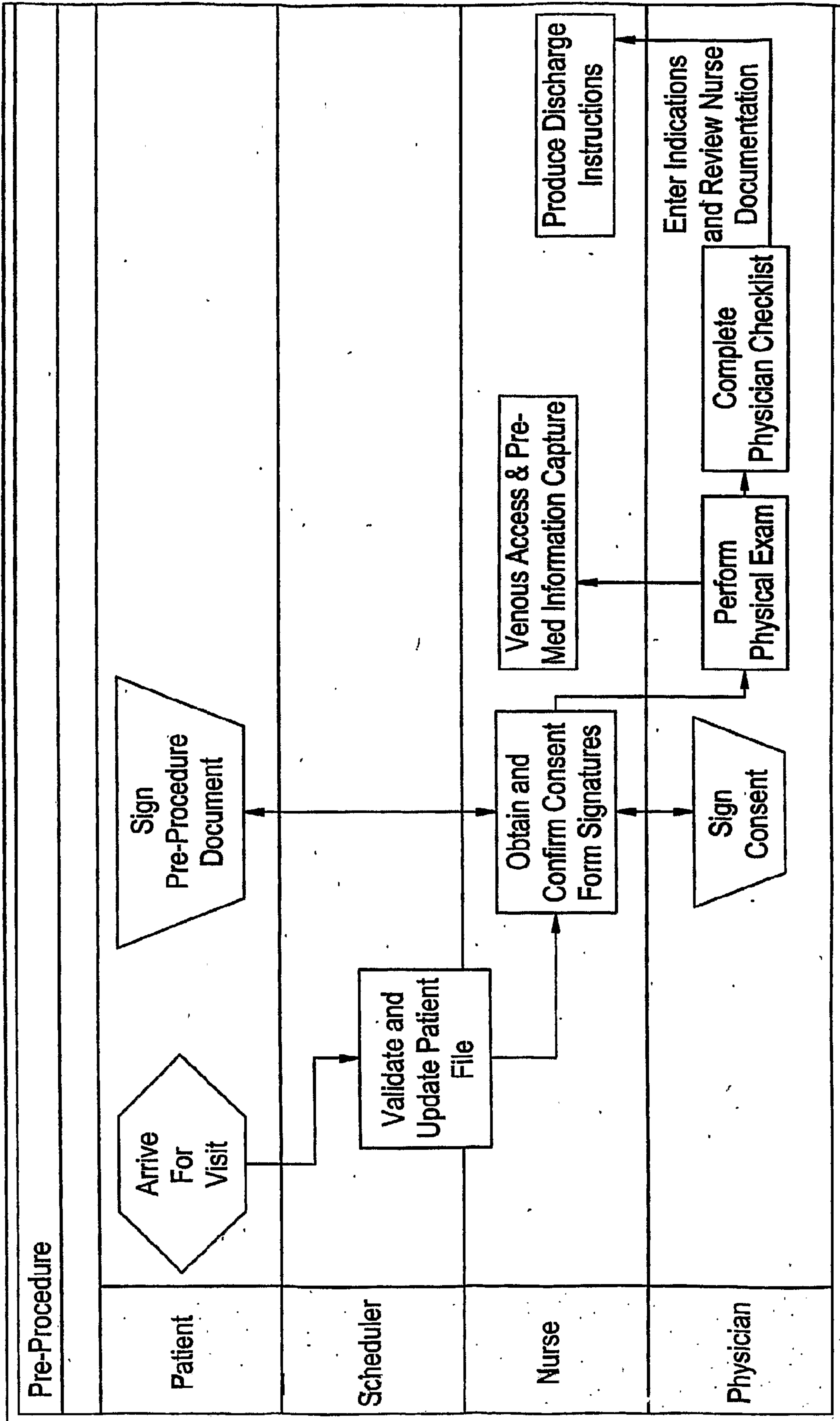


FIG. 4

400

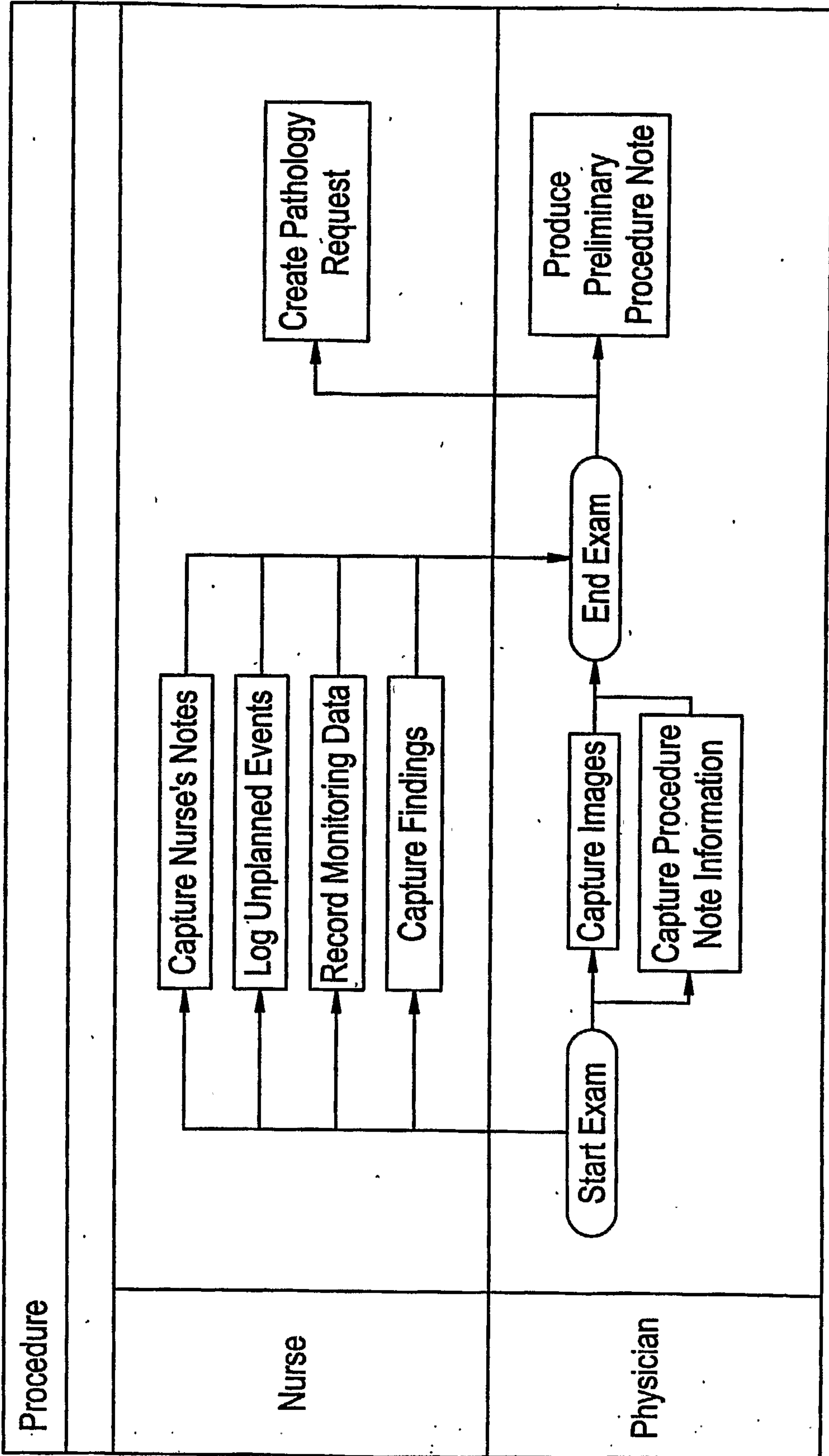


FIG. 5

500

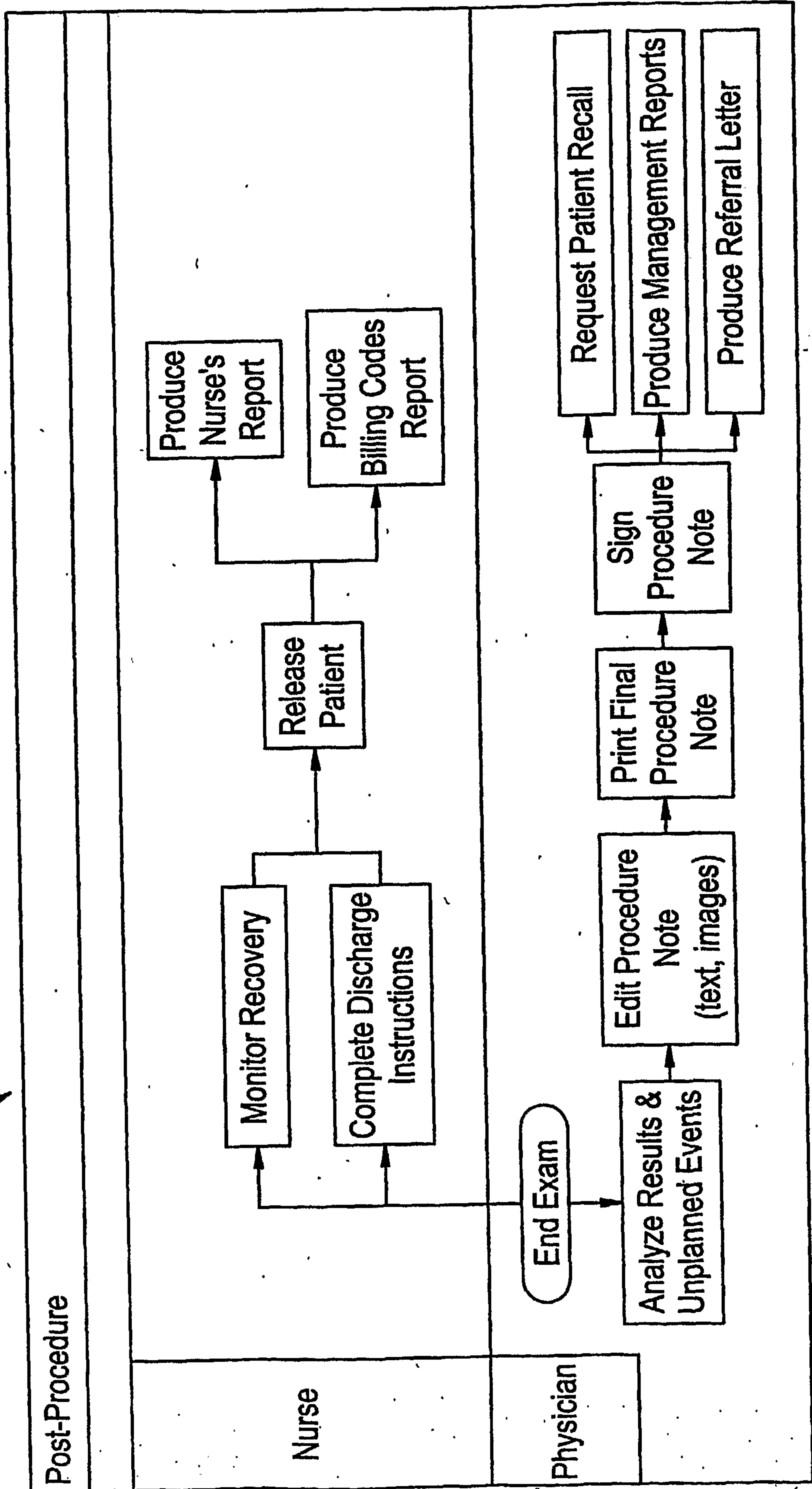



FIG. 6

600

Olympus Endoworks - Microsoft Internet Explorer

Home
Patient File
Registration
Pre-Procedure
Procedure
Post-Procedure
Analysis



[Scheduled Exams](#)

[Pending Items](#)

[Pathology Status](#)

[Recall Letters](#)

[ICU Synchronization](#)

nurse YFN

Facility:

Attending:

Date From:

Date To:

02/01/2003 - 02/28/2003

Time	Room	Exam	Patient	Patient ID	Attending	Details	Status
Your Facility Name							
02/07/2003							
10:28 AM		EGD	Pan, Peter	5555pan	Borgese, Larry	<input type="button" value="□"/>	<input type="button" value="⌂"/>
10:28 AM		Colon	Pan, Peter	5555pan	Borgese, Larry	<input type="button" value="□"/>	<input type="button" value="&"/>
Total: 2							
CA Clinic							
02/19/2003							
03:13 PM		Colon	Doe, John	4444d		<input type="button" value="□"/>	<input type="button" value="⌂"/>
Total: 1							
02/20/2003							
04:57 PM		Colon	Doe, John	4444d	Shamboni, Victor	<input type="button" value="□"/>	<input type="button" value="⌂"/>
Total: 1							

[gotoPage\('icsynchronization', 'm_icsynchronization', 'Home'\)](#)

FIG. 7

700

nurse YFN ? ! [icon] X

Patient Search New Next

Last Name: First Name:
 ID: SSN/SIN: Go ▶

Select	Patient	Patient ID	SSN/SIN	Details
<input type="checkbox"/>	Annoying, Mister	MRN-999941		[icon]
<input type="checkbox"/>	Amy, Dick	MRN-AD023		[icon]
<input type="checkbox"/>	Atkins, Robert	MRN-451112		[icon]
<input type="checkbox"/>	Babar, Jaba	MRN-Babar11		[icon]
<input type="checkbox"/>	Bassett, Angela	MRN-ang01		[icon]
<input type="checkbox"/>	Bill, Barnacle	Shona01-090		[icon]
<input type="checkbox"/>	Boone, Debbie	MRN-10		[icon]
<input type="checkbox"/>	Cochon, Jean Pierre	MRN-Pig123		[icon]
<input type="checkbox"/>	Davis, Kara	MRN-kdlang		[icon]
<input type="checkbox"/>	Dawson, Kevin	MRN-12343214		[icon]
<input type="checkbox"/>	Diller, Phyllis	ISL-pd1		[icon]
<input type="checkbox"/>	Dumbledore, Professor	MRN-PD1		[icon]
<input type="checkbox"/>	Fuller, Dustin	MRN-884412		[icon]
<input type="checkbox"/>	Geronamo, Chief	MRN-CG1		[icon]
<input type="checkbox"/>	Girl, Wheezy	MRN-78445521		[icon]
<input type="checkbox"/>	Granger, Herminia	MRN-GH1	852-85-7745	[icon]
<input type="checkbox"/>	Hassing, David	MRN-112233		[icon]
<input type="checkbox"/>	Hosak, Dick	MRN-hdtv		[icon]
<input type="checkbox"/>	jeter, derek	MRN-jeter03		[icon]
<input type="checkbox"/>	Johnson, Howard	MRN-PI123		[icon]
<input type="checkbox"/>	Jones, John	MRN-ij		[icon]
<input type="checkbox"/>	Karpov, Demetri	MRN-Kardem01		[icon]

Patient File Local intranet

FIG. 8

800

Olympus Endoworks - Microsoft Internet Explorer

Home Patient File Registration Pre-Procedure Procedure Post-Procedure Analysis

nurse YFN ? | & X

New Visit Next

Scheduled Exams

Facility: Your Facility Name Attending: [dropdown] Go

Date From: 02/24/2003 Date To: 02/24/2003

02/24/2003 - 02/24/2003 [1] [7] [31]

Time	Room	Exam	Patient	Patient ID	Attending	Details	Status

Scheduled Exams
New Visit
Modify Visit
Lexicon
Schedule Summary
Registration Docs


gotoPage('documentdistribution', 'm_reg_documentdistribution', 'Registration', 'phase_of_care=0') Local intranet



FIG. 9


900

Olympus Endoworks - Microsoft Internet Explorer provided by Computer Associates Intl.

Home Patient File Pre-Procedure Procedure Post-Procedure Analysis



John Doe 4444d  physician YFN ? ! & X

Scheduled Exams  

Facility: Attending: 

Date From: Date To:

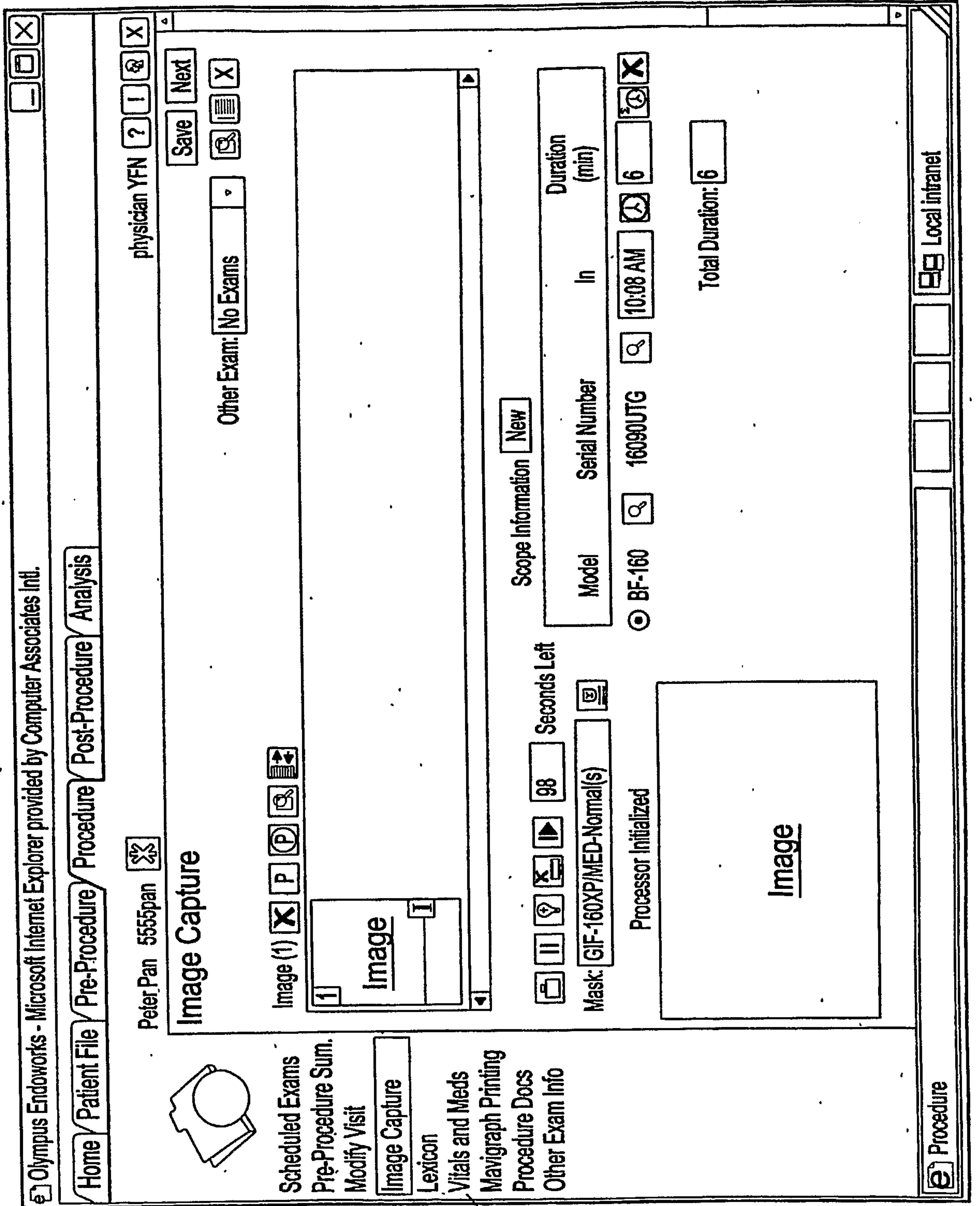
02/20/2003 - 02/20/2003

Time	Room	Exam	Patient	Patient ID	Attending	Details	Status
Your Facility Name 02/20/2003		Colon	Doe, John	4444d			
Total: 1							

Scheduled Exams
 Patient Search
 Schedule Summary
 Patient Process
 Consent Checklist
 Prep Status
 Medical Alerts
 GI History
 Social History
 Family History
 Patient Assessment
 Physical Exam
 Vitals and Meds
 Physician Checks
 Lexicon
 Pre-Procedure Sum.
 Pre-Procedure Docs
 Other Visit Info

FIG. 10

1000



1001

1002

FIG. 11

1100

Olympus Endworks - Microsoft Internet Explorer provided by Computer Associates Intl.

Home / Patient File / Pre-Procedure / Procedure / Post-Procedure / Analysis

Peter Pan 5555pan

physician YFN

Save Save as... Sign

Othe Exam 02/07/2003 Colon

Scheduled Exams
Image Management
Lexicon
Procedure Note
Vitals and Meds
Recall Patient
Patient Survey
Trainee Assessment
Mavigraph Printing
Post Procedure Docs
ICU Synchronization

- Procedure Note

Image (2)

1	Image 1	Label 01
2	Image 2	Label 02
3	Image 3	
	Image 4	
	Image 5	

Version 1* 9pt Serif

Indications
Procedure The endoscope was passed through the gastrostomy and was advanced to the anterior bulb, a main papilla and main papilla. The views were good. The patient's toleration of the procedure was good.
Findings Moderate quantity of maroon blood was found in the lower third of the esophagus. Appearance were due to ulcer.

Unplanned Events
Recommendation Return to floor consultation. Start Followup appointment with family physician in specifies number of days send

Findings

- stomach
- polyp
- anterior wall of the antrum
- 23 cm
- esophagus
- food
- trace
- upper third of the esophagus
- motor disorder

organ

- esophagus
- stomach
- duodenum

Indications Procedure Findings Unplanned Events Recommendation

FIG. 12

1200

Olympus Endoworks - Microsoft Internet Explorer provided by Computer Associates Intl.

physician MJC

Home Patient File Pre-Procedure Procedure Post-Procedure Analysis

John Doe 00112233

CQI Reports

Name	Description	Execute
Indications, Detail	Exam indications by attending physician and exam type	
Indications, Summary	Exam indications summarized by attending physician and exam type	
Exams By Patient Diagnosis	Exams sorted by diagnosis	

CQI
Efficiency
Equipment Analysis
Procedure Analysis
Administration

gotoPage('mgmtreportlist',m_adminreportlist',Reports',reporttype=5')

Local intranet


FIG. 13

1300

Olympus Endoworks - Microsoft Internet Explorer provided by Computer Associates Intl.

Home / Admin ADMIN MJC ? ! & X

System Settings Save

Institution Name: *
 Institution Logo: 
 SSN/SIN Format: *
 Phone Format: *
 Thousand Separator: *
 Decimal Separator: *
 Other Assessment1: *
 Language: *
 Institution Logo:

Time Format: *
 Date Format: *
 Compression: *
 Temperature Type: *
 Other Assessment2: *

System
 Clinical & Patient
 Configuration
System Settings
 Application Flow
 Facility Settings
 Node Settings
 Mavigraph Settings
 Video Settings
 Auto Mask Settings
 Customization
 Security
 Utilities
 Equipment

FIG. 14

10

Olympus Endoworks - Microsoft Internet Explorer provided by Computer Associates Intl.

Home Patient File Registration Pre-Procedure Procedure Post-Procedure Analysis

Peter Pan 5555pan nurse CAC ? ! & X Unplanned Events Save Next

Vitals And Meds 12 15 57 52 54

Vitals And Meds Assessments 14 10:32 AM

Vitals 17								
40	160	18	Pulse Rate	76	16a			
10	40	19	Respiration	23	16b			
80	240		Systolic	140	16c			
40	180		Diastolic	90	16d			
60	100		O ₂ Saturation	77	16e			
Method	Quantity	Unit						
Nasal Cannula		lLPM		Nasal Cannul...	16f			
96	106		Temperature °F	99.0	16g			

Medications New 20

Patient Weight: 78.0 kgs 171.96lbs.

Delete	Drug(Brand Name)	Route	Total Dose	Unit
<input checked="" type="checkbox"/>	abccdmab(Raopro)	CPD	1.0 day	day
	:IV solution			

22

Applet endoworks.frameworks.AppleLoader started Local intranet

FIG. 15

10

Olympus Endoworks - Microsoft Internet Explorer

Home Patient File Registration Pre-Procedure Procedure Post-Procedure Analysis

Peter Pan 5555pan nurse CAC ? 1 1 Save Next

Unplanned Events

Vitals And Meds

Vitals And Meds Assessments

Vitals	40	160	58	55	52a	52b	52c
Pulse Rate	70			01:34 PM	06:01 PM		06:03 PM
Respiration	25						
Systolic	127						
Diastolic	79						
O ₂ Saturation	75						
Method	Quantity	Unit					
Nasal Cannula		ILPM					Nasal Cannul...
96	106	Temperature °F					
20	New	25					
Medications							
Patient Weight: 78.0 kgs 171.96lbs.							
Delete	Drug(Brand Name)	Route	Total Dose	Unit			
<input checked="" type="checkbox"/>	alginic acid/Al hydroxide/MG trist,	VAG	6.0 dos	dose			
			6.0 dose				
			35	36	39	38	37
							55

59 Add Multiple Columns

51a Date: 03/03/2003

51b Time: 11:52 AM

56b Internet: 30

56c Columns: 4

56d Ok Cancel

56a

20

Medications New 25

Patient Weight: 78.0 kgs 171.96lbs.

Delete Drug(Brand Name) Route Total Dose Unit

alginic acid/Al hydroxide/MG trist, VAG 6.0 dos dose

6.0 dose

35 36 39 38 37

55

Applet endoworks.frameworks.EAppletLoader started

Local intranet

FIG. 16

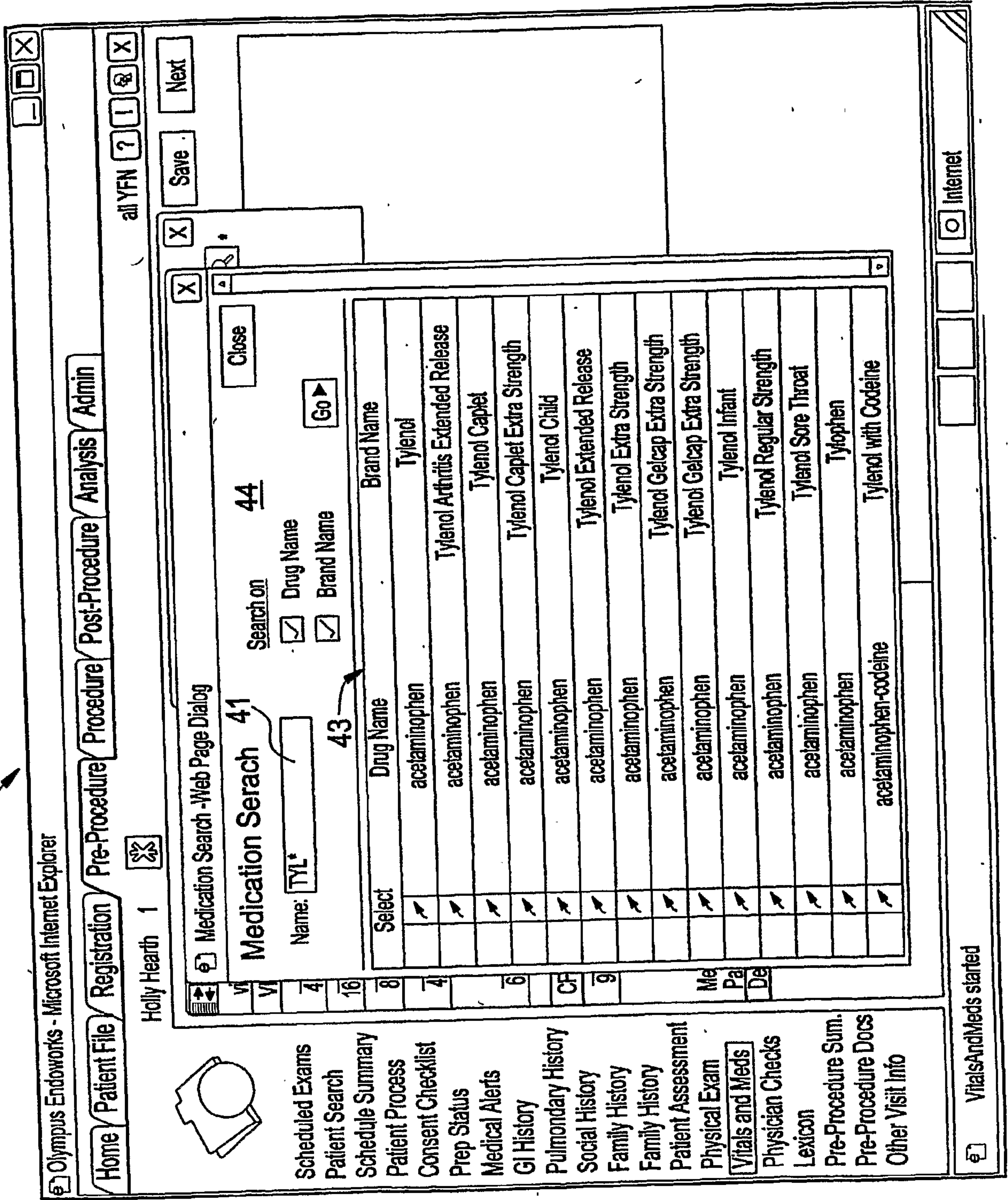


FIG. 17

40

Olympus Endoworks - Microsoft Internet Explorer provided by Computer Associates Intl.

Home Patient File Registration Pre-Procedure Procedure Post-Procedure Analysis

Peter Pan 5555pan

Vitals And Meds 14

Vitals And Meds Assessments 45

Aldrete Scores 55

10:32 AM 10:42 AM

None	0	1	2
46a ~ Activity	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46b ~ Respiration	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46c ~ Circulation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46d ~ Consciousness	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46e ~ O2 Saturation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46f ~ Dressing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46g ~ Pain	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46h ~ Ambulation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46i ~ Fasting - Feeding	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
46j ~ Urine Output	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Total	4	42	3

57

Scheduled Exams
 Pre-Procedure Sum.
 Modify Visit
 Lexicon
 Vitals and Meds
 Nursing Admin
 Pathology Request
 Equipment Used
 Mavigraph Printing
 Procedure Docs
 Other Exam Info

FIG. 18

Intraprocedural Assesment		10:32 AM	10:42 AM
LOC	alert & oriented	alert & orient...	alert & orient...
Skin/Circulation	pink	pink	pink
Rhythm Strip	normal	not done	normal
Emotional Status	anxiou/participates in care	anxious/partici...	anxious/partici...
Pain	1	1	1
Notes:			
other1:			
other2:			

FIG. 19

