Trainer's Toolkit

OB TraceVue

Patient Monitoring

PHILIPS

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Notice

Philips developed the OB TraceVue system in cooperation with Massachusetts General Hospital, an affiliate of the Harvard Medical School.

Trademarks

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1 Overview

Intended Audience

This toolkit is for anyone who educates hospital staff to use the OB TraceVue system. This could be a Philips Medical System employee or representative giving system training or consultant services on-site or a hospital's System Manager or Super User who needs to train new users on an established system.

The information provided in this toolkit makes the assumption that all users are familiar with the Windows graphical user interface, use of a keyboard, use of a mouse or other pointing device, and have a basic familiarity with Microsoft Word. Philips does not provide training on standard Microsoft applications.

How to Use this Toolkit

This toolkit is designed to make it easy for you to customize parts of it according to the needs of your hospital. *Philips Medical Systems retains the copyright to all material contained in the toolkit*. Because this document is written using Microsoft Word, a tool available to most of you on your OB TraceVue system, you can easily copy parts of the material for your use and place it into your customized documents. All of the graphics files used in this Toolkit are available on the Documentation CD in a file called *icons.zip*.

1: Overview

This chapter contains the following items

- Description of the various users needed to interact with the system
- Objectives for the various training classes
- End-user competencies
- Training outlines
- Lists of available other resources

2: System Administration

This chapter contains information about the following topics:

- System Administration tools
- Windows security
- Data flow within OB TraceVue
- Servers and databases
- System maintenance
- System troubleshooting

3: System Managers

This chapter contains information about the following topics:

- ADT information
- Audit trails in the system
- Training tools

- Configuration
  - System configuration
  - Value table editor
  - Screen configuration
- Application and Statistical reports

4: Super Users

This chapter contains information about the following topics:

- Super User selection
- Principles of adult learning
- Change management
- System hardware
- System software
- Application details
  - Product overview
  - System security
  - Working with patients
  - Pregnancies/Episodes/Data flow
  - Clinical alerting
  - Using the flowchart
  - Intake & Output/Medications
  - Using forms
  - Attachment manager
  - Application reports
  - Audit trails
- Troubleshooting

5: Training Tools

This chapter contains the following items:

- System Roadmaps
- Quizzes
- Lab activities
- Practice Scenarios

Support Roles and User Types

OB TraceVue System Administrator

- Responsible for the overall administration of OB TraceVue system
- Includes: Protecting and maintaining system components; troubleshooting system errors; managing the back-up process; managing the archive and retrieval process; use of OB TraceVue support tools
- A minimum of 2 System Administrators are recommended

OB TraceVue System Manager

- Responsible for the clinical administration of OB TraceVue application

- Includes: Maintaining application components; configuration; alert settings; security levels, user list
- System Managers provide leadership for training, and policy and procedure development
- A minimum of 2 System Managers are recommended

OB TraceVue Super User

- Primary role is to provide support to the End Users
- Usually responsible for training the End Users during the implementation phase
- Serve as a resource to the staff during Go-live and beyond
- May be involved in configuration decisions and day to day support of the system
- Representative of all shifts and units are recommended

Clinical User

- Clinically trained nurse or healthcare provider who uses the system
- May change her/his own overview screen, password and, if permitted, some patient data
- There are three default users: Philips (for support purposes, which cannot be deleted), Nurse (shown as - - -), and Physician (shown as - - - -). Neither default nurse nor default physician has any permission levels set.

Philips Field Service Engineer (FSE)

- Responsible for initial setup, including giving access to the System Manager
- Has full system permission. Your institution can change the password for this user.

Philips Technical Consultant (TC)

- Responsible for setting up system interfaces and other technical setup

Philips Project Manager (PM)

- Responsible for the overall project implementation from the Philips side
- May also provide some training to System Administrators, System Managers and/or Super Users

Philips Application Consultant (AC) or Clinical Application Specialist (CAS) or Clinical Specialist (CS)

- A Registered Nurse (or other clinician) who is responsible for providing System Manager and Super User training during the project implementation

Philips Post-Implementation CAS or CS

- A Registered Nurse (or other clinician) who is responsible for provided additional training or consulting to the customer after the system has gone "live"

Philips Account Manager

- A Clinical Application Specialist or Technical Consultant who is responsible for the management of the customer's account activities after the system has gone "live"

Glossary of Common OB TraceVue Terms & Concepts

ADT	Stands for Admission/Discharge/Transfer and refers to actions taken to manage the patient within the system. An interface to the Hospital Information System (HIS) that provides most of the ADT actions may be used with your system.
ADT interaction with the FM 20/30 Fetal Monitors	Two different use models may be implemented with the newest version of Philips Fetal Monitors (FM 20/30)
	OB TraceVue client at the bedside. This is the most common setup. Here all patient ADT processes are managed from OB TraceVue. In this case, the fetal monitor should not be enabled to discharge a patient from the monitor user interface. All transfers and discharges are triggered via the OB TraceVue user interface. The system sends a DISCHARGE command to the monitor on every patient transfer; causing the fetal monitor to change the context to the new patient.
	OB TraceVue as central only, no bedside clients. Discharge events may be triggered from the monitor user interface. OB TraceVue is able to process a remote DISCHARGE command from the monitor and transfers the affected patient to a system-departmental "Monitor Discharge (No Bed)" location. A subsequent Monitoring session on the same FM will automatically generate a new, temporary patient.
Alerting Rule Set	A group of circumstances, preprogrammed into OB TraceVue, allowing the computer system to automatically determine when it should display an alert. The Alert Sets are: Basic, AP Advanced, and IP Advanced
Archiving	Saving the patient's data and trace information to permanent storage on an optical disk. Information can be retrieved at a later date
Audit Trail	All user interactions with the system are tracked in the audit trail, and can be retrieved by a user with the proper permissions. Two types: patient data and system data.
Auto Charting	The capabilities of OB TraceVue to collect data from fetal monitors, derive calculated parameters from this data, and enter it automatically into the Flow Chart.
Bed Name / Physical Location	These items have different meanings in the Maternal and the Newborn modules.
	Maternal module: Bed is a Fetal Monitor location. (Limit 200) Monitor Discharge Location is the single defined location that is used with the FM 20/30 model. When the Discharge Patient button is selected, the patient is transferred to this location. (Limit 1) Departmental locations are areas within the clinical unit where the patient may be located that are not connected to a FM such as "Lactation Counselor" or "Post-Partum". (Limit 20) Physical Locations describe places that the patient may be physically located while still being admitted to a bed such as "Walking in Hall". (Limit 40) Other Locations are located outside the clinical unit such as "Radiology" or "Home" (Limit 20) Remote Location is used for received FM traces from a remote location. (Limit 1)

	Newborn Module: There are no beds assigned to newborns since in OB TraceVue, beds are only assigned to Fetal Monitor locations. Departmental locations are used to distinguish areas of care within the newborn area such as "Newborn Nursery" or "Transitional Care Nursery". (Limit 20) Physical locations can be used as "beds" in the sense of isolette or crib locations or can be used for areas such as "Treatment Room" or "at Mom". (Limit 40) Other Locations are located outside the clinical unit such as "Radiology" or "Home". (Limit 20)
Chalkboard	A screen that provides an overview of admitted patients.
Client PC	A Client PC is where you document your information. Information is sent from here to the Servers where the data is permanently stored.
Charting Map	A flowchart setup that represents the typical care required for a clinical situation with the obstetrical or newborn patient. The measurements that comprise a Charting Map are shown on the Data Entry Page and the Overview Page of the Flow Chart.
Current User	The person who has entered their name and password at the Log On screen. Any notes that are entered and/or alerts that are acknowledged while that user name is displayed on screen are attributed to the logged-on user.
Default Values	Values that your System Manager has configured OB TraceVue to use. Whether you can change Default Values depends on your system permission level.
Domain	A set of network resources (applications, printers, and so forth) for a group of users. The user only needs to log in to the domain to gain access to the resources, which may be located on a number of different servers in the network.
Episode	An episode consists of all data collected by OB TraceVue during a patient visit. There may be multiple episodes per pregnancy.
External Database	An OB TraceVue database that resides on the External Server. Data includes: patient demographics, pregnancy data, episode data, and notes generated by the fetal monitor. It does not include trace data. Other applications query this database to generate patient reports and statistical reports.
Flow Chart	A series of time-based data entry screens within the application. Maternal documentation for: Vital Signs, Assessment, Medications, Vaginal Exam, I&O, Contractions, Fetus, and Events. Maternal FC has two modes: AP/IP and PP. Newborn documentation for : Vital Signs, Assessment, Medications, I/O, Lab, Therapies, and Events
Forms	A series of event-based data entry screens that cover the course of the pregnancy and the care of the newborn. Separate icons display pages designed for documentation of various stages of care. The Maternal form icons are: Prenatal Visit/Patient History, Departmental Admission Record, Delivery/Postpartum/ Discharge Record, and Postpartum Follow-up Visit. The Newborn form icons are: Departmental Admission Record and Discharge Record. Each icon has multiple form pages.
Identify/Search Patient	Represented by the "Rolodex" icon. This area is used to admit (open episode) and discharge (close episode) maternal patients in OB TraceVue. It can also be used to see an overview of the pregnancy and episodes for each patient.

Internal Server	Server that runs OB TraceVue. The other OB TraceVue PCs cannot run with out this server. It manages the OB TraceVue network, database, and archive storage.
Multi Bed Overview	A way of viewing multiple patients FM traces at the same time. Multiple different views that contain different sets or numbers of beds are configurable.
Patient in Focus	The patient whose trace data and documentation you are currently viewing. Name and location appears in the Patient in Focus white box in the upper left side of the screen.
Print Maps	A collection of pre-defined documents. These make it easier to print a group of documents all at once.
Single Patient Trace	"Home base" in the system. Displays trace data for the patient in focus. An eight minute window of trace is displayed.
Surveillance Only System	A Surveillance only OB TraceVue system has no optical disk storage and archiving ability. All monitoring functions, including alerts, are available. You can view the trace and document on the Flow Chart. There is no permanent storage of data. All information is lost when you close the patient's episode.
Permission Levels	Security settings assigned to Users. If you do not have permission to perform a task, the task box will be grayed out.
System Administrator	Responsible for the overall administration of the OB TraceVue system.
System Manager	A user who is responsible for the clinical administration of the OB TraceVue application. Usually there is a Clinical System Manager and a Technical System Manager with the Technical System Manager being responsible for the hardware and software.
Super Users	A user who has received detailed training on the system and is responsible for End User training and support.

Class Content Overview

System Administrator Training

- Care & Maintenance of system components
- System Administration
- System Diagnosis & Troubleshooting
- Available Tools

System Manager Training

- System Configuration
- First line troubleshooting
- Policy and Procedure Update and/or Development
- User Training Plan Development

Super User Training

- Development of a core group of Trainers and resource staff
- Information the End User requires to effectively use OB TraceVue in daily work activities
- First line troubleshooting

Additional Resources

Resource Type	Where Found	Name (Part Number)
On-line Help	Available by clicking the HELP icon. 	
User Documentation	Documentation CD	-Instructions for Use -Quick Reference Guide -System Administration & Configuration Guide -Word Form Fields and SQL Query Examples
Reports/Statistical Log Templates	In the \\TV2\Templates directory	On the OB TraceVue internal server (usually called the "O:\" drive)
Technical Documentation	Documentation CD	-Database Dictionary -Installation & Service Manual -Integration Guide -Site Preparation Guide
Sales Documentation	Available from your Philips representative	-Sales Guide (Internal only) -System Guide (4522 962 09251/862) -Technical Data Sheet (4522 962 08022) -Product Brochure (4522 962 08871/862)
Application Notes	Documentation CD	-CTG Analysis & Alerting -NICHD Guidelines
Information Portal	*SHIFT-CLICK* on Help Icon	Resources as defined by Hospital (usually on the hospital intranet or a network location)
Graphic files for system icons & graphics used in this document	Documentation CD	Icons.zip

2
System Administration

Intended Audience

This chapter is designed for anyone who educates hospital staff in the system management functions and tools of the OB TraceVue system. This could be a Philips Medical System employee or representative giving system training or consultant services on-site or a hospital's System Administrator who needs to train new system administrators or managers on an established system.

The assumption is made that all users are familiar with the Windows graphical user interface, use of a keyboard, use of a mouse or other pointing device, and have a basic familiarity with Microsoft Word. System Administrators must also have a good grasp on how to administer computer systems in a client/server environment, understand interfacing, understand system backup/restore procedures, and, if used, know how to administer an Active Directory Server / Domain Controller. Philips does not provide training on standard Microsoft applications.

Objectives

System Administrator training objectives

By the end of System Administrator training, the learners will be able to …

- Have an understanding of the OB TraceVue standard support tools:
  - Export DB administration
  - Link recovery (if applicable)
  - Local recovery
  - OB TraceVue setup
  - Offline backup
  - System overview
  - Patient data administration
  - Configuration backups
  - Log file viewer
- Administer Active Directory for OB TraceVue (if applicable)
- Explain the system hardware layout
- Maintain and troubleshoot the OB TraceVue-to-OB TraceVue link (if applicable)
- Perform system maintenance (DB backups, changing optical disks, client set-up)
- Perform troubleshooting for problems that may arise
- Explain how the ADT interface works
- Discuss co-residency and how it will be used (if applicable)
- Generate system and patient audit trails

System Administration training outline

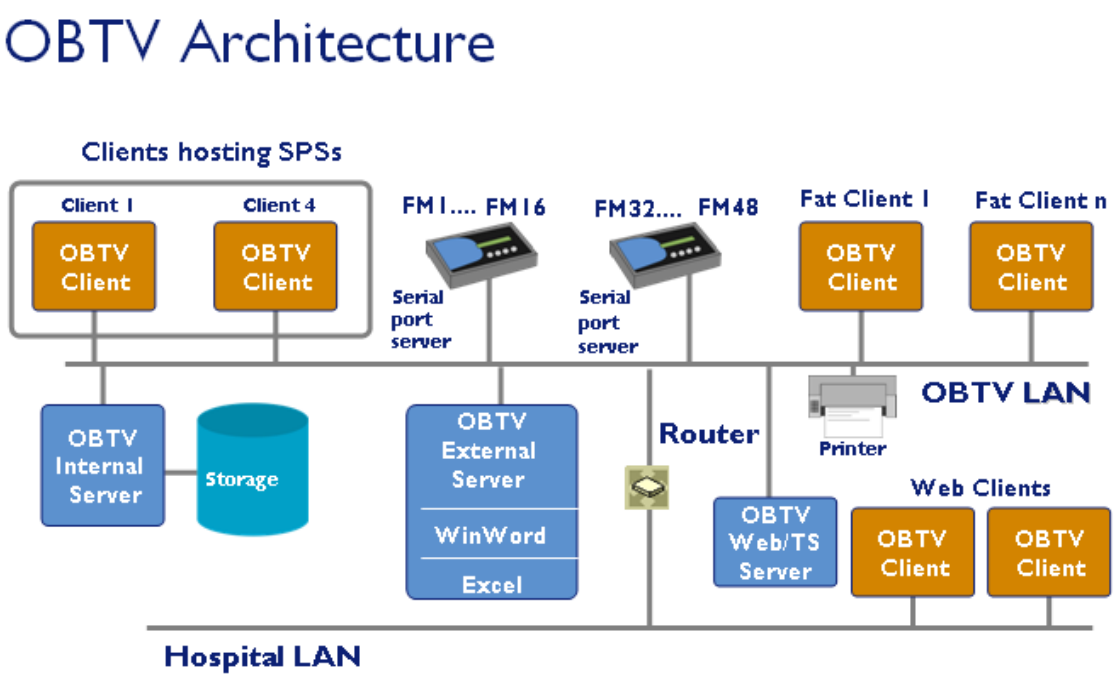
Topic	Details	Notes
Intro-duction	System Administrator responsibilities Patient flow/Episode concepts/Data flow Software Functionality: Surveillance, Archiving, Flow Chart, & Forms	
System Security	PC User name User name Passwords Policy/security Screen appearance	
System Back-Up	System Manager Icons for Routine Maintenance Importance of System Maintenance log Text (readable) Configuration Back-up Configuration Back-up Optical Disk Back-up Value Table Editor Back-up External Server Back-up Automatic Hard drive Back-up	

Topic	Details	Notes
Config-uration Copying and Back-Up	Text Copy of Configuration Text Copy to C drive Text Copy to Floppy Backup of Database and system to Optical disk Configuration Backup to Optical disk & Floppy Changing disks	
Optical Disks	Back-up disks *Jukebox* Data flow to Optical Disk "No Archiving" messages – when seen Fetal Monitor Setup PC Name	
System Admin-istration & Shutdown	COM Port Bed Check FM configuration Exit OB TraceVue Controlled shutdown of PC Uncontrolled shutdown of PC Server shutdown	

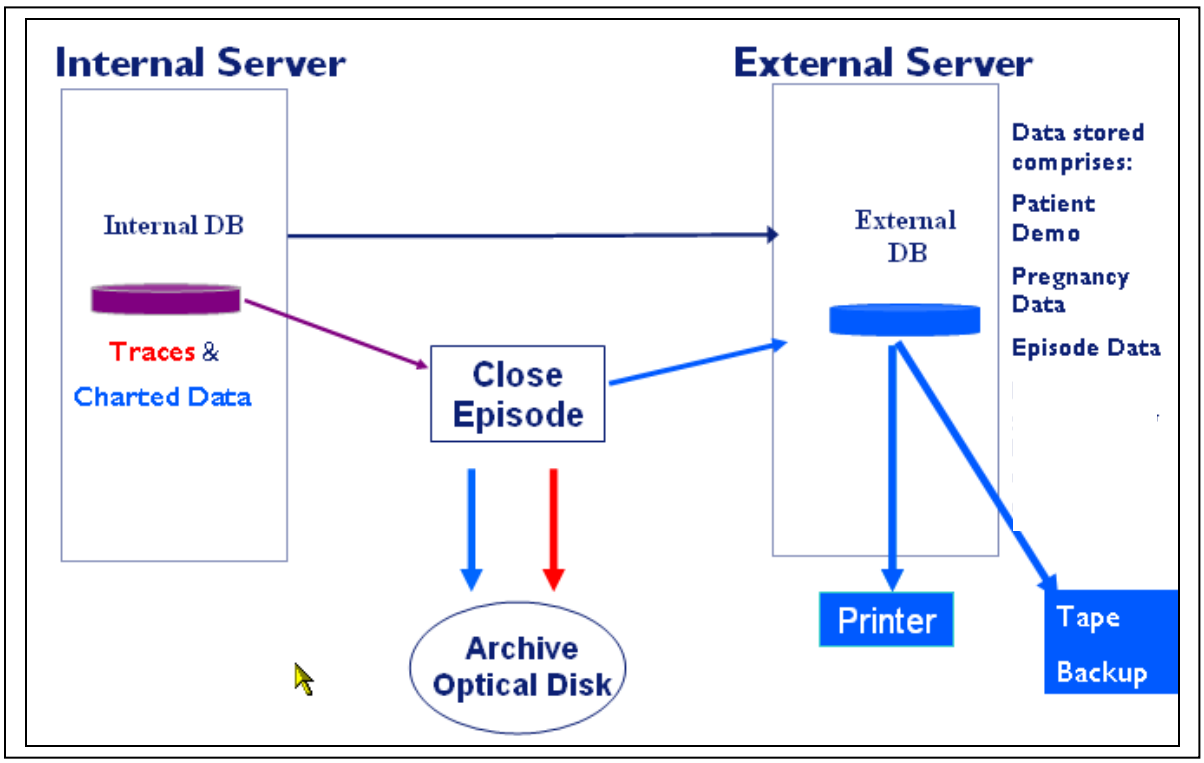
Topic	Details	Notes
	System messages	
Help		
Hard-ware Care	Acceptable cleaning solutions	
	Maintenance schedule	
	Determine responsibility	
	Labeling	
	Cleaning kit	
Media Care	Maintenance schedule	
	Disk Storage	
	Purchase of spare Optical Disks	
	Determine responsibility	
	Change OB TraceVue time	
Patient Database Administration Tool		
Retrieve From Optical		
OB TraceVue Set Up		
Break and Set ADT Link		
OBTV Shell (NA with Co-residency)	Purpose	
	Advantage & Disadvantage with Shell on	
	Advantage & Disadvantage with Shell off	
	Run OBTV Setup	
	Remove shell	
Local Data Recovery Tool (use and schedule)		

Topic	Details	Notes
Patient Search Tool		
OB TraceVue-OB TraceVue Recovery Tool		
System Alerting	Train icon	
	Visual/Audio	
	Messages	
	Accept	
	Maintain Log	
	System Audit Trail Purpose	
	Access	
System Overview Tool	Status screen	
	Start/Stop OB TraceVue	
	Reboot System	
Log File Viewer		
FM Spy		
NETRAID Utility		
Web Terminal Server	*Available features*	
	Security	
	Start Session	
	End Session	
Remote Support Plan		
3rd Party Applications		

System Architecture



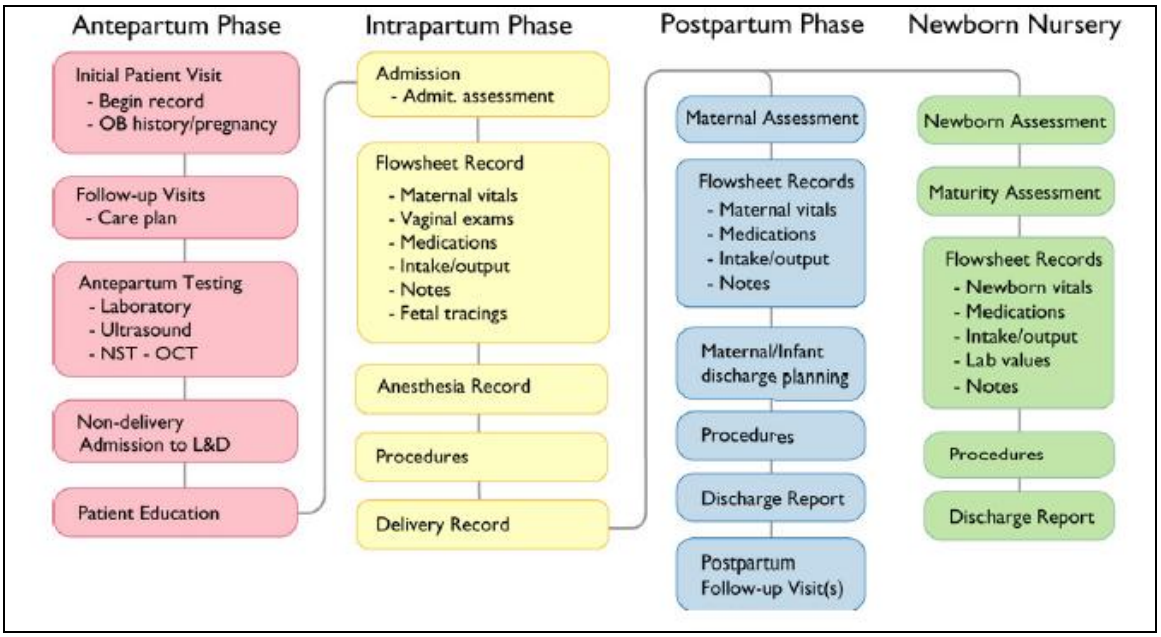
System Architecture will vary depending on the options purchased with your system. Your



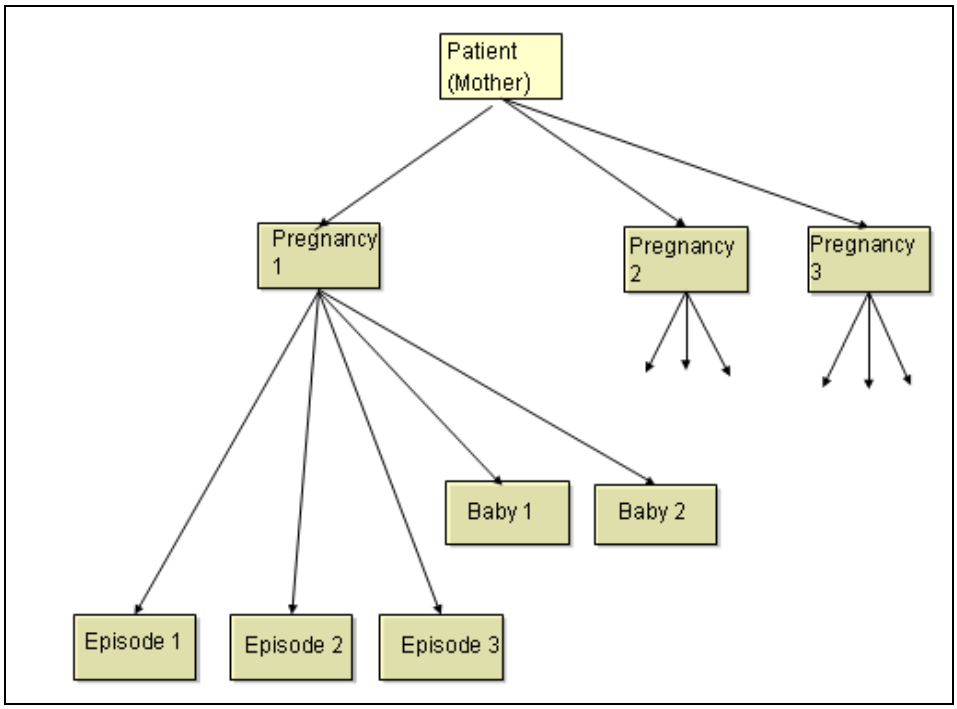
Philips Project Manager or TC will explain your particular system architecture.

1. Hardware Data Flow

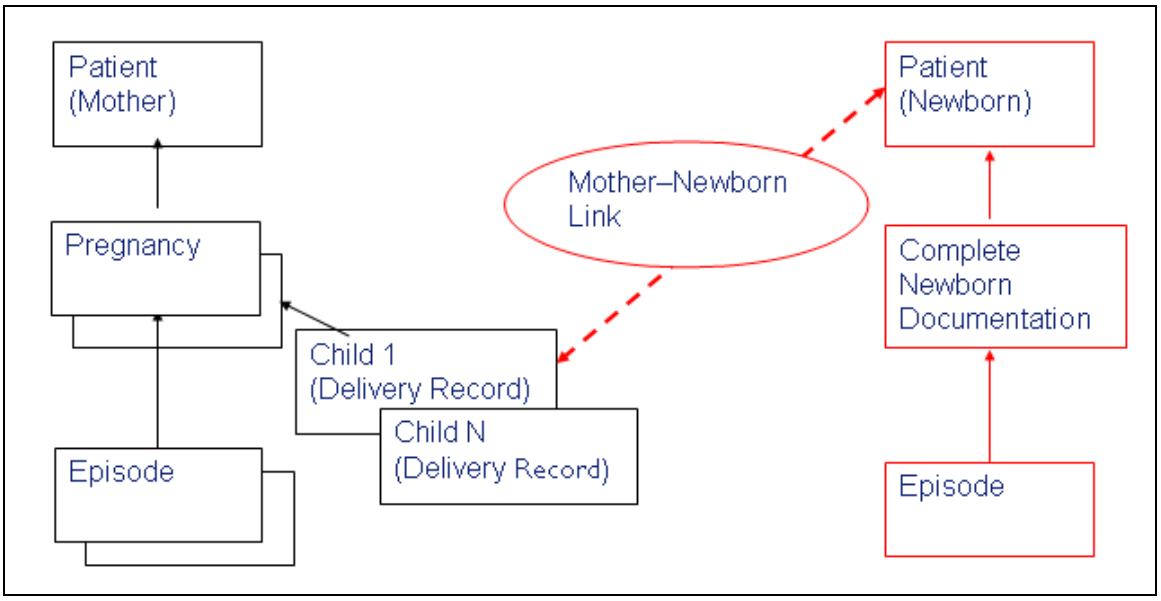
Data flow within the system



2. Documentation Data Flow



3. Pregnancy / Episodes Data Flow



4. Mother/Newborn Link Data Flow

Windows security & Active Directory

Administrative Log-on vs. OB TraceVue Log-on

- OBTV Administrator is NOT the same as OB TraceVue log-on
- Tasks described that require Administrator log-on are:
  - changing the OB TraceVue shell settings (if you have to run the OB TraceVue Setup program)
  - configuring templates for reports and statistics
- If the PC at which you are working has autostart configured, use the following steps to log-off and log-on again, as OBTV Administrator
  1. Exit OB TraceVue
  2. Shut Windows Explorer (if open)
  3. Press *Alt + Ctrl + Del* to open the security window.
  4. Press *Shift* while clicking Log-off
  5. Log in as OBTV Administrator
  6. Perform your task
  7. Log in again as a regular user after you have finished your task

Active Directory integration

Hospitals may choose to use an existing AD Domain Controller to manage users. The use of AD is explained in the *Installation and Service Manual (ISM)* in the section titled *Active Directory Integration*.

OB TraceVue provides two ways to configure users:

1. Classic OB TraceVue users: OB TraceVue handles all user attributes, including the password (local users).
2. Integrated users: These are users who are linked to a user domain "user". OB TraceVue uses the name to identify the user and checks the password using Windows functionality. OB TraceVue handles all user attributes except the user password.

When the user logs in to OB TraceVue using the user name of an integrated user, the system checks the given password against the domain password policy as confirmed for the OB TraceVue PCs (not against a password stored in the OB TraceVue database). This enables OB TraceVue to use the password features already available in Windows such as:

- account locking if an incorrect password is entered
- whether passwords must meet specific complexity requirements
- dictionary checking of passwords
- password aging

If an integrated user's password is due to expire within the next 10 days, a popup message appears after each successful log in to OB TraceVue. This message box shows the number of days remaining, and prompts the user to change the password before it expires.

You can set up integrated users to use a single logon to both PC and OB TraceVue. If the user currently logged in to Windows is known in the OB TraceVue user configuration and is marked as integrated user, then OB TraceVue starts up without showing the 'Login Tool'.

Working with the CareVue Interface Engine (CIE)

The CareVue Integration Engine is a software-only product that communicates with the HIS and OB TraceVue via specially formatted messages.

- It maps the HIS-format messages to the required OB TraceVue format. CIE includes a Message Mapper and this mapping is not configurable.
- It can communicate with multiple OB TraceVue systems, but not with other products in parallel.
- It runs as a service and is not visible to the users, although the communication routes must be configured.
- The CIE engine can be installed on an OB TraceVue client PC without data acquisition if only ADT traffic is required. If outbound patient flowchart data is required, the CIE engine must be installed on an additional PC (which requires the appropriate operating system and SQL database). See the CIE documentation for details.

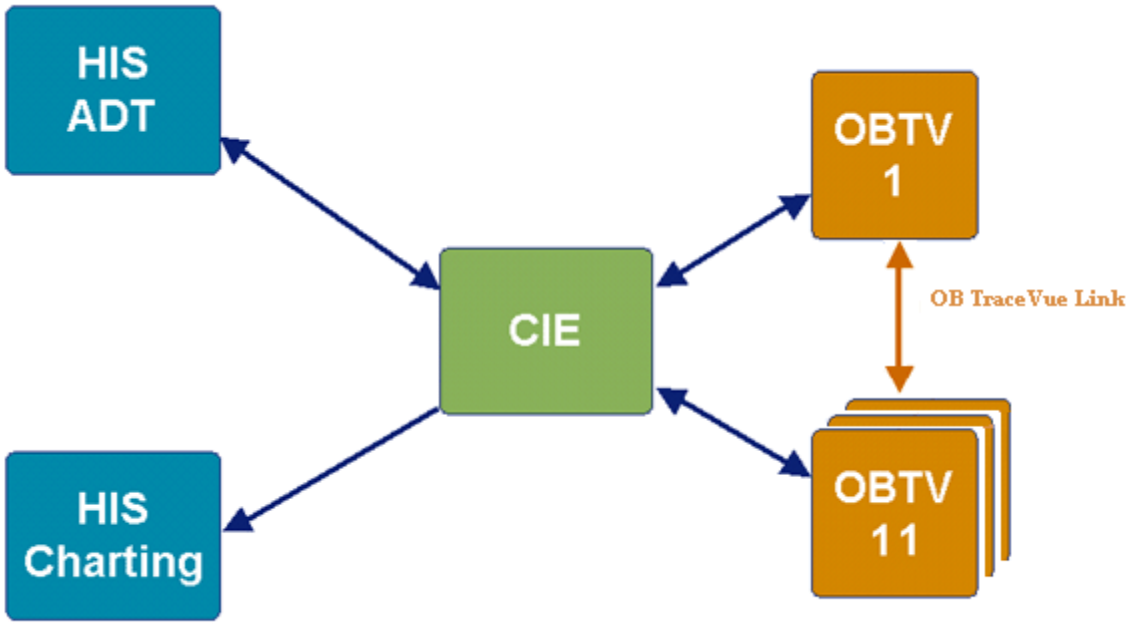
ADT Interface

The optional OB TraceVue HL7 interface is a bi-directional data integration link based on Health Level 7 (HL7) that allows OB TraceVue and an external system (such as a hospital information system, or third party system) to share patient data by either file exchange or a TCP/IP network connection.

HL7 is an ANSI approved standard for formatting and exchanging messages from areas such as admission, discharge, transfer, laboratory results, and accounting/billing data. It facilitates communication between systems from different vendors and across different platforms. This implementation is based on HL7 Standard Version 2.4 where the messages are delimited ASCII strings with header information and identifiers for the hospital ADT system and for the OB TraceVue system.

The HL7 interface enables:

- Transfer of demographic data via ADT messages between the HIS and OB TraceVue.
- Transfer of flowchart data from OB TraceVue to HIS charting system.
- Patient context switching and user context switching via CCOW.



Details on the implementation of the HL-7 Interface via the CIE is available in *Chapter 2* of the *Integration Guide (p/n M1381-9120P)*

Patient Data Export

All notes from the flowchart, alerts and alert acknowledgements (but not forms data, or traces) are sent out from OB TraceVue approximately every five minutes for all patients, (not individual patients).

- The export set of flowchart data including vital signs, derived parameters, alerts and notes is configurable, selected during OB TraceVue configuration.
- It is possible to have a different selection for maternal and newborn patients.
- The export of the messages are not event driven but are exported every five minutes. Consequently, the exported data can be used to complete documentation in the hospital-wide third party charting system but not for surveillance or even alerting.
- OB TraceVue does not export forms content via HL7 based outbound communication. As forms contents cannot be exported via HL7, a Clinical Data Repository or other hospital system does not have access to forms data (admission report, delivery summary, discharge report.
- HL7 based outbound communication requires the partnering third party system to be ready to accept OB TraceVue messages and map them appropriately into the third party database. This requires the involvement of professional services from Philips and from the third party.

System tools

Details on the use of the commonly used system tools is contained in the *System Administration and Configuration Guide.* Some tools are used while OB TraceVue is running (on line) and some can only be used when OB TraceVue has been shut down (off line).

Tool	When to Use
Administration Tool (Patient Data Administration Tool)	• Offline • To correct wrong patient entries or modifications. • After a training session, to delete "practice patients". • To delete data for patients which you do not expect to have any more episodes at the hospital. For example: patient has moved away, patient has died. • To gain "responsibility" for a patient, when the responsibility (token) has been assigned to another server and the server is down or you are not able to get the responsibility back via the usual methods.
Configuration Backup Tool	• Online or Offline • *Backup*: After finishing a user configuration, so that you can recover in case the configuration gets lost. Always do a backup after a software upgrade or after applying a service pack. • *Reload*: Directly after OB **TraceVue** software is reinstalled
DB Rebuild Tool	Used off line to optimize the database data organization.
Ext DB Admin Tool	To purge patient data from the **external** database in order to reduce its size. When External DB is off line.
Fetal Monitor Spy (FMSpy)	Off line on Data Acquisition clients. When you first set up a system to check that you have the correct cabling and connections to all fetal monitors.
Logfile Viewer for OB TraceVue Error Logs	• On line • When the system or PC hangs. • After re-start for problem diagnosis. • If you have problems starting the PC. • Whenever the system messages indicate any error situation.
Offline Backup/Configuration Backup Tool	• If the archive is not working properly. • Backup before repair. • Backup before upgrade. • Backup if exchanging hardware. • Backup **TV2_Templates** directory. • Restore.
System Overview Tool	• On line and Off line • To check the status of OB **TraceVue** PCs.

Tool	When to Use
Diagnostic Tools	• To reboot selected PCs or the complete OB **TraceVue** system. • To start OB **TraceVue** on selected PCs or to start the complete system. • To ensure the correct functioning of your system's hardware as a complete unit. • To test individual components of your PC or PC Workstation. • To know the complete hardware configuration of your PC or PC Workstation. • A complete record of your system's configuration and test results.
Link Recovery Tool	• To clean up inconsistencies (read/write permissions) of patient records among systems connected with OB **TraceVue** Link: • After complete reinstallation of a system with OB **TraceVue** Link. • After linked systems have been merged using the RFO merge feature.
Local Data Recovery Tool	• Off line • If the database is corrupt, not accessible or errors about incorrect patient data occur. • If you replace the hard drive C or D, reinstall OB **TraceVue** system software, and want to recover the original database. • If the system has had an uncontrolled shutdown. • If you have problems trying to start OB **TraceVue**. • After running **CHKDSK**. • As part of regular system maintenance.

System maintenance

You should develop and implement a plan for scheduled maintenance. The following tasks should be performed:

- System Reboot (servers, clients) *Monthly*
- Check RAID disks *Weekly*
- Check internal DB and run the Local Data Recovery Tool *every 3 months*
- Check error log files *Monthly (more often if using Patient Data Export)*
- Inspect & clean Archive disks *at least every 3 months*
- Inspect & clean Retrieval disks *before each use*
- When storing or handling optical disks, follow the environmental precautions listed on the label sheet provided in their packaging.
- If you keep your archive drive in the recommended storage cabinet, you are unlikely to need to clean the storage disk.
- Cleaning a disk unnecessarily can damage it. Clean it only if it shows signs of particulate build up. However, if you do not keep the drive in the recommended cabinet, there is real

danger of the disk becoming contaminated. In this case, clean BOTH sides of the disk at least every three months.

- Follow the instructions given in the magneto-optical media cleaning kit. Incorrect cleaning can damage the disk.

Sample Maintenance Log

Date	External Database Back-up to backup folder	Back-up Config & Database to Optical Disk	Copy Config	Back-up Archive Optical Disk to 2nd Disk	Inspect Optical Disk & Clean PRN	Run Local Recovery Tool (DB Repair)	DB Rebuild Tool (Defrag Drive)	Value Table Editor Export	Check Patient List For Open Episode & Pregnancy	User who Completed Task
										
	Per plan	Per policy	Each change	Per policy	Monthly	Quarterly	PRN	Each change		

Sample System troubleshooting Guidelines and Who to call for Help

When a problem occurs with OB TraceVue, any user can troubleshoot.

If you are unable to troubleshoot the problem and resolve it, then:

During normal working hours Monday through Friday 8am-4pm, call Clinical Engineering at *xxxx*

After those hours: Have the operator page the Clinical Engineer who's on call.

The Clinical Engineer will either direct you to resolve the problem, come in to resolve the problem, or direct you to call MIS or

Philip's Response Center 1-800-722-9377 (coverage 24 hrs per day.) You will need to give them the Model #, Serial #, & Software revision number listed below.

Model # M1383E
Serial Number ####
Software Revision E.00

Super User Name	**Phone #**
System Manager Name	**Phone #**
System Administrator Name	**Phone #**

3
System Managers

Intended Audience

This chapter is designed for anyone who educates hospital staff in the system management functions and tools of the OB TraceVue system. This could be a Philips Medical System employee or representative giving system training or consultancy on-site or a hospital's System Administrator or System Manager who needs to train new system

The assumption is made that all users are familiar with the Windows graphical user interface, use of a keyboard, use of a mouse or other pointing device, and have a basic familiarity with Microsoft Word. System managers must also be very skilled in using computers and understand system backup/restore procedures. They should have some experience working with other computer systems.

Certain information provided in Chapter 2: System Administration may also be needed by System Managers. Hospital needs will dictate where knowledge overlap needs to occur.

Objectives

System Manager training objectives

By the end of System Manager/Configuration training, the learners will be able to …

- Have an understanding of certain OB TraceVue standard support tools:
  - Export DB administration
  - Link recovery (if applicable)
  - Local recovery
  - Offline backup
  - System overview
  - Patient data administration
  - Configuration backups
- Explain the relevant system hardware layout
- Set-up users in the system
- Perform system maintenance (DB backups, changing optical disks)
- Perform troubleshooting for problems that may arise
- Understand the ADT interface as it relates to managing patients
- Generate system and patient audit trails
- Perform system configuration
- Perform Value Table Editor (VTE) configuration
- Perform screen configuration
- Demonstrate basic knowledge of report templates
- Retrieve patients from optical disk
- Determine what (if any) hospital policies/procedures may need updating to support the OB TraceVue use model

System Manager/Configuration training outline

Topic	Details	Notes
Introduction	System Manager role & responsibilities	
	Patient flow/Episode concepts/Data flow	
	Software Functionality: Surveillance, Archiving, Flow Chart, & Forms	
	Documentation options: Flow Chart vs.Forms	
System Components	Internal Server (Basic or RAID)	
	Client	
	Mouse/Keyboard/Display	
	Optical disk drive/Jukebox	
	External Database Server	
	Web Terminal Server	
	Printer	
	Scanner	
	Fax capability	
	Describe the FM connection to OB TraceVue	
Display Screen Components	Icon bar	
	Patient panel	
	Task window	
	System icon	
Icon Overview	Quick Admit	
	Identify/Search Patient	

Topic	Details	Notes
	Change Patient Location	
	Single Patient Trace	
	Floating Trace	
	Charting	
	Notes Browser	
	Prenatal Visit/ Patient History	
	Departmental Admission Record	
	Delivery/Discharge Record	
	Newborn/Maternal Selection Icons	
	PP Visit	
	Chalkboard	
	Multi Bed Overview	
	Print/Fax	
	Log on/Log off Lock	
	System Administrator/Shutdown	
	Help	
Log-On / Log-Off	User name	
	Passwords	
	Policy/security	
	Screen appearance	
System Configuration		
Philips	Read only	

Topic	Details	Notes
Config	System Information	
	System Settings	
	Product Order Information	
General Admin	Mandatory Patient Identification Fields	
	Signatures	
	Copy Configuration to Hard drive & Floppy	
	Multi-Bed Overview and Floating Trace	
	Single Trace Display	
	Autocharting Settings	
	Temperature	
	Paper Speed	
	Change System Time	
Hospital	Name & Address	
	1st 2 lines label optical disk & patient data print outs	
HL-7 Link Setting (ADT)	Implementation implications	
	Clinical importance of Unique Identifier	
	Develop P&P for downtime/HIS record not available	
	Philips engineer configures this screen	
	Obtain IP address/Subnet mask/Default gateway from IS Department	
	General Settings	
	Connections	

Topic	Details	Notes
OB TraceVue-OB TraceVue Link Settings	Implementation issues	
	Philips engineer configures this screen	
	This System	
Remote FM Config	Configure Remote Fetal Monitors	
User Administration		
UserName/ Display Name /Passwords	Integrated vs. Classic users	
	Surrogate users	
	2000 Users maximum	
User Config	User Name (login)	
	Display Name (real name)	
	Profession	
	Password	
	Access to Maternal/Newborn Patients	
	Patients	
	Start	
	Multi Bed Overview	
	System Manager	
	Super User	
	Write (Change Patient Data)	
	Read (View Patient Data)	
	Change Alerts	
	Print	

Topic	Details	Notes
	Retrieve Episodes	
	Optical Disk Access	
	Audible Alerts	
Integrated Users	Integrate	
	Update	
PC Config	PC name	
	Default user	
	Allow Auto Sign-on (Integrated Users only)	
	Connections: Permanent vs. Mobile	
	PC Location	
	Overview	
	Audible Alerts	
	Auto lock	
	Auto lock time	
	Hide screen	
	Line thickness	
	Font size	
	Graph size	
	Notification of FM monitor off (time) and selection per PC	
	Internal name	
Bed Config for Maternal and Newborn	Definitions and Limitations	See Glossary
	Difference between Maternal and Newborn	

Topic	Details	Notes
Locations	Beds	
	Monitor Discharge Location (1)	
	Departmental locations	
	Other locations	
	Remote (if have Remote FM Configuration Icon enabled)	
	Name	
	Sort Order	
	Default Nurse	
	Default Provider	
	Default IP Flow chart	
	Default PP Flow chart	
	Maximum number of beds	
Alert Default Settings	Alert rule-set definition	
Bed Alert Settings	Bed	
	Alert sets	
	Type: Fixed vs. Changeable settings	
	Paper end alert	
	Print alert notes to FM	
	Bed Alert distributions	
Alert Sets	Alert Level types	
	Name	
	Alerting on/off	

Topic	Details	Notes
	Alert Level	
	Create NST Report	
	Reactivate Alert time	
	FHR severe Tachycardia limits	
	FHR Tachycardia limits	
	FHR Bradycardia limits	
	FHR severe Bradycardia	
	FHR signal loss	
	Coincidence	
Global NST Settings	Minimum time range	
	Minimum number accelerations	
	Maximum number decelerations	
Change Individual Patient Alerts	Patient in focus	
	Permission rights of User	
Patient Bed Transfers	Considerations for patient transfer to another bed	
Config Back-Up	Backup of Database to Optical disk	
	Configuration Backup to Optical disk & Floppy	
System Admin / Shutdown	Fetal Monitor Setup	
	PC Name	
	COM Port	
	Bed	

Topic	Details	Notes
	Check FM configuration from any PC	
	Exit OB TraceVue	
	Controlled shutdown of PC	
	Uncontrolled shutdown of PC	
	Server shutdown	
	System messages	
Single Patient Trace	Return to Main screen	
Help		
Single Patient Trace	Screen elements	
Identify/ Search Patient	Create New Patient & New Pregnancy	
	Close Episode	
	Start New Episode for Existing Pregnancy	
	Review / Retrieve Episode	
	Close Pregnancy	
Flow Chart Config	Flow Chart elements: columns/rows/tabs/scroll bar/switch between IP/AP & PP	
	Overview, Data Entry, & Detail Page tabs	
	Contents	
	Chart, Modify, Delete, Review data	
	Charting Map	
	Creating new Map	
	Change existing Map	

Topic	Details	Notes
	Delete Map	
	Change Patient Map	
	Charting reminder Alert	
	Configure and Acknowledge Auto-Charting entries	
	Switch between IP/AP & PP	
Forms	Icons	
	Summary Screens	
	Chart, Modify, Delete, Review data	
Notes Browser	Note Types	
Chalkboard	Summary information	
	Two Configurable Columns	
Print/Fax		
Page Config	Purpose	
	Configuration screen access	
	Hidden/Read only/Read & Write tabs	
	Hidden/Read only/Read & Write fields	
	Table column width	
Value Table Editor	Purpose	
	Access	
	Security	

Topic	Details	Notes
	Maternal Entries/Newborn Entries	
	Search	
	Add folder	
	Delete folder	
	Sort Folder	
	Add item	
	Delete item	
	Sort items	
	Chalkboard: 2 Configurable Columns	
	Medications	
	Medication Units of Measure	
	Exit	
	Load file	
	File *Save As…* and Import into Excel	
	Merge file	
Audit Trails	Types: Patient & System Access	
	Contents	
	Where to access	
	Review on screen	
	Print	
Quick Admit Use	Pros & Cons	

Topic	Details	Notes
	Develop Criteria for use	
	Resolution of record (Who & When?)	
	Include in P&P	
Patient Record Management	Who Opens & Closes Episodes? When?	
	Mandatory baseline documentation with Patient Admission	
	Onset PP documentation: Who & When?	
	Pre-admit Patients: Manual or HIS?	
	OB TraceVue time = delivery time?	
	"Create Newborn" patient	
	Form Signature fields: Yes/No?	
	Print: What to Print? When to Print? Who Prints?	
	Database Administration Tool: Set/Break ADT Link	
Policies & Procedures	Considerations related to electronic data collection & storage	
	Provide guidelines	
Preparation for Super User Class	Super User training packets	
	End User training packets	
	Develop End User training plan for Super Users	
	Present End User training plan to Super Users	

The ADT Interface

See the previous chapter for an overview of how the ADT Interface works.

The following fields can be populated in the OB TraceVue Demographics tab from your HIS system:

- Account number and/or Medical Record number and/or Social Security number
- Name
- Address
- Date of Birth
- Birth Place
- Language
- Insurance Company
- Race
- Marital Status
- Home phone number
- Alternate phone number
- Religion

As part of the ADT set up, you will need to select a unique patient identifier. Use of the Medical Record number is the most commonly used in the US because that number usually stays the same for life within the same institution. Not all patients may have Social Security numbers. If you use Patient ID or Account number, that number changes with each visit.

The Patient is only "admitted" one time to the system. Thereafter, new episodes (visits) can be opened and old episodes viewed using the *Open Episode* or *Retrieve Episode* button in the *Identify/Search Patient* icon.

In preparation for the ADT Link, you must address the following questions:

- How does the patient admit process flow in L&D now?
- How quickly do patients get entered into the HIS system?
- Will there be a lag time before the L&D Nurses see the patients in OB TraceVue?
- Do the L&D Nurses have control over the bed board in the HIS system?
- What different HL-7 types of Patients visit L&D? (In-Patient, Out-Patient, Observation, Lab, Radiology, Pre-Admits, etc.)
- What other areas of the hospital are Patients transferred to L&D from (ex: ER)?
- Do you want to send any admission data from OB TraceVue back to the HIS?

During the OB TraceVue Admit process, the nurse may not find the patient name. If the name is not listed under *HIS* and *All OB TraceVue Patients*, the patient has never been created in the system.

There are two different ways to handle this scenario. You will need to decide which process you want the nurses to use for those instances. The choices are:

- Have the Nurse manually create the patient by typing the last name, first name, date of birth, and MR number. In this case, when the HIS record comes across, (provided the MR numbers are identical), the HIS record is treated as an update.
- Use *Quick Admit* to admit the patient. Note: Initially, only the date & time of admission shows up as the patient name. A *Quick Admit* record cannot be closed, meaning the

tracing cannot be archived. The *Quick Admit* will need to be manually merged to the HIS record, once it comes across.

- If the *Quick Admit* option is used, who will be responsible for this task and when? For example: the Charge Nurse could check the chalkboard for *Quick Admits* prior to each shift change.

HIS Patients remain in the OB TraceVue HIS buffer for up to 99 hours. If a patient is not created during this time, the name is taken off the HIS Patient list. If your ADT department is sending Pre-Admit patients to OB TraceVue, you will need to establish a process to create those records in the OB TraceVue system. A typical process could be:

1. Designate staff member to monitor Pre-Admits on a daily basis *or*
2. Obtain a daily list of Pre-Admits from Admitting department.
    A. Admit Pre-Admit patients in OB TraceVue to a "Chart" bed.
    B. Discharge Pre-Admit patients to a "Pre-Admit" bed.
        a. Patient will appear on *All OB TraceVue Patient* list in a "Pre-Admit" bed.
        b. When Patient presents to L&D, start a new episode.

It may happen that a MR number is entered incorrectly. If the ADT-link exists, the MR field is locked for use by the HIS system and you will be unable to enter the correct number. In that case, you must break the ADT-link to re-enable those fields for editing. This is done using the *Data Administration Tool: Set/Break ADT Link*.

- User must have System Manager permission level to access tool
- If you break the ADT Link, no further automatic updates will be done for this record
    - All previously HIS owned fields in the Demographic tab become available
- If you set the ADT Link for a patient's record, her last name and the configured ID field for the ADT Link are set as ADT fields
    - Further ADT Link updates are made automatically for this patient record

System security

To increase the protection of collected data, OB TraceVue offers:

- User and data authentication, and access control.
- Use of Microsoft Active Directory to manage passwords (optional).
- VIP patient treatment, substituting the patient's name with an alias in the chalkboard, alert lists and the Patient-in-Focus selection list.
- Physical security and disaster recovery.
- Protection of remote access points and external electronic communication.
- Software discipline, such as the shell function that limits access to the Windows desktop.
- Audit trails
- Education and training

Using and Viewing Audit Trails

There are two types of audit trails: Patient and System.

Patient Audit Trail

Patient Audit Trail is split into:

- Notes Audit Trail which shows the following fields:
  - entry date and time, display date and time
  - user name and the PC name, type and location at which the change was made
  - application context, type, category of notes, deleted notes, and audit data detail
- Database Audit Trail tracks forms and patient creation changes. Data about the patient and their related episode is followed by the audit trail entries. These are sorted by time order. They show the following fields:
  - time and date of change, details of the page that was changed
  - user name and the PC name, type and location at which the change was made
- Event Audit Trail is part of the *Database Audit Trail* which will show an entry for the patient in focus when one of the following events occurs:
  - Charting map selected and Saved (Settings page)
  - Sheet time range changed (Settings page)
  - Graph time range(s) changed (Settings page)
  - Input reminder type modified (Data Input page)
  - General auto charting status modified (Data Input page)
  - Auto charting status of parameters modified (Data Input page)
  - Grid Overview/Data Input page selection modified (all detail pages)
  - Graph Overview page selection modified (all detail pages with graphs)
  - Initial start of Flow Chart (for patient in focus)
  - Initial start of postpartum (for patient in focus; postpartum start button; maternal chart only)
  - Change of data input reminder time. This may be due to:
    - activation of data input reminder (audible or audible & visual)
    - start of Data Input page (when a data input reminder is active)
    - change of sheet time range (if the end time of the current charting interval is affected)

System Audit Trail

This audit trail contains operational requests and procedures that are not directly related to patient data, such as log on, log off and auto log off activity, attempts to access the system using a wrong password or wrong user, retrieval (and failure to retrieve) episodes from storage, user initiated shutdown requests, system time changes.

Beginning with the E.0 release, the following items will also create a system audit trail entry:

- A configuration import occurs
- Flowchart layout is changed
  - a charting map gets stored, modified, renamed or deleted
  - the chart settings of the patient in focus are modified
  - when the chart configuration is modified
- VTE is changed
  - name of user who saved the data, date and time of data save, and PC name

- path & name of new, deleted, renamed folders
- path & name of new or deleted items
- deleted/new pair if the item name modified
- path & name of modified item if only details modified

The system audit trail is split into packages, each containing 24 hours of data. After the time cycle has elapsed, the package is automatically moved to the optical archive for long term storage.

Configuration

System configuration

Details on the system configuration are contained in the *Online Help* and/or the *Instructions for Use*. Please refer to one of these documents.

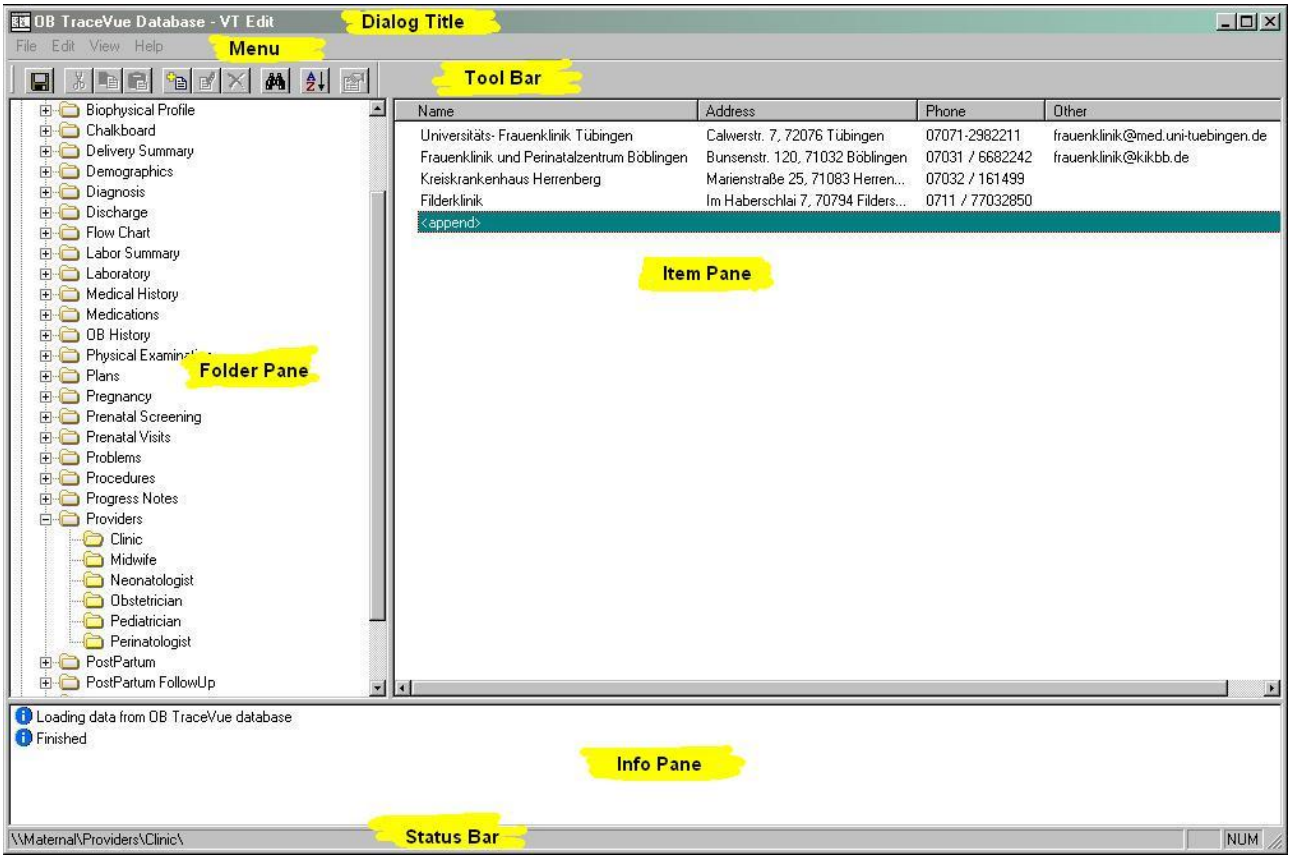
Value Table Editor (VTE) configuration

The improved VTE is composed of a resizable window containing 3 resizable panes (folders, items and information), a menu, a tool bar and a status bar.

NOTE: Menu items are enabled according to the properties of the selected folder / item.

The File Menu:

- **Load** - Loads data from the OB TraceVue database (online mode) or the file (offline mode); prompts for confirmation if VTE contents have changed; replaces current VTE contents
- **Load File…** - Loads data from selected file; prompts for confirmation if VTE contents have changed, replaces current VTE contents
- **Merge File…** - Merges data from selected file.
- **Save** - Saves data to OB TraceVue database (online mode) or to the file (offline mode)
- **Save As…** - Saves data to selected file
- **Exit** - Exits VTE, prompts to save data if VTE contents have changed



The Edit Menu:

- **Cut** - Cut selected user-defined folder or item(s)
- **Copy** - Copy selected user-defined folder or item(s)
- **Paste** - Paste cut or copied folder or items(s)
- **Add** - Add user-defined folder or item
- **Edit** - Open edit dialog for user defined folder or item
- **Delete** - Delete user-defined folder or item
- **Find** - Find folder and/or item.
- **Sort** – Alphabetical Sort user-defined folders or items
- **Properties** - Open properties dialog of selected folder or item

Folder Pane

- Displays the folders.
- Philips defined folders are light-yellow; editable folders are yellow.
- Right-clicking the folder pane opens the Edit menu

Item Pane

- Displays all item details.
- A grid can be switched on or off in the View menu.
- Columns can be resized.
- Column sizes are stored ,
- Right-clicking the item pane opens the Edit menu

Info pane

- Displays information about
  - file I/O (load, save, …)
  - find results
  - merge results
- Double-clicking a folder selects the folder in the folder pane
- Double clicking an item selects the item's folder in the folder pane and selects the item in the item pane.
- Right-clicking the info pane opens the Filter menu.

Icons Used in the Info Pane

 Information
 Error
 Folder
 Merged folder
 Merged folder, conflict (folder will not be saved until conflict is resolved)
 Deleted folder
 Item
 Merged item
 Merged item, conflict (item will not be saved until conflict is resolved)
 Deleted Item

Find Dialog Properties

- **Find what -** Text to be searched for. Wildcards or regular expressions are not supported. The drop-down contains the items entered in the current session.
- **Match case -** The search operation looks only for occurrences that match the uppercase and lowercase characters entered in the *Find what* box.
- **Match whole word -** Searches only for whole words, rather than matching the text as it occurs within words.
- **Folders -** The search operation looks folders matching the search string.
- **Items -** The search operation looks for item names matching the search string.
- **Items details -** The search operation does not only look for the item name but also for item details matching the search string.
- **All folders -** The search operation searches all folders.
- **Selected folder -** The search operation searches the selected folder and all of its subfolders.

Merge Dialog Properties

- **All folders -** The merge operation merges all folders of the merge file.
- **Selected folder -** The merge operation merges only the folder of the merge file that corresponds to the selected folder.

Medication Routes and Amount Units in VTE

- These items are configurable, beginning with the E.00 software release.
- Medication amount units are composed of a **base** *unit, weight* part (optional) and *time* part (optional). They can be used for **Maternal** *General, IP Specific* and *PP Specific* drugs and **Newborn** *Medications*.

- Amount Units Dialog Properties
  - Base unit: Any string. Must not contain "/", "\", "|", ";" and tab characters.
  - Weight: Optional. Selection: /kg (per kilogram patient weight)
  - Time: Optional. Selections: /min (per minute) /h (per hour)
- Locations
  - Maternal: \\Maternal\Medications\Config\Flow Chart\Amount Units
  - Newborn: \\Newborn\Medications\Config\Flow Chart\Amount Units
- Limitations
  - The unit (including weight part and time part) must not exceed 15 characters.
  - Time- or weight-based units must be composed using the supplied contents of the weight and time combo-boxes.
  - Entering time- or weight-based units entirely in the base unit edit field (e.g. mg per min) will lead to incorrect results in the Flow Chart's medication display.

Running the VTE on a non-OB TraceVue PC

You can run the value table editor on a non-OB TraceVue Windows PC. This allows you to administer lists for several OB TraceVue systems away from OB TraceVue itself.

1. At the OB TraceVue internal server PC, log in as OBTV Administrator.
2. Copy the following files from \\TV21\PROG to any directory (such as C:\temp) on the local computer:
   - MFC 71.dll
   - MSVCR71.dll
   - VT_Edit.exe
   - VTED.dll
3. Launch the VTE editor by double clicking VT_Edit.exe from its location on your local computer. The system displays the usual VTE login dialog.
4. Log into the VTE using the general administrator's password.
5. Select the value table editor file you want to edit from the location in which it is stored on the local computer.
6. Edit the value tables and save your edits in the normal way.

Using *Masked Edits* on certain Fields

For some fields, you can configure an input mask that forces users to enter data in the correct format for your institution. These folders are prefixed by the word "Mask". When you append to the folder, use the mask characters to set the format. The mask characters are also the prompt characters that the system displays in the input field. See the Instructions for Use or the Online Help for more information about these Masked fields.

Making a copy of your VTE

At some point, you may want to have a printed copy of your VTE. The steps to save your VTE as a text file, and then importing that text file into Microsoft Excel so that you can print it (or view it on the computer), are listed below.

1. Open your VTE and select *Save As…* from the *File* menu
2. In the *Save as Type:* field, select *Text (Tab delimited)*
3. In the *File Name* field, enter a name for your file such as *VTE_Jan11_06.txt*
4. In the *Save In* field, select the network location where you want to locate the file
5. Then select *Save*

6. Close your VTE
7. Open Microsoft Excel
8. From the *File* menu, select *Open* and navigate to the network location where you stored the text file
9. In the *Files of Type:* field, select *Text Files*
10. In the *File Name* field, enter the name of the saved text file (or select it from the directory). A wizard will appear.
11. In the *Text Import Wizard* Page 1, select *Delimited,* then *Next>*
12. On Page 2 in the *Delimiters* box, select *Tab,* then *Next>*
13. On Page 3, in the *Column Data Format* box, select *General*
14. Select *Finish*. The text file will be imported.
15. From the *File* menu, select *Save As…*
16. In the *Save as Type:* field, select *Microsoft Excel 97-Excel 2003(.xls)*
17. In the *File Name* field, enter a name for your file such as *VTE_Jan11_06.xls*
18. In the *Save In* field, select the network location where you want to locate the file
19. Then select *Save*
20. Print out the file as desired
21. The E.0 VTE print is 225 pages, so you may want to view the file on the computer, rather than printing it out.

How VTE changes can affect Forms and Statistics

Remember that changes to your VTE may affect some of your reports. Use the *Word Form Fields and SQL Queries* document to see what VTE fields map to which items on individual screens. Correlate the information in the *Value Table* information with the information in the *Report Form Fields*.

Screen (Page and Form) configuration

You can configure the factory-provided OB TraceVue forms to hide complete pages and/or individual elements of data on a page. Please remember however, that the data held in the forms is used by the reports and statistics. If you switch off an element that is required by a report or statistic the resulting output will be incomplete. THEREFORE, do not switch off any field, column or entire form unless you are certain that it does not contribute to one of your reports or statistics.

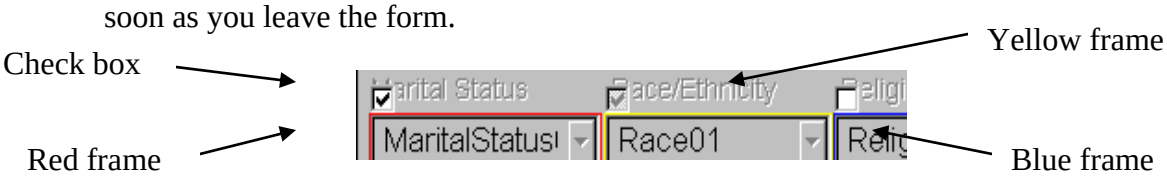
When you configure a form, you select which of the available fields appear on each page. This way, you can adjust the form so that it reflects your existing data gathering process. Some data fields consist of lists, where you either check a box beside the items in the list, or select one or more of the items. You configure the items in a list using the Value Table Editor.

Entering Configuration Mode

You can configure the screens and forms from any PC in the system. You cannot configure the screen or form that is currently on the screen. If you want to configure the currently selected screen or form, you must first change to the single trace screen, then follow the steps below.

1. Make sure you are logged in as a super user or system manager.
2. Press and hold down the "Ctrl" and "Shift" keys.

3. Select the icon of the screen or form you want to configure. Release the "Ctrl" and "Shift" keys after the form has opened. This will place the screen or form into the Configuration mode.
4. The colored outline around fields and tables indicates that you are in configuration mode and can configure these items.
5. Click on the tab of the page you want to configure. The fields that you can configure are outlined in red, yellow or blue (depending on the status of the field).
6. Click on the checkboxes at the top left of the field to choose whether the field
    a. appears on the page for editing (red frame)
    b. appears on the page, but can only be read and not edited (only applicable if the value in the field can be calculated or taken from another field or page) (yellow frame)
    c. does not appear on the page (blue frame)
7. Leave the form by clicking on any other icon. Changes become active system-wide as soon as you leave the form.



Selecting Pages to Include in Forms and Flow Charts

In configuration mode, each form and flow chart starts with a Page Configuration tab showing all of the pages that comprise this form or chart. Here you select and deselect the pages you want to include in the form. You cannot select or deselect the sub-pages of pages in a form at this level.

Configuring a Flow Chart

1. Click on the Page Config tab.
2. Click on the checkboxes beside the page names to choose whether a detail page is visible and included in the global overview and data entry summary.
3. Click on the individual page tabs, and then on individual parameters to determine whether these are available in the global overview, or data entry summary pages, as appropriate.

For more details, please refer to the *System Administration and Configuration Guide.*

Patient Reports and Statistical Logs

Details of Patient Reports and Statistical logs configuration will be taught you when you attend the class designed for this purpose. Your project Manager will help you arrange a time, before your go-live, to attend this class. In preparation, please make sure the following items are completed:

- Identify the patient reports that need to be built. These are the paper forms you currently use to chart on.

- Identify where in OB TraceVue the data charted on these various paper forms will be entered by staff, so that your newly designed Forms will be populated with the data you require
- Review the templates included in OB TraceVue (found on your system)
- Customize your Value Table Editor
- If not provided for you by your Project Manager or Educator, print the *Word Form Field & SQL Query Examples* manual in COLOR

Bring the following items to the class with you:

- Medical Records requirements and standards for patient documentation at your facility
- Samples of your current reports
- Samples of your current statistics and logs
- A file containing your facility's logo (if you want to print a logo on the reports)

Following is a list of the Patient Reports and Statistical Logs provided with the system:

Maternal Word Forms

Admission	Antepartum
Discharge	Discharge Record
Discharge Summary	FC Assess by Time
FC Assess by Type	Inpatient Postpartum
Labor and Alternate Delivery	Labor and Delivery
Labor & Delivery	NST Overview
NST	Obstetric Admit
Patients Pregnancy Episodes	Postpartum Visit
Postpartum Visits	Progress Notes
Teaching	

Maternal Excel Logs & Statistics

Admission Log	ChalkboardM Log
Delivery Log	Discharge Log
Fetal Death Log	Labor & Delivery Log
Live Birth Log	Obstetric Statistics
Open Cases 12 Month	Open Pregnancies
Patient Creation Log	Perinatal Death Log
Providers Log	Regular Admin Statistics
Scheduled Log	Stillborn Log
System Audit Trail Log	Transfer Log
Undelivered Log	Yearly Admin Statistics
Zip Log	

Newborn Word Forms

Nursery Admission	Nursery Discharge
Nursery FC Assess by Time	Nursery FC Assess by Type

Newborn Excel Logs

ChalkboardN Log	Nursery Admission Log
Nursery Discharge Log	System Audit Trail Log

Training Plans

Benefits of the Super User (Train the Trainer) Model

- Develops a core group of competent and confident Super Users
- In-house Trainers provide cost-effective training through the life cycle of your system and your staff
- Utilizes your hardware for Training

Training Plan

- Identify team members and set appropriate expectations for their new roles
- Maintain and document dialog between all team members
- Identify Training location
- Begin proactive strategic planning for system
- Consider Policy & Procedure issues
- Discuss configuration options and change system as needed for staff training
- Evaluate and revise: teaching outlines, competency tools and other training documents as needed
- Consider team training
- Create class schedules
- Conduct Super User/Trainer debriefing
- Begin End User training as soon as possible after Super User debriefing
- Create Go-Live schedules for Super User coverage

Identify End Users

List the types of users that will be interacting with OB TraceVue

- Nursing Staff
- Technicians
- Clerks
- Physicians / Midwives
- Other?

- Different class content may be needed for different user types
- 8 hours of class for nurses are usually needed for a customer using forms
- 4 hours of class for nurses are usually needed for a customer using only Surveillance & Archiving
- 1 End User per PC is recommended with a maximum trainer-to-student ratio of 1:6
  - May consider 2 trainers per class if staffing allows for this
- Schedule self-directed practice after training for:
  - Completion of End User skills lab and/or Competency checklist
  - Validation of each users training proficiency by Super Users
  - Completion of the CBT (if used)

4
Super Users

Intended Audience

This chapter is designed for anyone who educates nursing and other clinical staff who have been selected to be super users and provide training to end users on the OB TraceVue system. Super Users are typically senior staff who have a desire to be more involved with the implementation and continued support of the system.

The assumption is made that all users are familiar with the Windows graphical user interface, use of a keyboard, use of a mouse or other pointing device, and have a basic familiarity with Microsoft Word.

Certain information provided in Chapter 3: System Managers may also be needed by Super Users. Hospital needs will dictate where knowledge overlap needs to occur.

Objectives

Super User training objectives

In addition to all of the End User objectives, by the end of Super User training, the learners will be able to …

- Understand the ADT interface as it relates to managing patients
- Explain the relevant system hardware layout
- Demonstrate proper technique for managing mobile clients (if applicable)
- Use web clients (if applicable)
- Generate system and patient audit trails
- Demonstrate basic knowledge of report templates (if applicable)
- Set-up users in the system
- Retrieve patients from optical disk
- Lock/unlock patient records
- Perform basic system troubleshooting
- Determine and use the appropriate resources if unable to solve problems alone

Super User training outline

Topic	Details	Notes
Intro-duction	Super User role & responsibilities Patient flow/Episode concepts/Data flow Software Functionality: Surveillance, Archiving, Flow Chart, & Forms Documentation options: Flow Chart vs. Forms Internal Server	
System Components	Client Mouse/Keyboard/Display Optical disk drive/*Jukebox* External Database Server Web Terminal Server Printer *Scanner* *Fax capability*	
Display Screen Component	Describe the FM connection to OB TraceVue Icon bar Patient panel Task window System icon	
Icon Overview	Quick Admit Identify/Search Patient	

Topic	Details	Notes
	Maternal/Newborn icons	
	Change Patient Location	
	Single Patient Trace	
	Floating Trace	
	Charting	
	Notes Browser	
	Prenatal Visit/ Patient History	
	Departmental Admission Record	
	Delivery/Discharge Record	
	PP Visit	
	Chalkboard	
	Multi Bed Overview	
	Print/*Fax*	
	Log on/Log off Lock	
	System Administrator/Shutdown	
	Help	
	User name	
	Passwords	
Log-On / Log-Off	Policy/security	
	Screen appearance	
	Patient in Focus Panel	
Single Patient Trace	Trace	

Topic	Details	Notes
	FHR Numeric Display	
	Scroll Bar	
	FM & Maternal Buttons	
	Compressed Trace	
	Configure Bed Alerts	
	Alerting On/Off	
	Right Edge Trace Time	
	Multi-fetus monitoring	
	Information at bottom of display	
	Purpose: Open & Close Episodes	
	Importance of Episode Close to enable Optical Disk storage for Archive record	
	Areas of the screen	
Identify/ Search Patient	Create New Patient & New Pregnancy	
	Close Episode	
	Start New Episode for Existing Pregnancy	
	Review / Retrieve Episode	
	Close Pregnancy	
	Create New Pregnancy for Existing Patient	
	Using the ADT HIS Filter	
	Error Messages (Search & Create Patient)	
Change Patient Location		

Topic	Details	Notes
Floating Trace	Purpose	
	Moving and Sizing Display Box	
	Scroll Arrows	
	Alerting On/Off	
	Close	
Notes Browser	Note Types	
	Editing a Note	
	Review specific category	
	Review Audit Trail	
Chalkboard	Summary information	
	Labor Progress	
	Nurse Field	
	Provider Field	
	Configurable Comment Fields	
	Sort	
Multi Bed Overview	Change Overview	
	Scroll Bar	
	Alerting On/Off	
Print/*Fax*	Documents	
	Audit Trail	
	Fax	
System Admin-	Fetal Monitor Setup	

Topic	Details	Notes
istration / Shutdown	PC Name	
	COM Port	
	Bed	
	Check FM configuration from any PC	
	Exit OB TraceVue	
	Controlled shutdown of PC	
	Uncontrolled shutdown of PC	
	Server shutdown	
	System messages	
Help		
	Purpose	
	Implications of use	
Quick Admit	*Establish criteria for use*	
	Manual record Merge	
	HIS record Merge	
	Alert Level types	
	Visual/Audio	
	Acknowledge	
Patient Alerting	Re-alert indicator on Single Trace Display	
	Review	
	On/Off/Modify	
Change individual	Patient in focus	

Topic	Details	Notes
Patient alerts	Permission rights of User	
Patient Bed Transfers		
	Train icon	
	Visual/Audio	
System Alerting	Messages	
	Accept	
	Maintain Log	
	Implications	
Shutdown/ Mobile System	Shutdown sequence	
	Connections	
	Fetal Monitor Bed Labels	
ADT Link	Plan for Downtime/HIS record not available	
Co-residency	*How to access 3rd party applications*	
OB TraceVue-OB TraceVue Link Settings	*Purpose*	
	Patient flow between systems	
Fetal Monitor Functions	Describe the procedure for handling patient transducer cables	
For each of the following areas: **Describe/teach how to Enter, Modify, Delete, and Review data and use Summary Screens**		
Flow Chart	Overview, Data Entry, Detail Pages	
	Vital signs	
	Assessment	
	Medications	

Topic	Details	Notes
Charting on Forms	Vag Exam I/O Contractions Fetus Adding/Removing Fetus tabs Events Settings for patient in focus Charting Maps Charting Reminders Auto-Charting Switching between AP/IP and PP Prenatal Visit/ Patient History Departmental Admission Record Post Partum Visit *Newborn Forms* Use Events to populate certain fields	
Delivery/ Discharge Record	*Create newborn patient* *View newborn record*	
Attachment Tool	*Purpose* *Attach document* *Manipulate image* *View attachments*	

Topic	Details	Notes
	Resolution, compression, & capacity *Trouble-shooting*	

FM In-service **(***only if training hours have been purchased*)

System Manager presents End User training plan

Super User selection

It is important that the right staff members are selected for the Super User role, as these clinicians will be the system "champions" and will teach all the other users in the training classes. The selected clinicians should:

- Be a full time employee
- Be computer literate
- Embrace change
- Have a positive attitude
- Have previous educator experience
- Be free of other major projects during the system implementation time period
- Represent the various work shifts, clinical departments, and user types who will be using OB TraceVue
- Understand adult learning principles and how they apply to OB TraceVue training
- Understand change management principles and how they apply to system implementation

Principles of adult learning[1]

Adult Learning Theory

Part of being an effective instructor involves understanding how adults learn best. Compared to children and teens, adults have special needs and requirements as learners. The field of adult learning was pioneered by Malcolm Knowles and he identified the following characteristics of adult learners:

- Adults are autonomous and self-directed. They need to be free to direct themselves. Teachers must actively involve adult participants in the learning process and serve as facilitators for them. Specifically, they must get participants' perspectives about what topics to cover and let them work on projects that reflect their interests. They have to be sure to act as facilitators, guiding participants to their own knowledge rather than supplying them with facts. Finally, they must show participants how the class will help them reach their goals.

- Adults have accumulated a foundation of life experiences and knowledge that may include work-related activities, family responsibilities, and previous education. They need to connect learning to this knowledge/experience base. To help them do so, they should draw out participants' experience and knowledge which is relevant to the topic. They must relate theories and concepts to the participants and recognize the value of experience in learning.

- Adults are goal-oriented. Upon enrolling in a course, they usually know what goal they want to attain. They, therefore, appreciate an educational program that is organized and has clearly defined elements. Instructors must show participants how this class will help them attain their goals. This classification of goals and course objectives must be done early in the course.

- Adults are relevancy-oriented. They must see a reason for learning something. Learning has to be applicable to their work or other responsibilities to be of value to them. Therefore, instructors must identify objectives for adult participants before the course begins. This means, also, that theories and concepts must be related to a setting familiar to participants.

- Adults are practical, focusing on the aspects of a lesson most useful to them in their work. They may not be interested in knowledge for its own sake. Instructors must tell participants explicitly how the lesson will be useful to them on the job.

- As do all learners, adults need to be shown respect. Instructors must acknowledge the wealth of experiences that adult participants bring to the classroom. These adults should be treated as equals in experience and knowledge and allowed to voice their opinions freely in class.

Motivating Learners

Another aspect of adult learning is motivation. At least six factors serve as sources of motivation for adult learning:

- Social relationships: to make new friends, to meet a need for associations and friendships.
- External expectations: to comply with instructions from someone else; to fulfill the expectations or recommendations of someone with formal authority.
- Social welfare: to improve ability to serve mankind, prepare for service to the community, and improve ability to participate in community work.
- Personal advancement: to achieve higher status in a job, secure professional advancement, and stay abreast of competitors.
- Escape/Stimulation: to relieve boredom, provide a break in the routine of home or work, and provide a contrast to other exacting details of life.
- Cognitive interest: to learn for the sake of learning, seek knowledge for its own sake, and to satisfy an inquiring mind.

Educators must remember that learning occurs within each individual as a continual process throughout life. People learn at different speeds, so it is natural for them to be anxious or nervous when faced with a learning situation. Positive reinforcement by the instructor can enhance learning, as can proper timing of the instruction.

Learning results from stimulation of the senses. In some people, one sense is used more than others to learn or recall information. Instructors should present materials that stimulate as many senses as possible in order to increase their chances of teaching success.

Critical Elements of Learning

There are four critical elements of learning that must be addressed to ensure that participants learn. These elements are:

- **motivation**
- **reinforcement**
- **retention**
- **transference**

Motivation - If the participant does not recognize the need for the information (or has been offended or intimidated), all of the instructor's effort to assist the participant to learn will be in vain. The instructor must establish rapport with participants and prepare them for learning; this provides motivation. Instructors can motivate students via several means:

- **Set a feeling or tone for the lesson.** Instructors should try to establish a friendly, open atmosphere that shows the participants they will help them learn.
- **Set an appropriate level of concern.** The level of tension must be adjusted to meet the level of importance of the objective. If the material has a high level of importance, a higher level of tension/stress should be established in the class. However, people learn best under low to moderate stress; if the stress is too high, it becomes a barrier to learning.
- **Set an appropriate level of difficulty.** The degree of difficulty should be set high enough to challenge participants but not so high that they become frustrated by information overload. The instruction should predict and reward participation, culminating in success.

In addition, participants need specific knowledge of their learning results (*feedback).* Feedback must be specific, not general. Participants must also see a *reward* for learning. The reward does not necessarily have to be monetary; it can be simply a demonstration of benefits to be realized from learning the material. Finally, the participant must be **interested** in the subject. Interest is directly related to reward. Adults must see the benefit of learning in order to motivate them to learn the subject.

Reinforcement. Reinforcement is a very necessary part of the teaching/learning process; through it, instructors encourage correct modes of behavior and performance. Reinforcement should be part of the process to ensure correct behavior. Instructors need to use it on a frequent and regular basis early in the process to help the students retain what they have learned. Then, they should use reinforcement to maintain consistent, positive behavior.

- **Positive reinforcement** is normally used by instructors who are teaching participants new skills. As the name implies, positive reinforcement is "good" and reinforces "good" (or positive) behavior.

Retention. Students must retain information from classes in order to benefit from the learning. The instructors' jobs are not finished until they have assisted the learner in retaining the information. In order for participants to retain the information taught, they must see a meaning or purpose for that information. The must also understand and be able to interpret and apply the information. This understanding includes their ability to assign the correct degree of importance to the material.

The amount of retention will be directly affected by the degree of original learning. Simply stated, if the participants did not learn the material well initially, they will not retain it well either.

Retention by the participants is directly affected by their amount of practice during the learning. Instructors should emphasize retention and application. After the students demonstrate correct (desired) performance, they should be urged to practice to maintain the desired performance. Distributed practice is similar in effect to intermittent reinforcement.

Transference. Transfer of learning is the result of training - it is the ability to use the information taught in the course but in a new setting. Positive transference, like positive reinforcement, occurs when the participants use the behavior taught in the course. Transference is most likely to occur in the following situations:

- **Association** - participants can associate the new information with something that they already know.
- **Similarity** - the information is similar to material that participants already know; that is, it revisits a logical framework or pattern.
- **Degree of original learning** - participant's degree of original learning was high.
- **Critical attribute element** - the information learned contains elements that are extremely beneficial (critical) on the job.

Although adult learning is relatively new as field of study, it is just as substantial as traditional education and carries a potential for greater success. Of course, the heightened success requires a greater responsibility on the part of the teacher. Additionally, the learners come to the course with precisely defined expectations. Unfortunately, there are barriers to their learning. The best motivators for adult learners are interest and selfish benefit. If they can be shown that the course benefits them pragmatically, they will perform better, and the benefits will be longer lasting.

[1] Lieb, Stephen, Arizona Department of Health Services. Retrieved from http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/adults-2.htm, December 29, 2005.

Change management

For a successful transition to the new system, it is important that the team *manage* the change. Ways to do this include:

- Help people perceive the value of the new system
- Plan all phases of the implementation, including configuration, training, and conversion (go-live)
- Involve the impacted groups and individuals in the planning

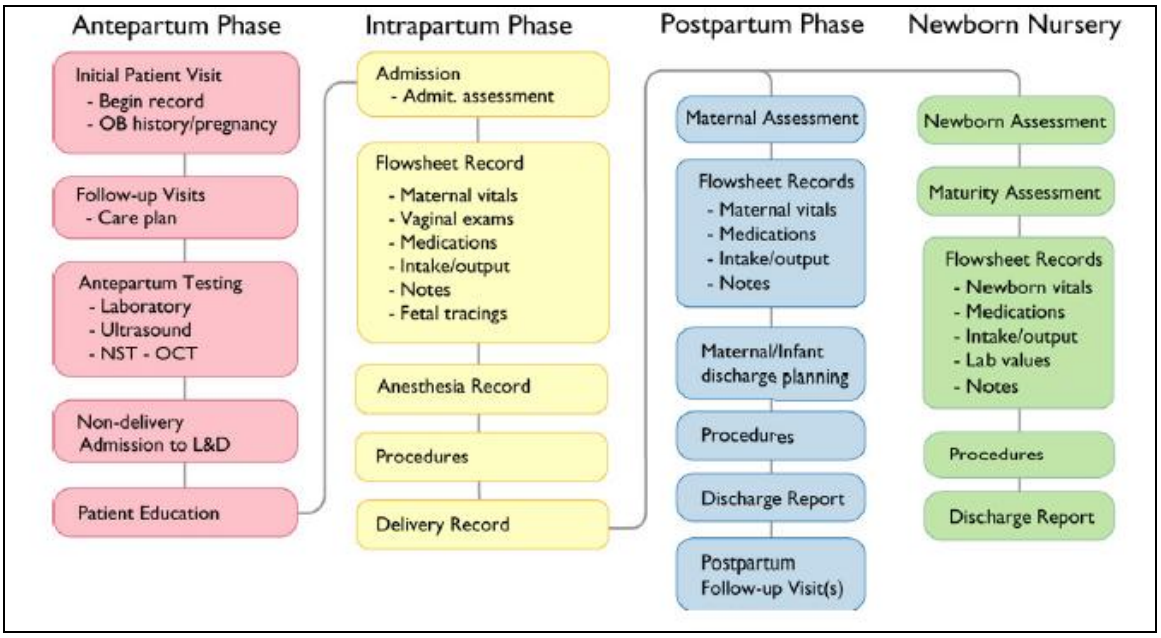
- Communicate the plans
  - *What* will take place
  - *When* it will take place
  - *How* it will take place
  - *Who* to go to with questions
- Prepare users to adjust and incorporate the system into their daily practice
- Be realistic – it will take time to fit the system into the needs of the unit
- Evaluate as you go along – keep track of where you are and how you are doing
- Give positive feedback

Characteristics of Organizational Change

Relatively Easy Changes	Relatively Difficult Changes
Involves little new learning or information handling	Changes in behavior/practice are required
Does not threaten current status/power relationships	Some parties likely to perceive loss of power/status/control
Results are easily or quickly visible	Results are difficult to measure
Requires little new commitment	Needs commitment from all levels of the organization
Can be adopted gradually	Must be adopted all at once

Most changes are somewhere in the middle!

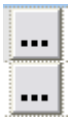
System software

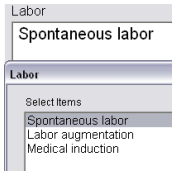
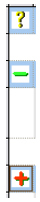
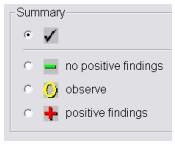
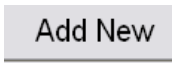
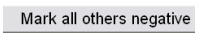


Documentation Flow

Data Entry "Rules"

There are certain data entry "rules" that are used to assist in documenting in the system. Details can be found in the online help and are summarized below.

Tool	Name	Locations	How to Use
	Down Arrow	The down arrow appears throughout OB TraceVue Forms and Flowchart.	Click on the down arrow. The list that appears allows selection of a single item. You may need to place your cursor in the field where you wish to enter data before the down arrow appears.
 Located in the lower left hand corner of the screen.	Search button	Forms: Providers, Procedures, Problems, Medications	Click on the Search Button. A dialogue box will appear on the screen. A list of categories specific to the screen will appear in the left window, items specific to each category will appear in the right window.
	Browse Button	Forms: Labs, Diagnosis/Plans, Delivery Record Flowchart: Events Screen-Special Events	Click on the Browse Button. A dialogue box will appear on the screen. A list of categories specific to the screen will appear in the left window, items specific to each category will appear in the right window.
	Check box	Forms: Admission, Psychosocial, Medical History, Allergies, Procedures, Providers, Medications	Click cursor in checkbox to enter check. Click on check to remove.

Tool	Name	Locations	How to Use
	Down Arrow	The down arrow appears throughout OB TraceVue Forms and Flowchart.	Click on the down arrow. The list that appears allows selection of a single item. You may need to place your cursor in the field where you wish to enter data before the down arrow appears.
	Slide Bar	Flowchart: Vital Signs, Vag Exam	Click and hold the cursor on the vertical slide bar. Move up and down to select the desired numeric value.
	Key Pad	Flowchart: Maternal Vital Signs, Vag Exam, Fetus and Contractions	Click cursor on the appropriate numeric values, e.g. to enter a systolic BP of 116, click on "1" "1" "6" on the keypad on the left. Enter the diastolic BP using the key pad on the right.
	Combo Box	Forms: Admission, Labor Record, Delivery Record, Anesthesia Record	Combo boxes allow the user to make multiple selections from a list and to enter free text comments. When using a combo box, click cursor in the white area, a dialogue box opens. The select items from the list at the top by highlighting and clicking. A comment section is provided at the bottom.
	Tri-State Buttons	Forms: Allergies, Screening, Examination	The default selection implies the item has not been addressed. Click once on the question mark to indicate a positive finding. Click a second time to indicate a negative finding.
		Flowchart: Assessment	The Tri-State buttons on the Assessment section of the Flowchart operate on the same premise as those discussed above, however, note the addition of the yellow circle symbol representing a suspicious finding.
	Special Buttons	Forms: Admissions, Diagnosis/Plans, Examination, Postpartum Follow up, Progress Notes	Select the "Add New" to e.g. start a new examination with in the same episode or Select "New Record" for example to open an Admission Record for a patient whose episode was started as a Prenatal Visit Record.
		Forms: Labor Record	Press this button from the delivery page to go to the Flowchart to document the special events surrounding delivery.
		Forms: Examination	When this button is selected on the examination screen, the examination data items not marked for a "+" finding, will be assigned a "-" finding symbol.
		The pictures are examples of those used to enter fetal position information.	Click cursor on desired selection. Click cursor on a different selection to change selection.

Application details

Product overview

The OB TraceVue computer system combines surveillance and alerting with comprehensive patient documentation and data storage in one system. It gives you all the information you need to document and manage maternal and newborn patient care in your OB department. Patient documentation can include both flow chart-based patient records and forms-based patient records.

OB TraceVue allows comprehensive documentation from the first antepartum visit until delivery, postpartum, discharge, postpartum follow-up and newborn well baby across several pregnancies. OB TraceVue creates an awareness of questionable tracings based on cardiotocograph (CTG) trace analysis. It is a diagnostic aid that does not replace the clinician's judgment. The interpretation of alerts and the appropriate clinical response remains with the clinician.

The system is configured at the factory with default settings that determine, for example, temperature unit of measure or trace display settings. Whether you can modify default settings depends on your permission rights.

In the obstetrical care environment, OB TraceVue Release E is intended to gather and display patient information for the purposes of surveillance, alerting, diagnostic aiding, and storage/archiving, from the first antepartum visit until delivery and discharge. OB TraceVue is not intended to replace current fetal monitor paper.

OB TraceVue offers a choice of JCAHO-compatible or traditional abbreviations for medication doses and units of measure.

System security

To increase the protection of collected data, OB TraceVue offers:

- User and data authentication, and access control.
- Use of Microsoft Active Directory to manage passwords (optional).
- VIP patient treatment, substituting the patient's name with an alias.
- Physical security and disaster recovery.
- Protection of remote access points and external electronic communication.
- Software discipline, such as the shell function that limits access to the Windows desktop.
- Audit trail
- Education and training

Working with patients

Use the Search/Identify Patient (Rolodex) screen to view a list of all patients, past and present, in the system, both departmental and non-departmental. You can create a new patient record, find an existing patient, close, retrieve and merge patient data. Use the *Prenatal Visit*, and *Admission Rec* buttons to switch immediately to the corresponding pages. One search can display up to 100 patients. Use search filters to narrow down the search criteria if necessary.

Admitting a Maternal Patient (Searching)

When admitting a maternal patient, first search to see if she has been entered previously into this OB TraceVue system, either during this pregnancy or an earlier one. The system lists up to 100 search results in a scrollable list, with status icons that tell you more about the patient episodes.

1. Click  .
2. Click *Clear*.
3. Enter some limited identifying data for the patient, such as a few letters of her last name.
4. Click *Search.*
5. Click on the correct patient, avoiding patients with similar names.
6. If she does not appear on the list, create a new patient record for her by entering the information your institution has identified as being the minimal data required for admission (usually First and Last Name, Data of Birth, and an identifying number such as Social Security Number or Medical Record Number), then select *Create Patient*.
7. Click *New Episode*. Assign her to a location. If *New Episode* is not an option, see #9.
8. Optionally, when admitting a patient you can:
    a. Click *Reason* and select a reason for her admission.
    b. Select the type of record you are opening for this episode. Choose from *prenatal visit, admission record,* or *postpartum follow up visit* then click OK. The system takes you immediately to the appropriate page and opens a record of that type. (This is available only in systems with forms based charting).
9. Switch on the fetal monitor and begin monitoring your patient.
10. If *New Episode* is not an option, because her last episode is still open:
    a. Click *Close Episode*.
    b. Choose *Home* from *Other Location*.
    c. Click *OK*. Do not close the pregnancy. Start the admission sequence again.

When the system lists the patients it finds during a search, it uses icons to indicate the patient and episode status. See the picture below for a list of those icons.

Delivery State/Status of Most Recent Episode	
Postpartum charting.	Regular patient, with open, modifiable episode.
AP/IP charting.	Regular patient, with no open episode. Patient has open pregnancy, or open newborn documentation.
Quick Admit (shows admission date and time in place of the patient's name).	Episode belongs to a newborn. Available for review only.
Patient from hospital information system (HIS patients).	This is an invalid patient; another patient with the same identification already exists in the system.
Episode retrieved from optical disk. Can have multiple retrieved episodes per patient.	Remote trace transmission; icon also indicates transmission status.
Patient has no open episode. The pregnancy, or newborn documentation is closed.	The most recent episode of this pregnancy or newborn documentation was transferred to another OB TraceVue system. The patient data is incomplete.
HIS patient; ownership name conflict. This HIS module found a patient with a matching HIS-ID in OB TraceVue and tried to assign HIS-ownership for that patient. However, the names or date of birth did not match so this patient has been put into the HIS-buffer instead.	

Admitting a Newborn Patient

Admission of a newborn patient is done from the mother's delivery record form. Following is the recommended way to create a newborn patient; it ensures that demographics, maturity and teaching data entered in the maternal delivery record are displayed in the newborn record where it can be viewed, but not amended.

1. Click  .
2. Complete the details on the Labor page.
3. Complete the details on the Delivery page. If you have not already entered the stages of labor in the flow chart, you can click on the *Jump to Stages of Labor* button to switch to the chart and enter the data now.
4. There may be times when you need to get a Newborn Record created before you have time to enter all of the data in the Delivery Record. The only data that must be entered to enable the *Create Newborn Record* button is the Delivery Date/Time.
5. Click *Create Newborn Record*.
6. Enter the details you can for the name, medical record number, and newborn ID in the Newborn Patient Identification window.
7. Click *Create Patient*.
8. Complete the newborn location details. Typically, a newborn has two locations within a department. She has her administrative location, such as Nursery. She also has her physical location, such as @Mom.

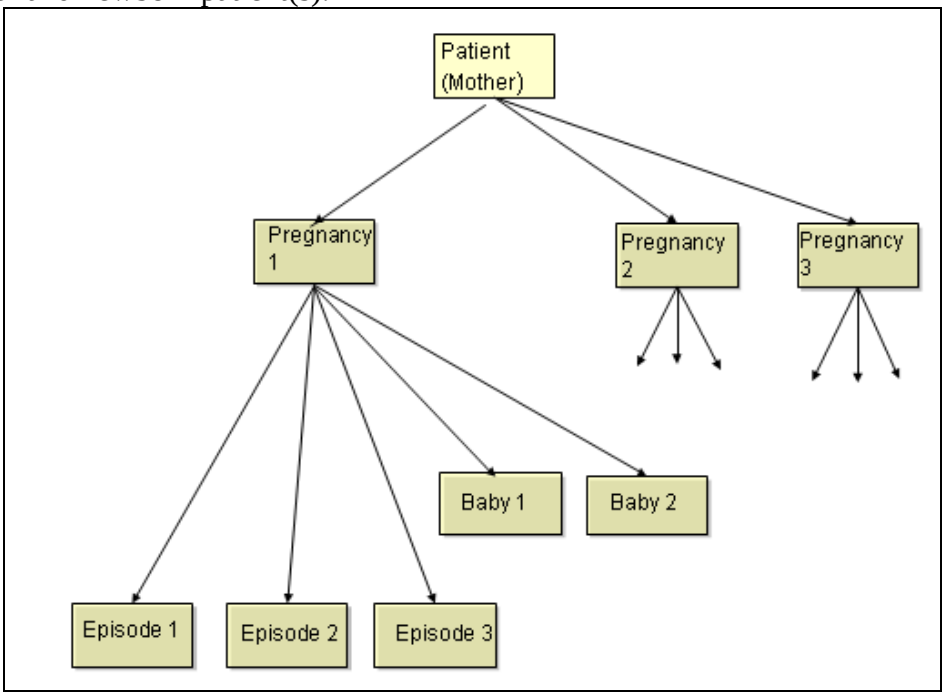
9. Click *OK*. The system displays the newborn chart. The  switch now displays a red border to indicate that the maternal/newborn link is established. You can click on this to automatically bring the mother into focus.

 An alternative way to create a newborn patient is by clicking on the newborn half of the maternal/newborn switch and then clicking *Create Newborn Record*. Make sure you have first completed the maternal labor and delivery pages in the maternal record before creating the newborn patient. The newborn record contains read only views of the maternal delivery data. If you have not completed all the fields, although you can retrospectively enter them in the maternal record, some (such as the newborn's sex) are not dynamically updated in the patient panel.

Pregnancy/Episodes/Data flow

During her pregnancy, a patient usually pays multiple visits to her healthcare provider. Each encounter is an "episode". Multiple encounters may be documented with multiple episodes. A pregnancy record is made up of a collection of episodes. The complete maternal patient record, which contains her administrative data, OB history and so forth, includes information about one or more pregnancies. Creating a new patient automatically starts a new pregnancy and opens the first episode. Starting a new pregnancy for an existing patient automatically opens the first episode of the new pregnancy.

Similarly, each newborn patient has one or more episodes that make up the newborn documentation record. Typically, the newborn is covered within one episode, but multiple episodes are possible to permit transfer between OB TraceVue systems. Creating the newborn patient from the maternal delivery record ensures that there is an automatic link between the maternal and newborn patient(s).



Pregnancies and Episodes

Maternal Chalkboard

Like a traditional handwritten chalkboard, this gives an overview of the status of admitted patients. You can see their location, whether this is an actual bed or a departmental location.

- You can configure the chalkboard to determine which patients and beds you see.
- You can transfer the patient and enter comments.
- It gives you alerting status (on or off) and fetal monitor status (on or off).
- It allows you to see, and change, which care providers are assigned responsibility for patients and can shift all of the patients assigned to one provider to another.
- When you scroll the chalkboard, the patient's name and location remain static at the left of the screen. The other columns scroll.
- To bring a patient into focus, click on the episode and click Select Patient. The magnifying glass indicates this is the selected patient. She is the patient in focus, even though you cannot see the focus selection at this screen.
- The view of the chalkboard you choose applies only until the next time you return to the chalkboard, then your view reverts to your default view (own patients, or all patients). This is set in your user profile in configuration mode.
- Use the **Comment** column to enter up to 50 characters of your own text. Activate the text entry window by either clicking the **Comment** button, or clicking directly in **Comment** column.
- The two columns to the left of the **Comment** column are for your institution's own configuration and use. Select what you enter into them from the predefined choices in the dropdown list that activates when you click in either of the columns.
- If your institution configures your system appropriately, the chalkboard lines may have background colors. The color of the entire line is determined by the configuration of the first custom column. The second custom column can also have its own color, different to the line's color. The meaning and use of these colors is determined by your own institution.

The following icons indicate the episode status.

Type of Patient/episode	
 Retrieved episode.	 Bed with admitted patient.
 Remote patient episode, received from remote fetal monitor.	 Indicates this patient has a departmental, un-monitorable location such as BATH.
 Empty bed	 Delivered patient.

The chalkboard is sorted by bed sort order and patient name. Alternatively, you can temporarily sort by other fields. Double click on the column head to sort by these criteria. Double click again to reverse the sort order. Select a different filter to restore the default sort order.

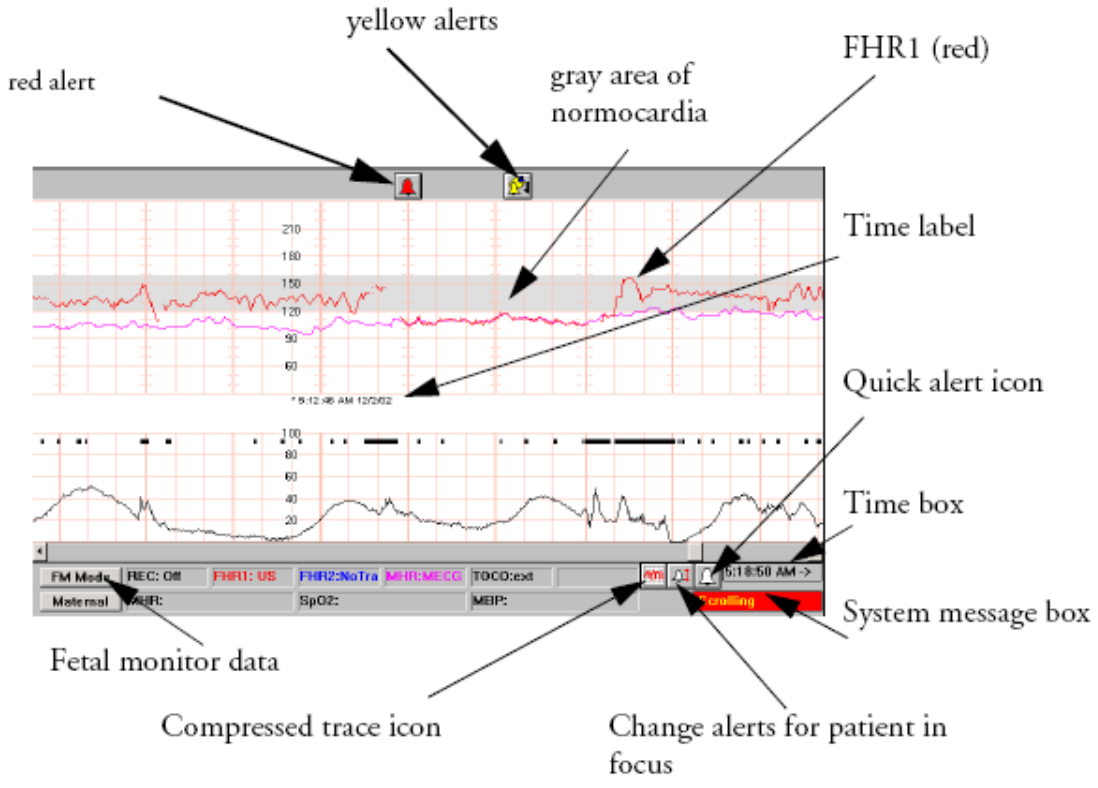
- Provider
- Dilation

- Membrane Status
- Gestational Age (undelivered patients are shown before delivered patients)
- Labor duration in hours (undelivered patients are shown before delivered patients)
- The two custom columns.

Newborn Chalkboard

- The newborn chalkboard shows details of the newborn, including both administrative and physical location, gestational age, current weight, weight gain and so forth. The patient's age is shown in hours for the first 24 hours, and thereafter in days.
- You can change shift, care provider and enter comments and so forth using the same techniques you use for the maternal chalkboard.
- The chalkboard is sorted by bed sort order and patient name. Alternatively, you can temporarily sort by Provider, Age, Weight, and the two custom columns. Double click on the column head to sort by these criteria.
- Double click again to reverse the sort order. Selecting a different filter restores the sorting to bed sort order and patient name.

Viewing Traces



Data from monitor Trace lines are well defined if the monitor signals are good. A weak signal may result in a broken or imperfect trace. Data in the Fetal Monitor such as alert events and limits are not processed by OB TraceVue. If the only transmitted data item is a constant toco value, the

	data acquisition stops after 15 minutes. It resumes automatically as soon as there is any other data or the toco value changes. This prevents the accumulation of useless data if, for example, you forget to turn off the fetal monitor or unplug the transducers after a monitoring session.
Quick alert icon	This allows you to suspend all alerting for this patient, if you have permission to do so.
Time label	Identifies the time and date at which the trace was made, and the scale of the trace display, for example three cm per minute.
Trace background	The trace is divided, like a traditional paper trace, into squares. Each square represents one centimeter on paper. The grid color depends on whether you are using US or European paper.
FM mode signal button	Turn on and off the display of modes (recorder status, FHR1, FHR2, MHR, TOCO), and their source such as US or MECG), received from the fetal monitor or fetal/maternal monitor.
Maternal Button	Turn on and off the display of values (MHR, SpO2, MBP) received from the maternal monitor. Maternal pulse rate derived from the Maternal SpO2 signal appear in the MHR field, even if the MECG transducer is not plugged in. The true source can be determined by reviewing the flowchart or the notes browser.
Compressed Trace Icon	Switches between the normal view of the trace, and a compressed view showing three hours of data.
Time box	Shows the trace time at the right border of the page.
System message box	This gives information about the displayed trace. For example "No Data" shows that no data is being received from the fetal monitor.
Normocardia	The grey horizontal bar on the single trace display and the compressed trend display reflects the inner tachycardia and bradycardia alert limits (not the severe limits). OB TraceVue alerts when a trace goes outside this area for the configured time delay.

In addition to the items always shown on the single trace, you may also see:

- Note icons - if you make a remark, OB TraceVue displays the note icon to show when this occurred.
- Gaps in the trace - occur when no data has been captured from the monitor. A gap is never wider than the width of a single screen, regardless of the time during which no data acquisition occurred. Gaps can occur when switching off the fetal monitor, transferring the patient to a non-departmental bed, or disconnecting the fetal monitor transducers.
- Yellow line - this vertical bar symbolizes a gap in recording that has lasted longer than one screen page. See the time marks before and after the yellow bar for reference. This bar appears only after monitoring resumes.
- Right Edge Reference Time - the extreme right hand edge of the trace corresponds with the time shown in the Time Box. For example, if the time in the box shows 12.53, then the portion of the trace at the right hand edge of the screen is exactly what was recorded at 12.53. Use this to orient yourself when the trace is scrolled and you are not viewing a real time trace. This occurs in the Compressed Trend display too. Traces scroll from right to left; the most current tracing is at the right of the screen.

- Scrolling - the word "**scrolling**" on the screen indicates that the portion of the trace currently on display is not the real time trace. It is a part of the trace recorded previously. To scroll a trace, move the slider box in the scroll bar at the bottom of the screen to the left or right. Alternatively, use the directional arrows. The Time Box and right edge reference time show you exactly which portion of the trace you are now viewing, and exactly when it was recorded.
- If you hold the scroll button for more than one second, the scroll speed accelerates moving the trace rapidly in minute increments. For even faster scrolling, hold the left mouse button down in the scroll bar itself for more than one second.

Annotating Traces

1. Double click on the single trace display at the time where you want the remark to appear.
2. Type in your remark.
3. If you also want to add an event, click *Add*, then select the event from the pull down list.
4. Check the display time to make sure you are adding this at the correct time.
5. Click *OK*. OB TraceVue displays the note icon above the trace.
6. To change or delete a remark, move the cursor to the text you want to change and use usual keyboard techniques to correct the note. To delete an event, select the event then click *Remove*. This is recorded in the audit trail. If you need to make a note during a gap in data acquisition, make it on the flow chart.

Clinical alerting

OB TraceVue's calculations converge as closely as possible to the NICHD consensus statements. The system announces alerts visually, as a blinking bell in the upper part of the screen and a bell on the trace display that moves with the trace. If the alert is still active but not acknowledged and moves out of the trace display to the left over time, and the alert condition still persists, the system repeats the alert bell on the right of the screen. The repetition time depends on the current paper speed setting. If configured, the system also announces technical or system alerts audibly, with different pitch and frequency for red and yellow alerts. See: *Configuring Alert Defaults Sets* in the online help for more details.

Alerting Levels

There are four alerting levels:

- ❖ No Alerting - no basic or advanced alerts are generated.
- ❖ Basic Alerting - covers signal loss, low FHR (bradycardia and severe bradycardia), high FHR (tachycardia and severe tachycardia) and increased IUP.
- ❖ Advanced Intrapartum (IP) Alerting - includes all basic alerting criteria, and adds baseline, variability, and deceleration alerts.
- ❖ Advanced Antepartum Alerts (AP) - includes basic alerting, intrapartum alerts, and antepartum alerts.

Assignment of Alerting Levels

- ❖ Patient is admitted to a bed
  - ➢ receives the alert rule set with limits & durations for that bed
- ❖ Patient is transferred to another bed
  - ➢ current limits & durations transfer with her
  - ➢ she does not receive the new beds' default limits & durations

- Alert on/off, alert rule set, NST, and reactivate alert time
  - stay with the bed
  - they do not travel with the patient

Identifying Fetal Monitor Alerts

Fetal monitor alerts (technical alerts) are independent of the current OB TraceVue alert settings. The system issues them even when the alerting level is "No Alerting". The FM alerts are:

- Coincidence - occurs if any two of the heart rates (FHR1, FHR2, FHR3, and MHR) are picked up by the fetal monitor show the same value for 50 seconds within one minute. Usually, this indicates that two sensors are measuring a single physiological process, thereby losing one signal. Any subsequent coincidence events are ignored for 10 minutes.
- Paper end - the system generates a yellow bell when the fetal monitor detects that the recorder paper has run out. The system does not repeat the paper end alert. This alert is configurable separately for each bed.
- Signal loss - if you remove the FHR from the maternal abdomen

Acknowledging Alerts

Acknowledging an alert silences all visual and audible alert indications. All bells on the trace stop blinking. However, if the situation causing the alert ceases but reappears later on, the system issues a new alert. As the alert sources operate independently, an acknowledged yellow alert issued by FHR1 does not suppress a yellow "coincidence" alert generated by the fetal monitor.

If you acknowledge an alert, but the alert condition persists, the system generates a reactivation alert after the configured time span. Technical alerts (ultrasound signal loss or coincidence, and paper end) are not reactivated if the alert is acknowledged but the condition continues beyond the user-configured delay.

Alert Announcements

There are three levels of announcements: green, yellow, and red. Each represents different information.

 At the beginning of the trace shows the alert limits in force at the start of monitoring. Also indicates a change in operating mode, enabled alerting after a period of suspension, adjusted alert limits, or reached NST reassurance criteria. (inaudible)

 Traces are outside normal limits. Patient needs attention.

 Traces are further outside the established limits or outside normal for a longer period of time. Patient needs immediate attention.

Using the flowchart

Data entry in the flowchart can be accomplished in three different ways, depending on what data you want to chart: See *Data Entry Rules* for more information.

- Click on the time bar for the time column in which you want to chart in order to enter values for all of the data elements on that page (click the time bar again to cancel)

- Click on the row label (or the icon for those items that are also displayed graphically) to chart a value for that data element at the current time
- Click in the desired data entry field for the desired time in order to enter just that particular value

Flowchart summary pages

Two summary pages are available in the FC to make it easier for you to enter data. (See also *Charting Maps*).

 This is the overview icon that shows your data in a graphic format.

 This is the data entry icon that enables you to chart the most common data elements without having to access different pages in the FC.

Review the online help topic called *Configuring the Flow Chart Summary Pages* to review how to add or remove items from these pages.

NOTE: The flowchart use and navigation is the same in a Surveillance and Archiving only system although the screens are slightly different. (Two .png files are available that show this type of Flowchart. They are called *S&A_FC_APIP* and *S&A_FC_PP*. These are included in the GRAPHICS folder on the OB TraceVue Documentation CD).

Autocharting

Autocharting, which is available for the maternal AP/IP chart only, is composed of:

- Values sent from fetal monitors to the flow chart, such as maternal NBP, MHR, and SpO2. These chart automatically. NOTE: not all FMs are enabled to send data to the system for autocharting.
- Values, such as accelerations and decelerations, derived from the fetal trace and toco trace data. These chart when derived-value autocharting is enabled and the flowchart's time range interval is 60 minutes or less. Values are available within five minutes of the end of a monitoring period.

Your system may be configured to require manual acknowledgement of either, or both, these types of values. If these values are displayed on your flow chart in blue italics, it is your responsibility to confirm or discard these values. The system displays values you confirm in black.

Values from the Fetal Monitor

The system can derive:

- Toco/contraction related data
  - number of contractions
  - frequency - the mean number of contractions in 10 minutes
  - mean duration in seconds
  - intensity
  - resting tone (shown in mmHg) (IUPC)
  - interval - the mean relaxation time between contractions
  - MVU
- FHR-related data:

- mean baseline
- number of accelerations, and decelerations (with values for early, late, severe variable, prolonged, and total. Be aware that the reported values for the four classes do not necessarily add up to the total value of decelerations.)
- long term variability
- mean short term variability (beat to beat STV)

- FMP-related data; for twins/triplets this is given in parallel as it cannot be attributed to an individual fetus. Although it is collected by the Cardio 1 transducer, it is not possible to be certain which fetus generated the movement picked up by the transducer.
  - percentage and duration of fetal movement.
  - total number and mean duration of fetal movement clusters.
- The system leaves out decelerations and accelerations when calculating variability values. During long ongoing alterations over interval ranges, any delayed charting items appear in the next charting interval.

To select the Autocharting interval, or to select specific parameters for autocharting, review the online help topics called *Selecting Derived Values for Autocharting* or *Setting the Autocharting Time Interval.*

Charting Maps

A charting map represents the typical care required for a standard antepartum, intrapartum or newborn situation. You can configure a charting map so that the measurements you require most often are available on the summary pages. For example, in a labor situation requiring a Magnesium (MgS04) infusion, you will want to check your patient's reflexes regularly. You can include 'reflexes' as one of the items on the Data Entry page for which the system regularly alerts you to check and chart.

A System Manager or Super User can permanently save a charting map so that is available the next time this situation arises. Any user can change the current charting map to keep pace with an individual patient's changing needs. Any permanent changes to a charting map do not apply until the next patient transfer. If you transfer a patient in the department, her charting map travels with her.

Default Charting Map

Every location enabled for monitoring has a default charting map. Make sure that it is appropriate for your patient. Roll your mouse over the charting map button to see the map's current sheet time and graph range settings.

1. Click  to go to the flow chart.
2. Click the *Charting Map* button at the lower left corner of the screen to go to the *Settings* page.
3. Click on the down-arrow beside the name of the current charting map.
4. Click on the name of the charting map you want to use.
5. Click ***Save*** to apply it to this patient.

If the sheet time range for the new charting map is different from the previous one, acknowledge the change in time and select the start time for the new time range.

Modify a Charting Map

You can change an individual patient's charting map:

1. Click  to go to the flow chart.
2. Set up the summary pages by putting, at the detail pages, a check mark in the column for each measurement you want to see on the overview page and on the data entry page.
3. Set up autocharting (maternal AP/IP only), if required.
4. Set up automatic reminders to input data, if required.
5. Click on the charting map button to jump to the *Settings* page.
6. Configure the sheet time range.
7. Configure the graph time range.
8. Click *Save*.

- The word *modified* is displayed adjacent to the charting map name. This indicates that you are now using a copy of the original charting map, and that the new settings apply to this patient only.
- At any time, you can return to the previous charting map used for this patient by pressing *Reset*.
- The modified map is available for the duration of this episode.
- Only a System Manager or Super User can save these changes as an entirely new charting map that can then be made available system-wide for all patients.

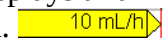
Flowchart: Medications and Intake & Output

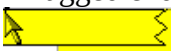
These items are charted on the Flowchart, in the Medications tab. There are three types of items here: Oxygen, Drugs, (discrete dose medications) and Infusions/Fluids. (Medicated Drips such as an Oxytocin, MgSO4, or Insulin drip are called "infusions"). Epidurals would be entered as Drugs, and "regular" IVs should be entered as Fluids.

You enter this type of information in exactly the same way as you enter other data into OB TraceVue. On the Medications tab, select the type of item you want to administer and then make appropriate selections from the dialog boxes. This usually means selecting the name of the item, and then entering enter the route, unit, amount, volume, dose and rate (as appropriate for that oxygen therapy, drug, medicated drip infusion, or IV infusion). If a medication is unavailable on a pick list, select *Other* and type in its name.

Infusions and Medicated Drips

- You cannot add additional volume to an active infusion (indicated by grayed-out volume setting). You should chart the additional volume as if it is a second infusion.
- You can add an additive to an infusion at any time by clicking the infusion on the flow chart and then adding the drug details. If necessary, you can administer a bolus.
- If a dialog offers a choice of radio buttons against a dose, rate, initial amount or initial volume, click the button for the item that you want the system to calculate automatically, then enter values for the other items.
- You can pause, stop, restart and modify a medication. Click *Stop* to stop, and *Restart* if you need to restart it.
- To modify a medication, click on it in the flowchart, change the dose and click *Modify*. Always ensure that the start and stop times are displayed correctly.

- While fluid is available, the flow chart displays a running infusion it with an arrow. The end is squared off if the item was stopped. 

- A ragged end indicates that the infusion fluid ran out before the infusion stopped. 
- Dark shading indicates the period during which a medication was paused. 

<u>You can start an infusion:</u>
- without a rate (but with an initial volume).
- with neither a rate nor an initial volume.

<u>Similarly, you can start a continuous medication:</u>
- with neither a dose nor a rate (but with an initial amount and initial volume).
- without any of the following: dose, rate, initial amount, and initial volume.

You cannot modify the rate, but you can subsequently update the record by clicking on the infusion or drug, adding the new information (such as the volume administered, the total volume administered so far, or the remaining volume), and pressing the Update button.

<u>You can apply boluses.</u>
- If you specified an initial volume/amount, the sum of all boluses, the update amounts/volumes, and the volume/amount infused so far, cannot exceed what you specified initially.

The more regularly you update the infusions or continuous medications, the more accurate the patient's I/O balance will be.

When you administer a medication and then add to it, or change it, these alterations are stored as a linear chain of entries. Use the Edit/Navigate arrows to move backwards and forwards through the chain. The buttons allow you to:
- < step back one entry in the chain
- > step forward one entry in the chain
- << go to the start of the entry chain (that is, the earliest entry in the chain)
- >> go to the end of the entry chain (that is, the most recent entry in the chain)

<u>To change a medication:</u>
- Double click on a drug or infusions in the graph to view its current status.
- Choose from:
  - Modify - modifies the most recent entry in the chain. Type in your change to the dose or volume and press Modify. This button is available only after you type your modification. The modification applies from the time shown in the display time - it does not delete the figure you overtyped. Click >> to reach this entry if necessary.
  - Stop - stops the medication. You must be at the end of the entry chain. If the Stop button is unavailable, click >> to go the end of the chain. You can restart the medication by pressing Restart.
  - Bolus - applies a bolus to a continuous dose drug, or to an infusion that is already running or stopped. Click Bolus and then enter either the total volume or the

remaining volume. The system automatically calculates the values if you do not enter them via the keyboard. This is included in the I/O balance calculation. The amount/volume of the bolus is subtracted from the medication's amount/volume.

- Update - updates the record with any new information added after you started the infusion or drug without the initial dose/rate/amount or volume.

To delete a medication:

- Double click on a drug or infusion in the graph.
- Choose from:
  - Delete Change - delete the most recent entry in the chain. Press < once to enable the Delete Change button. It is not possible to delete individual entries within the body of the chain; you may delete only the last entry in the chain. As soon as you press this button, the change is deleted. There is no undo.
  - Delete All - press this to delete the entire medication. You must be at the start of the entry chain. If this button is not available, click << to go to the start of the entry chain.

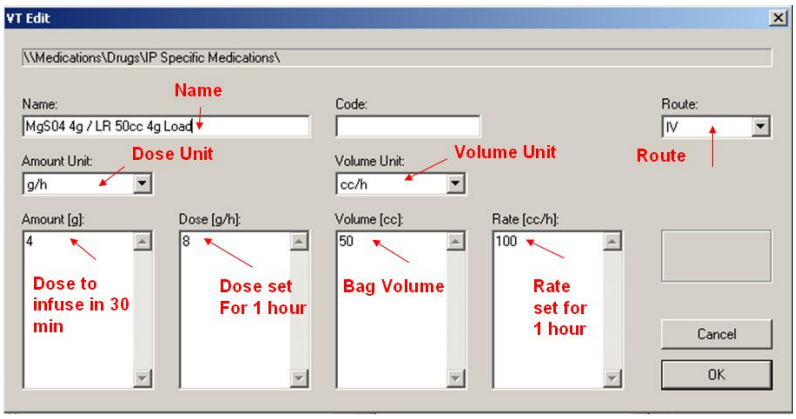
Calculating a Fluid Balance

Use the Intake/Output page to collect information about the patient's fluid intake and output, and to calculate the fluid balance. If you change the intake or output quantities for a period for which the fluid balance has already been calculated, the system recalculates the balance and displays it in *blue italics* for confirmation.

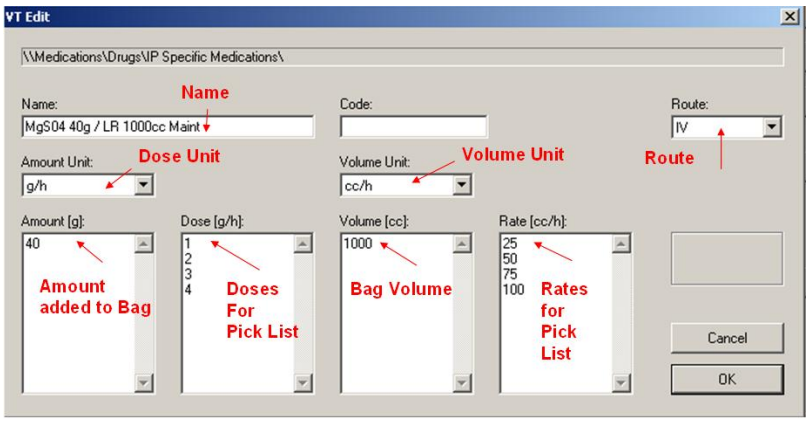
- Click in the appropriate cell in the Balance row of the sheet.
- Select the number of hours for which you want to calculate the balance.
- If you are calculating the balance for a period in the past, use the scroll bar to make sure that the calculation time is correct.
- Click **OK**.

Special Considerations for MgSO4 and Oxytocin

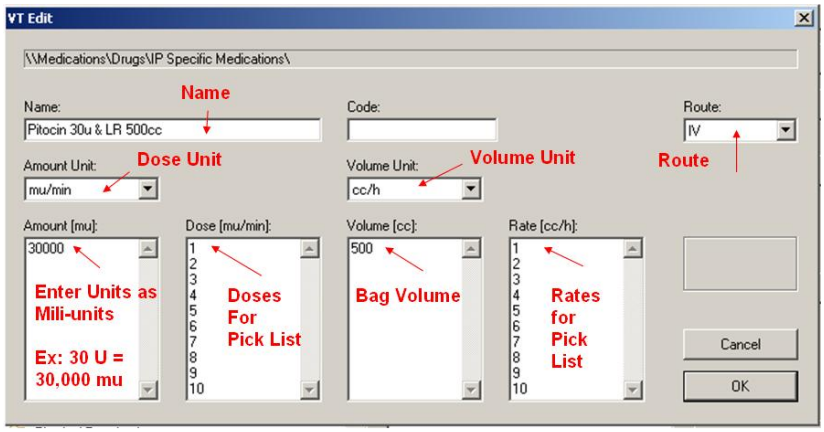
For Magnesium Sulfate bolus doses (over ½ hour), one way to set up the drip in the VTE is shown below.



For Magnesium Sulfate maintenance infusion, one way to set up the infusion in the VTE is shown below.



For Oxytocin induction infusion, one way to set up the infusion in the VTE is shown below.



Using the Notes Browser

Use the Notes Browser to see all remarks and flow chart notes, including modified and deleted ones, for the current episode of the patient in focus. You can start the notes browser from the toolbar when you are in patient forms, the single and compressed trace screens, or the flow chart. The list is updated approximately every 10 seconds.

- Select the notes icon to access the notes browser.
- Click on the note categories you want to see and use the buttons to determine how much, or how little, data you display. The default display shows all of these items. Choose from:
  - **Alert notes**
  - **FM Status**
  - **Vital Signs**
  - **Assessment (AP/IP)**, **Assessment (PP)**
  - **Medications**
  - **Vaginal**
  - **Intake/Output**
  - **Contractions**
  - **Fetal**
  - **Events/Remarks** (shows the first line of all text notes)

  - **System** (shows notes automatically generated by OB TraceVue that inform you of a situation that you might not otherwise recognize).
- Determine how much detail you want to view. You will always see the time at which the note is displayed and the content of the note. The button labels are toggle switches that change according to the choices. Choose from:
  - **Select all/Unselect all** - show/hide all note categories/select individual categories.
  - **User on/off** - show/hide name of user who entered the note.
  - **Date on/off** - show/hide the date of the note's display time.
  - **Detail/Overview** - show/hide detailed description of an individual note. Overview shows only the first line of the note, detail shows the entire note, using multiple lines of the description column.
  - **Close** - to shut the notes browser

Using forms

If your system has forms based charting, OB TraceVue lets you document information about your patient on a series of forms that cover the continuum of a pregnancy. You and your hospital decide exactly what information to collect on each form.

Maternal Forms

Maternal forms are:

 Prenatal Visit / Patient History - antepartum information about the pregnancy before the patient is admitted in your department, for example lab test, ultrasound scans and so forth.

 Departmental Admission - administrative information about the patient's stay.

 Delivery/Postpartum/discharge - labor and delivery information.

 Postpartum Follow Up Visit - postpartum follow-up visit information.

Newborn Forms

Newborn forms are:

 Departmental Admission - administrative information about the patient's stay.

 Discharge Record – discharge exam/maternal teaching.

Each form is made up of different pages. Use the *Next* button to navigate sequentially through the pages of the form as you fill in the data. You can directly access a page by clicking on its page tab. If there are more tabs than can fit along the top of the screen, bring the other tabs into view by using the right and left arrow keys.

The system automatically expands the *AP Testing Fetus* sub pages and the *Newborn* sub page if you enter multiple fetuses in the *Current Pregnancy* page. An increase in the number of fetuses on the pregnancy page will cause an increase in the number of Fetus tabs that appear. A

subsequent decrease in the number of fetuses on the *Current Pregnancy* page will not decrease the number of tabs present.

There are different ways to enter data on a page. These include:

- Clicking in a cell and entering data directly from the keyboard.
- Click and select from the dropdown list. Some pick lists also have editable strings.
- Some pages have a search button. Click this to get a selection pick list. Also, when you click on some fields you also see this type of list. On the left are the lists available for this page.
- Click on the "+" beside a heading to see its sub lists. On the right hand side are the values in the list. Click on a value to select it, then click **OK**.
- Date (time controls).
- Multiple selection with optional comment - you can choose items from a list and also enter a text comment.
- Check boxes; these can have multiple states: where a check mark indicates positive, '?' indicates no information is available (unknown), and '-' indicates no positive finding, '+' indicates one or more positive findings. By default, the system uses the "unknown" status. See Data Entry Rules on page 64 for more details.
- Free text entry with automatic scroll.
- Some pages offer grids for data entry. Click in a cell in the grid, and then use the controls the system offers. If available, the last row (the append row) of a grid is always empty. When you enter data into the last line, the system automatically creates another empty row. Some grids are divided into categories. The beginning of each new category is marked with a light blue un-editable row.

Saving and Closing a Form

- The system automatically saves the form when you select another tab, change the patient in focus, log off, select another icon from the toolbar, or shut down the system.
- The Undo button allows you to reject all changes made since the last save or the last time the form was visible.
- Some demographic fields may be configured as mandatory. If any mandatory field is empty, the system will allow you to save, but warns you that it will not write over anything already stored in those fields.
- You must exit a particular form tab before another client PC can write-access it. Only one user at a time can enter data into a particular tab on a form; this differs from the flow chart.
- You cannot close an episode while a form is still open.
- Close a form by selecting another screen, such as the single trace. This is particularly important before you discharge a patient, close an episode or log off.

The purpose of a signature is to validate and sign data. If the presence of a signature locks the data, the data becomes read only. Depending on the context, this can be as much as a whole page (the newborn page), or as little as a single line (progress notes). Some data requires more than one signature. The first signature locks only non-empty fields for multi-signature data. Multiple users can be documenting on the same *form* (icon), but not the same *tab within a form*.

To sign data electronically:

1. Click in the signature field.
2. Click on your name in the list.
3. Enter your password.
4. Click **OK**.

To change data on a signed form, you must first remove your signature.

- Click in the signature area and enter your password. The system removes your signature from the field. Change the data as appropriate and then add your signature again.
- If you need to change data that has been signed by somebody else, get an OB TraceVue super user to remove the signature from the form.
- To sign a maternal form, you require appropriate maternal responsibility. To sign a newborn form, you require appropriate newborn responsibility. These are defined in the system configuration.

Complete the newborn forms using the same techniques as you use for maternal forms. By default the system starts a new admission record for the newborn, for you to complete later with the newborn's admission data, such as the planned length of stay (LOS), the weight at admission and so forth.

For convenience, some maternal data (demographics, delivery, teaching, and problems) are shown in the newborn forms. You cannot change this data here; you must return to maternal charting to make any changes. This information is only visible while the maternal episode is open. If the mother's episode is closed before the newborn's episode, the maternal data will not longer be visible.

Attachment manager

This allows you to "attach" external documents to a particular episode. Typically this might be scanned paper documentation, but it could also be a file imported from another application. You can integrate up to 10 MB of electronic attachments into each open maternal or newborn episode. The total number of documents per patient per pregnancy is 1000.

1. Bring into focus the patient to whose record you want to add a document.
2. Click the appropriate form icon. For example, use the admission form if this attachment relates to your patient's admission.
3. Click the *Attachment* page tab, scrolling to the right to reach it if necessary.
4. The system displays the document management and manipulation icons, and progress bar showing how much storage capacity remains.
5. Click the appropriate icon to import a document into the patient record.

.Review the *Attaching a Document* topic in the online help for more information.

Printing patient reports

Various patient application reports are available in the system that can be printed on-demand. Some printing options are common to both maternal and newborn patients. Click in the check boxes to determine what to print for the patient in focus. You can save your choice in a printing map and apply this, rather than having to select each element individually each time you want to print.

You can print the following types of reports:

- **Documents** - A document is a patient report generated using a Microsoft Word template containing patient information. You can see the list of available reports in the System Managers chapter of this toolkit.
- **Maternal Flowchart and note reports** –
  - **AP/IP Flow Chart** - print her antepartum/intrapartum flow chart properties. Choose from *overview page*, data input page, vital signs, assessment, medications, vaginal examination, intake/output, contractions, fetus, events. Select the option "**fit graph range to sheet range**" if you want to adjust the time range of the graphs to the time range of the sheets when you print the graphs and sheets on one page to avoid printing duplicate data.
  - **PP Flow Chart** - print her postpartum flow chart properties. Choose from *overview page*, data input page, vital signs, assessment, medications, intake/output, events.
  - **Note List** - print a separate list containing all available notes categories. Choose from *alert notes, FM status, vital signs, assessment (AP/IP), assessment (PP), medications, vaginal examination, intake/output, contractions, fetus notes, events/remarks, system*. By default, the system prints out the overview text of each note. Click **Details** to print the detail text of each note.
  - **NST Report** - print either all NST reports, or just the most recent report.
- **Newborn Flow Chart and note reports** –
  - **Flowchart** - Choose from *overview page*, data input page, vital signs, assessment, medications, intake/output, LAB, events. Select the option "**fit graph range to sheet range**" if you want to adjust the time range of the graphs to the time range of the sheets when you print the graphs and sheets on one page to avoid printing duplicate data.
  - **Notes List** - Print a separate list containing all available notes categories. Choose from *vital signs, assessment, medications, intake/output, LAB, therapies, events/remarks, system*. By default, the system prints out the overview text of each note. Click **Details** to print the detail text of each note.
- **Fetal Monitor traces** - Print her trace properties. Choose from *alert notes*, *FM status*, vital signs, AP/IP assessment, medications, vaginal examination, intake/output, contractions, fetus notes, *events/remarks*, system notes. Click the normocardia option to print the normocardia area.
- **Statistics** - A statistical report contains data that is generated automatically from the database and is displayed in a pre-designed Microsoft Excel spreadsheet. These are NOT patient specific and are primarily used for unit management purposes.
- **Audit Trail** - Prints all changes to this patient's data during the selected episode. Choose whether to print database audit trail and/or notes audit trail. NOTE: the audit trail DOES NOT print with the document that it references. To see changes/modifications to charted data you must use these audit trail reports.
- **Current Screen** - Print a snapshot of the screen.

Creating Print Maps

You can store print settings in a printing map, which is similar in concept to a flow chart charting map. A printing map includes the data from the checked boxes in the Data list box, the print range (excluding the start and end times), the default printer, and all properties of the data such as the included notes, pages, options and paper settings. You can define up to 30 printing maps. When you start the printing module, the system uses the printing map most recently used on this PC. If OB TraceVue has just been restarted, no default printing map is applied. Super User permission is required to create a printing map.

To define a printing map:

1. Define all the data items, and their properties, that you want to include in the printing map.
2. Click the *Configuration* tab in the print module.
3. Choose whether to:
    a. **Save current settings as** - save the current print settings as a new printing map.
    b. **Update with current settings** - save any changes you have made to this printing map, using the same name as before.
    c. **Delete** - erase this printing map.
    d. **Rename** - change the name of this printing map. You must then enter the new name for this map.

Printing Documents of Closed Episodes

Documents of closed episodes can be printed up to 96 hours after the close. After this time, the documents checkbox is disabled. This is because the short term notes (vital signs, alert notes, fetus notes, contraction notes, fetal monitor notes, and details of assessments notes) are erased from the external database after 96 hours.

System hardware

Moving mobile workstations

These instructions apply to workstations that have direct connections to a fetal monitor but are moved from one location to another. To avoid possible errors in the patient record, it is important that you follow the steps below when you move a mobile workstation from one patient to another.

1. turn off the fetal monitor
2. log on to the client you want to move and shutdown OB TraceVue on that client → the PC desktop appears on the screen
3. select *START→SHUTDOWN→ Shutdown the computer* and the computer will automatically turn itself off
4. unplug the power cord and the LAN cord from the wall and move the cart to the new location →you may hear beeping because the cart is on battery power
5. plug in the power cord and plug the LAN cord into the wall jack
6. turn on the computer and wait for the desktop to appear on the screen (you may have to log on to the computer)
7. click *START →OB TRACEVUE* and wait for the log on screen to appear
8. log on to OB TraceVue

9. the PC starts in fetal monitor configuration screen
10. in the bed field, select the name of the bed to which you are connecting this monitor, then click *Save*
    e. You must verify the fetal monitor connections → you will get a confirmation message: "*FM <x> connected to <bedname>*"
11. click on *Single Trace* icon and put your pt in focus or admit the patient to OB TraceVue
12. attach the monitor to the patient and turn on the fetal monitor

Web Clients

- A WEB or Terminal Server client PC without real-time alerting does not have real-time data update. It has no system status indicator engine, although the background to the system name flashes yellow, in the same way as the engine, to indicate problems and urgent messages.
- A WEB or Terminal Server client PC with real-time alerting offers full OB TraceVue capability *(except for local data acquisition),* including both visual and audible alerting, and real-time data update.
  - The system status indicator is the usual locomotive engine.
  - If OB TraceVue is running in a minimized Internet Explorer window, *visual* alerts cannot be seen; *audible* alerts can still be heard (if the PC and user are appropriately configured). If you minimize OB TraceVue during a web access session, and then open up another package, you must ensure that the system and alert status indicator is still visible.
- Printing from a web session is possible.

A session ends if you do not use the PC for the configurable session idle timeout.

Troubleshooting

Best Practices when using the OB TraceVue Application

Following these guidelines will minimize problems with the system.

- Always use your clinical judgment
- Ask for help if you need it
- Keep your password confidential
- Make sure you Log On and Log Off each time you use OB TraceVue
- Return to Single Trace Display if you get lost
- Make sure you have the correct patient in focus
- Do not leave the patient name displayed in a public area
- Do not shut down Client PCs without carefully following the directions
- Do not shut down the Internal or External Servers
- Do not eat or drink near PCs
- You cannot play games, listen to music, or surf the internet on OB TraceVue PCs

Trace Not Displayed in OB TraceVue

- Verify you have the correct patient in focus
- Verify the Bed is listed in *PC Com Port* box under the System Admin. icon
- Verify the FM cable is connected to the back of the PC or the wall
- Verify FM is configured: C13 = 1

Trouble shoot the System

 The steam locomotive icon indicates system activity. When the wheels on the engine are turning and smoke puffs from the smokestack, OB TraceVue is functioning correctly. However, if the animation stops completely this indicates a problem with OB TraceVue running on that PC.

If the background of the engine flashes yellow, this indicates an urgent message or problem with one or more clients or the server. Click on the flashing yellow engine to display the User Information Box, which contains general user notifications and hints. Entries come from either this (the local) PC or any other PC in the OB TraceVue network. Entries belonging to this PC are labeled "This PC", entries from another PC display that other PCs name in the first column. The engine continues to flash while there are entries in the box. Additionally, you hear an alert sound if your user profile and the PC are both configured to receive audible alerts. Click *Show all PCs* to see entries from other PCs. However, if there are no entries from this local PC but the message originates at another in the network, the system automatically checks *Show all PCs* for you.

The user information box has the following buttons:

- **Hide** - Press this to remove the box from the screen, but keep the entries for later review. The engine continues to flash.
- **Accept** - Press this to remove the box from the screen, and remove from the box all entries relating to this local PC. The engine stops flashing on this PC. However, entries from this PC are shown as remote on other PCs in the network. The engine continues to flash on the other PCs.
- **Accept Net-wide** - Press this to remove the box from the screen. All entries relating to the local PC are removed from the box on this PC and throughout the network. The engine stops flashing on all PCs (if there were no other, unrelated messages there).
  - Exercise care when using this. Make sure you understand the problem and have taken appropriate action before dismissing the message. The message is recorded in the PCs logfile, which is the only place from which it can be viewed.

5
Training Tools

Intended Audience

This chapter should be used by the System Managers and Super Users to prepare custom training materials for End User training sessions and to use as a reference when performing End User training. The electronic version can be found on the Documentation CD that came with your system.

End User training objectives

By the end of End User training, the learners will be able to …

- Discuss the system use model
- Log-on/Log-off the system and discuss why log-off is so important
- Discuss how the Chalkboard is used
- Admit/Transfer/Discharge patients (open & close episodes, "create" a newborn record)
- Explain data flow of Pregnancy -> Episodes -> Newborn record
- Use the OB TraceVue-to-OB TraceVue Link properly (if applicable)
- Retrieve/view old episodes
- View and annotate FM traces
- Discuss how Basic and Advanced alerting works in OB TraceVue
- Respond appropriately to clinical alerts
- Use the flowchart to document findings
- Accurately enter and maintain intake and output data
- Accurately enter medication data (bolus, drips, discrete dose)
- Use forms (if applicable) to document assessment and care
- View notes in the Notes Browser
- Demonstrate the Attachment Manager (if applicable)
- Generate application reports
- View patient audit trails
- Perform basic troubleshooting of the system
- Update the user password
- Demonstrate proper technique for managing mobile clients (if applicable)
- Use web clients (if applicable)

End User Training Outline

Topic	Details	Notes
Basic OB TraceVue Functions	Use of the keyboard and mouse	
	Components	
	Icons and their associated functions	
	Patient flow/Episode concepts/Data flow	
	Log on and Log off	
	Interact with the system with Active Directory	
Passwords	Obtain and maintain individual passwords	
	Security and patient confidentiality measures	
Managing Patients	Identify mandatory fields in demographics	
	Admit a patient: open a new Episode and/or a new Pregnancy	
	Transfer a patient	
	Discharge a patient: close an Episode and/or a Pregnancy	
	Merge a patient record	
	Retrieve a record	
	Admit a patient with the ADT link	
	Describe when and how to do a quick admission	
	Explain how OB TraceVue-OB TraceVue link works	
	Show how to move a patient between OB TraceVue systems	
Chalkboard	Enter comments	

Topic	Details	Notes
	Assign caregivers	
Working with Traces	Identify the elements of the Single trace & Multi Bed Overview	
	Change the patient in focus	
	Annotate the trace	
	Switch between the Single trace and the Multi Bed Overview	
	Change the Multi Bed Overview	
	Meaning of the vertical yellow bar in the trace screen	
	Right edge reference time	
	Message that appears after a FM has been disconnected for greater than 5 minutes	
FHR Alerts	Difference between baseline and pattern alerts	
	Meaning of different colors on the alert bell icon	
	Change alerts for a specific patient	
	Acknowledge an alert	
	Explain why an advanced alert takes up to four minutes to appear on the trace	
Fetal Monitor Functions	The FM connection	
	Maternal parameters	
	Procedure for handling patient transducer cables: When removed from a patient When unplugged from the FM	
Using the Flow Chart	Make, confirm and review entries in the Flow Chart table and graphs	
	Chart on a time not currently show	

Topic	Details	Notes
	Start an IV, modify the rate, & stop the IV	
	Select and customize time on a Charting Map	
	Confirm an Autocharted entry	
	Difference between the Ante Partum and Post Partum flowcharts and when you would change from AP to PP	
	Review and print entries	
Using Forms	Enter information about the pregnancy	
	Make, modify, and review entries	
	Review and print entries	
Newborn Module	*Create a newborn patient*	
	Switch between the newborn and the maternal records	
	Maternal screens in a newborn record	
	Document a newborn assessment	
	Items placed in the newborn record from the delivery record	
Printing	Choose print items	
	Identify what items to print and when	
	Choose the destination printer and paper orientation	
	Print Maps	
System Alerts	Importance of the train icon	
	Acknowledge a system alert	
System Admin	Exit OB TraceVue	
	Shutdown a Client PC	

Topic	Details	Notes
	Move a Mobile Client	
	Specify the FM connection to a Mobile Client	
	Describe what happens if the power to the Server fails	
Help Screen	Use the Help icon	
Web Access	*Access OB TraceVue via the hospital Intranet*	
Co-residency	*Explain what co-residency means*	
	Show how to minimize and maximize OB TraceVue	
	Describe what remains on the screen when OB TraceVue is minimized	

End User Competency Checklist

Some items listed may not be applicable to your OB TraceVue system. Optional items are shown in *italics*.

Unit: **Date:**

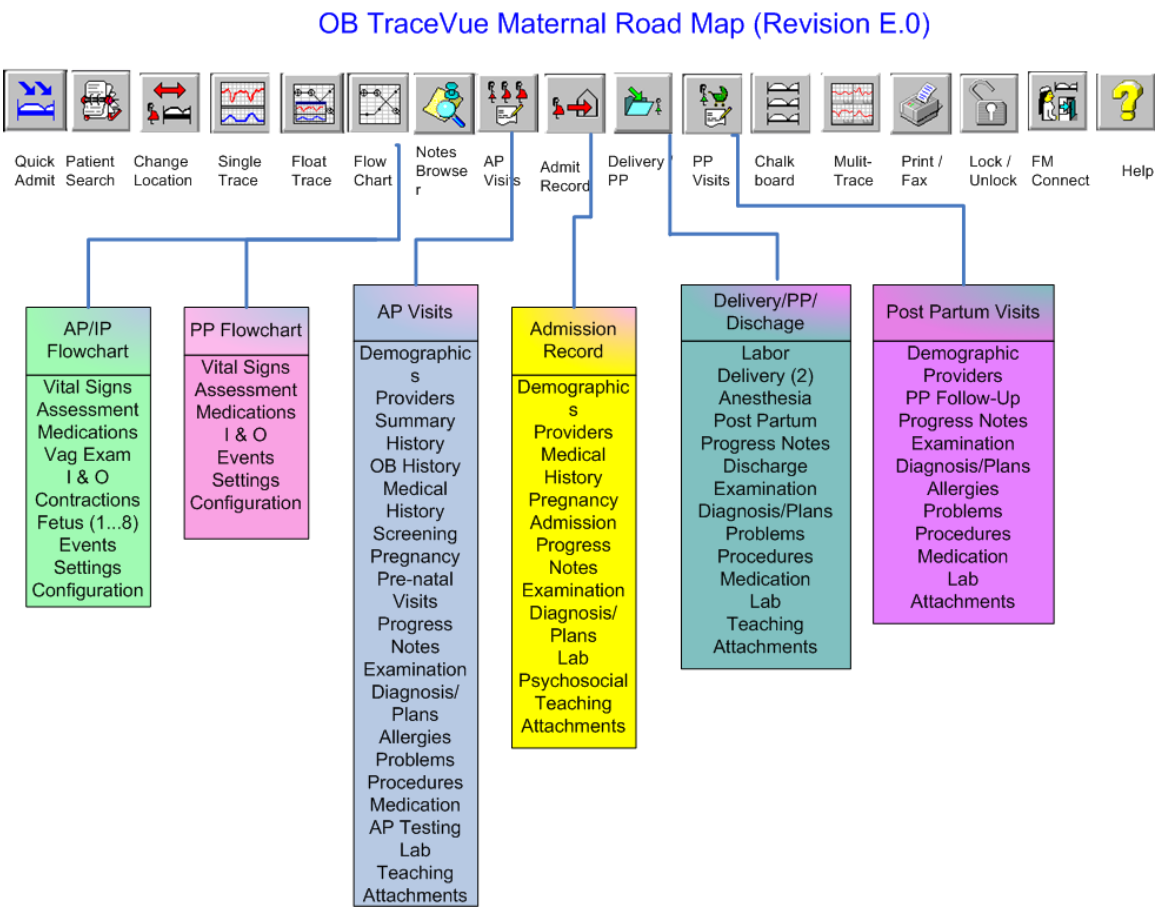
User's Name: **Instructor:**

An X in the **DONE** column indicates that the employee met the performance expectations according to standards.

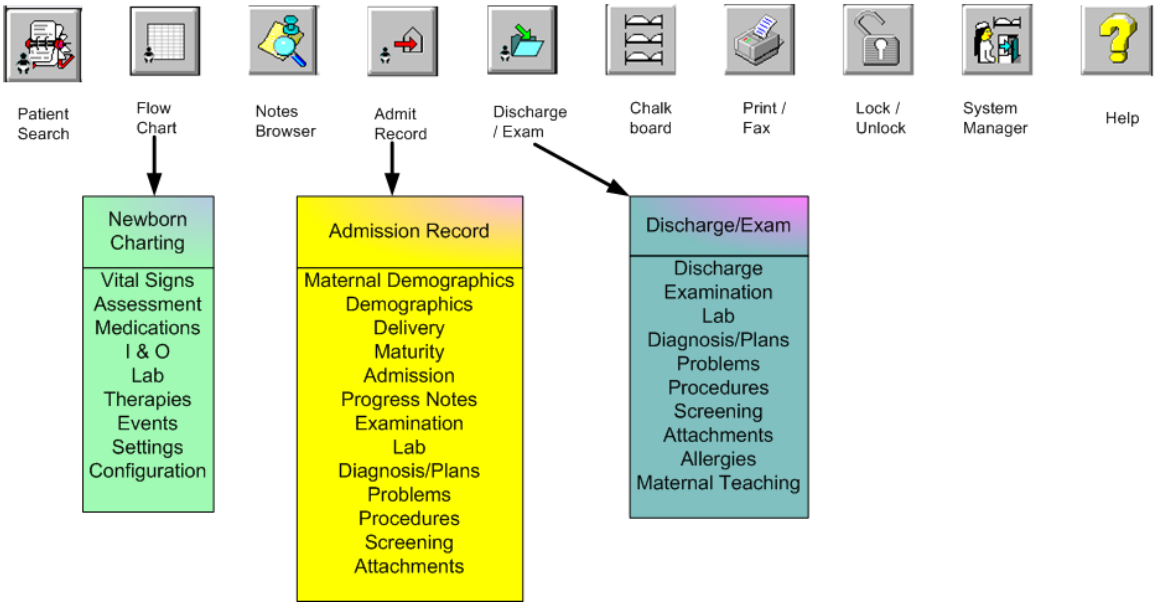
Performance Expectation	Assessment of Learner Outcome	Done
Basic OB TraceVue Functions	Use of the keyboard and mouse	
	Identify the components of OB TraceVue system	
	Identify the icons and their associated functions	
	Describe Patient flow/Episode concepts/Data flow	
	Demonstrate how to Log on and Log off	
	Demonstrate how to interact with the system with Active Directory	
Passwords	Show how to obtain and maintain individual passwords	
	Describe security and patient confidentiality measures within OB TraceVue	
Managing Patients	Identify mandatory fields in demographics	
	Show how to admit a patient: open a new Episode and/or a new Pregnancy	
	Show how to transfer a patient	
	Show how to discharge a patient: close an Episode and/or a Pregnancy	
	Show how to merge a patient record	
	Show how to retrieve a record	
	Describe what data will come from the ADT link and how to admit a patient with the ADT link	
	Describe when and how to do a quick admission	
	Explain how OB TraceVue-OB TraceVue link works with regards to moving between systems and managing episodes	
	Show how to move a patient between OB TraceVue systems	
Chalkboard	Show how to enter comments	
	Show how to assign caregivers	
Working with Traces	Identify the elements of the Single trace & Multi Bed Overview	
	Show how to change the patient in focus	
	Show how to annotate the trace	
	Show how to switch between the Single trace and the Multi Bed Overview	
	Show how to change the Multi Bed Overview	
	Describe the meaning of the vertical yellow bar in the trace screen	
	Describe the right edge reference time	
	Discuss the message that appears after a FM has been disconnected for greater than 5 minutes	
FHR Alerts	Describe the difference between baseline and pattern alerts	
	Identify the meaning of different colors on the alert bell icon	

Performance Expectation	Assessment of Learner Outcome	Done
	Show how to change alerts for a specific patient	
	Show how to acknowledge an alert	
	Explain why an advanced alert takes up to four minutes to appear on the trace	
Fetal Monitor Functions	Describe the FM connection to OB TraceVue	
	Identify where maternal parameters populate OB TraceVue	
	Describe the procedure for handling patient transducer cables: When removed from a patient When unplugged from the FM	
Using the Flow Chart	Show how to make, confirm and review entries in the Flow Chart table and graphs	
	Show how to chart on a time not currently show	
	Show how to start an IV, modify the rate, & stop the IV	
	Show how to select and customize time on a Charting Map	
	Show how to confirm an Autocharted entry	
	Explain the difference between the Ante Partum and Post Partum flowcharts and when you would change from AP to PP	
	Show how to review and print entries	
Using Forms	Show how to enter information about the pregnancy	
	Show how to make, modify, and review entries	
	Show how to review and print entries	
Newborn Module	*Demonstrate or explain how to create a newborn patient*	
	Demonstrate how to switch between the newborn and the maternal records	
	Explain how the Maternal screens work in a newborn record	
	Demonstrate how to document a newborn assessment	
	Discuss which items are placed in the newborn record from the delivery record	
Printing	Describe how to choose print items	
	Identify what items to print and when	
	Show how to choose the destination printer and paper orientation	
	Explain how Print Maps are used	
System Alerts	Describe the importance of the train icon	
	Show how to acknowledge a system alert	
System Admin	Show or describe how to exit OB TraceVue	
	Show or describe how to shutdown a Client PC	
	Show or describe how to move a Mobile Client	
	Show how to specify the FM connection to a Mobile Client	
	Describe what happens if the power to the Server fails	
Help Screen	Describe how to use the Help icon	
Web Access	*Show how to access OB TraceVue via the hospital Intranet*	
Co-residency	*Explain what co-residency means*	
	Show how to minimize and maximize OB TraceVue	
	Describe what remains on the screen when OB TraceVue is minimized	

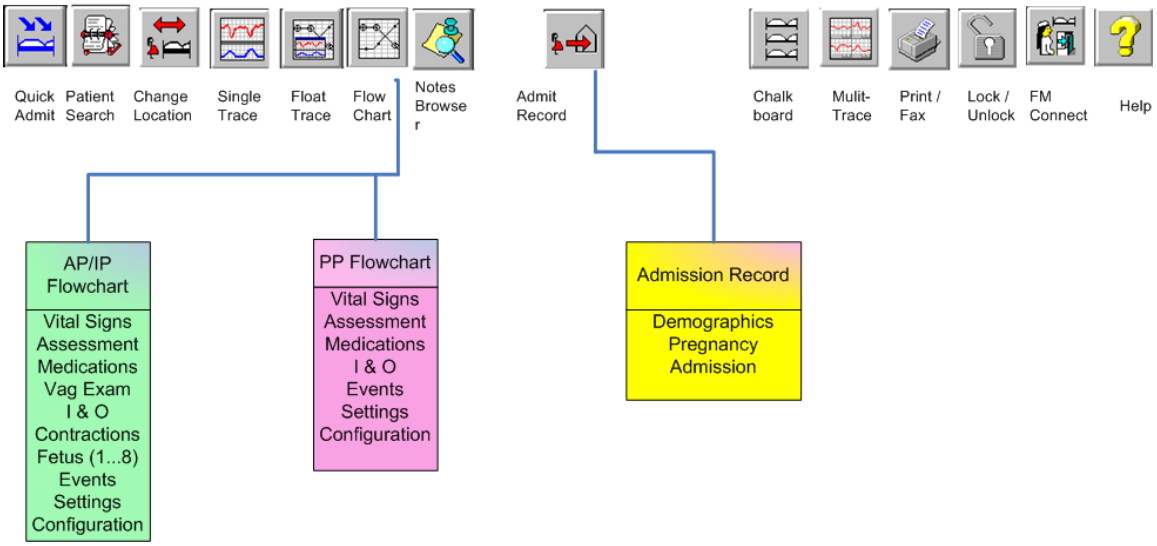
System "Road Maps"



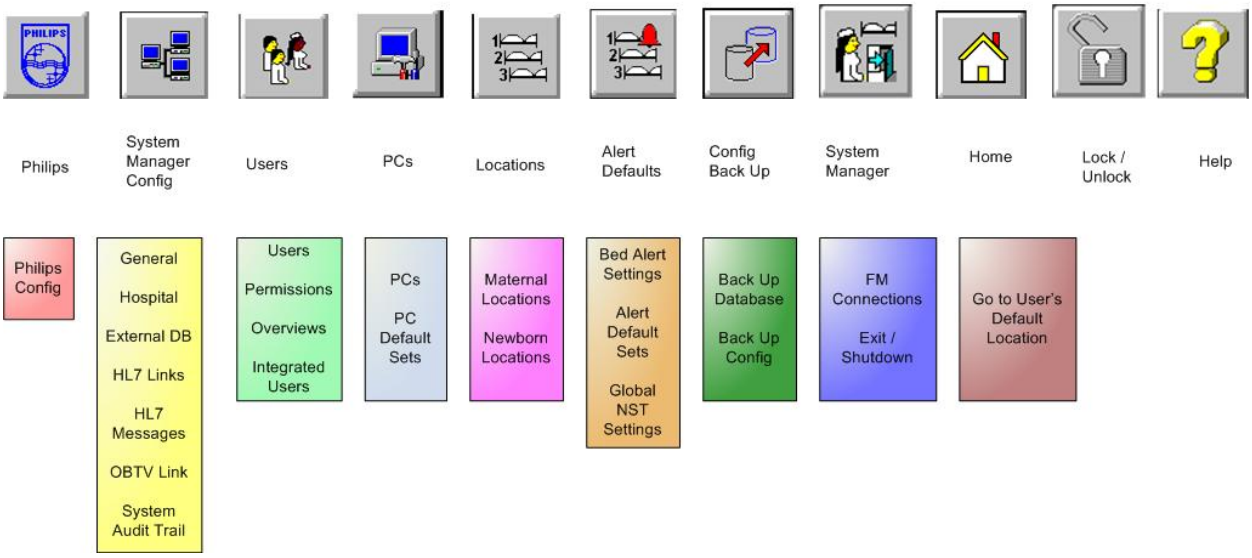
OB TraceVue Newborn Road Map (Revision E.0)



OB TraceVue Surveillance & Archiving Road Map (Revision E.0)



OB TraceVue Configuration Road Map (Revision E.0)



Ten Tips for Trainers

1. Cover the basics first.
   - Episode concept
   - Admit/Transfer/Discharge
   - Lock and unlock consistently
   - Acknowledge alerts
   - Flow sheet expectations
   - Fetal Monitor functions

2. Keep your class with you.
   - Team teaching can help, one to talk, one to help students

3. Use all opportunities to reinforce the desired behavior.
   - Locking and unlocking and WHY
   - Using Quick Admit for emergencies only
   - Turning off the fetal monitor when not in use

4. Allow time for hands on

5. Save the following topics to the end, just in case you run out of time to cover everything.
   - Introduction of flow sheet
   - Printer icon
   - Changing overviews
   - Changing patient in focus alerts

6. If Lab Exercises or the Competency Checklists are not used, distribute them with an expected return date.

7. Start a notebook for all Super Users to share during and after training.

8. Use the Quick Reference Guide, HELP, and other tools freely.

9. Be patient with yourself. You are learning too!

HAVE FUN

System Administrator Quiz

1. The **System Administrator** has Philips level of permission to OB TraceVue
    a. True
    b. False

2. The **Magneto-Optical Disk** is the archiving disk and the streamer tape is the media used for backing up that optical disk.
    a. True
    b. False

3. The **System Administrator** can use the **System Overview Tool**
    a. To review error log and log files for each PC in the network.
    b. To evaluate the current status of the PCs in the network.
    c. To determine which user is currently logged on to each PC in the network.
    d. To end a web session.
    e. To reboot the entire system.

4. **OB TraceVue** must be shutdown to use the **Set/Break ADT Link** tool.
    a. True
    b. False

5. List the steps to back up the **archiving optical disk. (9 steps)**

6. The **Patient Administration Tool** allows the **System Administrator** to do the following (select all correct answers):
    a. Delete patient records from the internal database.
    b. Close pregnancy records.
    c. Modify patient data in a closed episode.
    d. Lock patient records.
    e. Correct patient MRN numbers.

7. Back up of the **Main Database** is a manual operation and should be performed every 24 hours.
    a. True
    b. False

8. Philips Medical Systems recommends the **Local Data Recovery Tool** is run:
    a. Daily
    b. Every 90 days or following an uncontrolled Server shutdown
    c. Following any changes to the System Configuration.
    d. Prior to optical disk backup.

9. **The Log File Viewer** allows you to see (select all correct answers):
    a. **Transaction** and *error logs* for each PC in the **OB TraceVue** network.
    b. **ADT** transactions.

c. **Configuration** changes made to OB TraceVue.
d. Failed user **log on** attempts.
e. Patient records stored on the **archiving** disk.

10. **FM Spy** allows the **System Administrator** to:
    a. Evaluate data flow between the **OB TraceVue** client and the respective fetal monitor.
    b. Adjust fetal monitor calibration.
    c. Change the date and time on the fetal monitor.
    d. Evaluate data flow from the fetal monitor to the **OB TraceVue Internal Server.**

11. The **Set/Break ADT Link Tool** allows the **System Administrator** to:
    a. Correct data sent by the **HIS** to the **OB TraceVue** patient record.
    b. Merge duplicate patient records.
    c. Unlock a patient record that exists on another **OB TraceVue** server.
    d. Lock a patient record from further access.

12. The **External Database Administration Tool** should be used: (Select all correct answers)
    a. Prior to running a statistical report.
    b. On a monthly basis.
    c. Prior to backing up the **External Database** to tape.
    d. Whenever the **OB TraceVue** system is running slowly.
    e. Following a power failure.

13. **Optical Disk back up** should be done at least:
    a. Daily
    b. Weekly
    c. Three times per month.
    d. Quarterly
    e. Per policy

14. The **Patient Index Search Tool** allows the user to: (Select all correct answers)
    a. Lock a patient record.
    b. Search for patient records across different clinical systems
    c. Search for patient records across linked OB TraceVue systems
    d. Identify on which OB TraceVue systems the patient is writable.
    e. Modify patient data from a remote OB TraceVue location.

15. The back up **Optical Disk** may be used to reconstruct the **Main Database** in disaster recovery.
    a. True
    b. False

16. The **External Database** can be restored from:

a. The Internal Server.
b. The back up tape.
c. The back up Optical Disk.
d. It cannot be restored.

17. Only a **System Administrator** can perform the **External Database** back up.
    a. True
    b. False

18. Which of the following statements is ***not*** true:
    a. Patient data is archived *only* when the patient episode is closed.
    b. The **Patient Administration Tool** allows the **System Administrator** to delete data from **the Internal Database** only.
    c. Optical Disk back ups are an automatic function of **OB TraceVue**
    d. The **System Overview Tool** allows a **System Administrator** to reboot the **OB TraceVue** system from any PC client in the **OB TraceVue** network.
    e. Multiple archiving disks can be backed up using a single back up disk.
    f. The **Patient Index Search** and **Link Recovery Tools** apply only to **TV to TV Link** systems.

System Manager and Configuration Training Quiz

1. A **System Manager** has access to disable Advanced Alerting in system settings?
    a. True
    b. False

2. The **Value Table Editor** allows the **System Manager** to:
    a. create new OB TraceVue folders
    b. create new Pick lists for data entry.
    c. insert additional fields in OB TraceVue forms.
    d. modify the default medication list, displaying most commonly used drugs and dosages.

3. The **System Manager** password for page configuration is:
    a. the same as the System Manager's log on password.
    b. con_fig.
    c. none of the above.

4. The **Value Table Editor** is saved as part of system configuration.
    a. True
    b. False

5. The **End User** can modify:
    a. charting Maps for the patient in focus.
    a. alert settings for the patient in focus.
    b. their own password.
    c. the configuration of the General Overviews.

6. In **Page Configuration**, a red outline on a form field indicates:
    a. the field is a Read and Write field.
    b. the name of the field can be modified.
    c. the field has been hidden.
    d. it is an auto-calculation field.

7. A **User** must be assigned permission to print data from OB TraceVue.
    a. True
    b. False

8. A user can access the **Value Table Editor** if they have been assigned:
    a. "Read" and "Write" permission.
    b. System Manager permission *only*.
    c. Super User, and Read and Write permission levels .
    d. System Manager or Super User permission levels.

9. The **System Manager** has **Optical Disk Access** permission by default.
    a. True
    b. False

10. **Location Configuration** determines:
    c. the order in which bed locations will appear in the Patient in Focus List.
    a. the locations that will have audible and visual alerting.
    b. the default AP/IP and PP charting maps for each location.
    c. the names of non-monitoring locations.

11. List four items saved as part of System Configuration back up.
    a. _____
    b. _____
    c. _____
    d. _____

12. The sort order of beds determines where the beds appear on the Multi Bed Overview screen(s).
    a. True
    b. False

13. The Config.txt file created during the ASCII configuration back up can be used to restore system configuration in disaster recovery.
    a. True
    b. False

Super User and End User Training Quiz

1. Enter as much patient information as is known when "searching" for a patient in **OB TraceVue**.
    a. True
    b. False

2. While entering patient data in the **Intrapartum Flowchart**, the **yellow alert bell** begins to flash. To determine which patient is alerting:
    a. Click the cursor on the yellow flashing bell
    b. Select the Multibed Overview icon
    c. Press the "esc" key on the keyboard
    d. Select patients from the **Patient List** until the patient with the alert is displayed

3. To view all "beds" on the **Chalkboard**:
    a. The user must have a *patient assignment*
    b. The user selects **"All Beds"** on the Chalkboard screen
    c. A **Super User** must change the default settings for the **Chalkboard**
    d. Double Click on the **Chalkboard** Icon

4. After entering the required data to **Create New Patient**, the error message "This information is not unique to this patient. – MRN. The appropriate action would be:
    a. Delete all the information that has been entered and search using only the first 3 letters of the patient's last name
    b. Admit the patient using the **Quick Admit** feature
    c. Delete all of the search criteria except the MRN and do a new search using only the MRN
    d. Add a leading "0" to the patient MRN entered

5. A patient has been admitted in the **Prenatal Visit** Record. The patient's membranes rupture and she will be admitted. The Admission Screen is gray, how can the screen be activated?
    a. The patient episode must be closed and a **New Episode** started in the **Admission Record**
    b. Use the **Patient Transfer** Icon to transfer the patient into a LDR bed
    c. Click the cursor on the **New Record** button at the bottom of the **Admission** screen

6. A "narrative note" can be made on the **OB TraceVue** fetal tracing by right clicking on the **Single Patient Display** screen.
    a. True
    b. False

7. OB TraceVue is able to determine whether a patient meets the **NST criteria** defined by your departments practice standards.
    a. True
    b. False
    c. True, if this criteria has been configured by the **System Manager** in OB TraceVue and the user activates the **NST Alerting Rule set** for their patient
    d. True, only if the OB TraceVue system has an external server

8. A patient has been admitted into **OB TraceVue** using two different **Social Security Numbers**. The patient has two OB TraceVue records. It is possible to Merge the two patient records.
    a. True
    b. False

9. A patient has been admitted into **OB TraceVue** using their actual **Medical Record Number** and their **Medical Record Number** with (3) leading zeros. The two records can be:
    a. Merged by deleting the three leading zeros from the **Medical Record Number**
    b. Cannot be merged
    c. Can be merged if **Quick Admits** are done at two different PCs simultaneously
    d. Use the New Record Button on the **Admission screen**

10. A patient has a history of a serious reaction to penicillin. **OB TraceVue** will place a red flag in the **Patient Information Panel** when:
    a. The (?) mark is changed to a (+) sign next to Medications, **Allergies** on the Allergies screen
    b. A check mark is placed in the Attention column on the Allergies screen
    c. The user right clicks in the **Patient Information Panel**
    d. A **Narrative Note** in entered any place in the **OB TraceVue** record indicating the patient has an allergy to penicillin

11. Identify (2) locations where **Maternal Vital Signs** can viewed.

    _____
    _____

12. Information regarding membrane status can be entered at the time of admission, on the **Admission** screen or at anytime during the episode in the **Intrapartum Flowchart**. This data will be displayed on the Labor screen:
    a. Automatically
    b. If the user enters the data *manually* using the calendars and drop down lists available
    c. If the user clicks on the **"Get Information from Flowchart**" button on the Labor screen
    d. When a delivery date and time are entered on the **Delivery Record**

13. **OB TraceVue** automatically enters an **Admission Date and Time** when the **Admission** screen is opened. Can the date and time be adjusted?
    a. Yes
    b. No

14. **OB TraceVue** will only show the active beds in the **Multibed Overview** screen.
    a. True
    b. False

15. A patient reports she is "due" today, but does not know the date of her LMP. Can this information be entered?
    a. Yes
    b. No

16. If so, where? _____

17. A newborn patient can be created only after entering the **Delivery Date/Time**
    a. True
    b. False

18. After the newborn patient is created, the following items can be updated in the **Newborn Admission Record** and will be updated on the **Delivery Record.**
    a. MRN, Sex, Name
    b. MRN, Newborn measurements, Delivery date/time
    c. Any demographic information
    d. Security ID, Birth Order, Newborn measurements, Date of Birth, Sex only

Answers to System Administrator Quiz

Answers to question 5:

a. Retrieve back up disk from storage.
b. Log on to OB TraceVue at the Internal Server.
c. Click on the System Administration icon.
d. Click on the Optical Disk Tool icon.
e. Select the "Back Up" choice.
f. Insert back up disk in the retrieve/back up M-O drive.
g. Press "Next."
h. Select "Close."
i. Remove the back up disk from the drive after it is ejected and return to storage.

Answers to all other questions:

1=b; 2=b; 3=b,e; 4=b; 6=a; 7=b; 8=b; 9=d; 10=a; 11=a; 12=a,c; 13=b,e; 14=c,d; 15=a; 16=b; 17=b; 18=c,e.

Answers to System Managers Quiz

1=a; 2=a,b,d; 3=c; 4=a; 5=a,b,c; 6=a; 7=a; 8=d; 9=b; 10=a,c,d; 12=b; 13=b.

Answers to Super User and End User Quiz

1=b; 2=a,b; 3=b; 4=c; 5=c; 6=b; 7=c; 8=b; 9=b; 10=b; 11=Single Patient Display, Flowchart; 12=d; 13=a; 14=b; 15=a; 16=Pregnancy Tab; 17=a; 18=d

System Manager Configuration Training Labs

1. Demonstrate how the **System Manager** may configure an **Advanced Alert Rule Set** with Severe Tachycardia limits at greater than 180 bpm for 10 minutes.

2. Identify the keys that must be activated to start **Page Configuration**.
   _____

3. Demonstrate how a **User** may be given **System Manager** access, but limited to **Read-Only** access to the patient record.

4. Create an AP/IP Charting Map using the Global Overview format and includes:

   a. Maternal activity, position, lungs, reflexes, edema; Fetal Heart Rate Baseline, LTV, STV; Contraction frequency, duration and intensity; I&O balance
   b. Graph *only* of maternal HR, BP, SPO2, dilation, effacement, station.
   c. Name the Charting Map "Observation."

5. Make the Charting Map "Observation" the default AP/IP charting map for the triage beds.

6. Demonstrate adding a new user who has read and write access to OB TraceVue.

7. Create a list of maternal bed locations. Include LDR beds, Triage beds, Ante-partum beds.

8. Sort the bed list just created so the Triage beds will appear first on the Patient List and Chalkboard.

9. Demonstrate how alerts can be distributed so that, in this case, the LDR beds do not send alerts to the Triage and Antepartum beds, but Triage and Antepartum beds send alerts to the LDR Nursing Station.

10. In the **Value Table Editor**, configure a 100 ml bag of NS to infuse over 30 minutes.

11. In the **Value Table Editor**, configure a 500 ml bag of LR with 30 units of Oxytocin added.
    Enter the appropriate titration rates, milliUnits/min and ml/hr.

Super User and End User Training Labs

1. The MD has requested a 28 week gestation patient be monitored continuously. Signal Loss alerts occur frequently. Demonstrate how the Signal Loss limits can be adjusted to decrease the number of "nuisance alerts."

2. Identify who you would contact for each of the following questions or concerns:

    e. Do not remember password:
    _____

    f. Would like a new medication added to the medication list:
    _____

    g. How to document the time the patient was fully dilated?
    _____

    h. A PC display goes to a "black" screen after 20 minutes
    _____

    i. You cannot print a patient record
    _____

    j. A PC will not reboot
    _____

    k. You cannot see your patient's trace on the Multibed Overview
    _____

    l. According to OB TraceVue the IV ran out 3 hrs ago, but in reality it just ran out, how do I document the discrepancy?
    _____

    m. I started monitoring a patient in a bed before the previous patient had been transferred or discharged in OB TraceVue. How do I document this?
    _____

3. Identify the steps required to configure a Private Overview or **User Specific Overview**.

4. Change the **Multibed Overview** at the **Multibed Overview** screen.

5. Demonstrate how to document the beginning of an Oxytocin infusion.

6. Document (3) instances of changing the rate of an Oxytocin infusion.

7. Demonstrate how to print (3) hours of the **Notes List** for a patient.

8. Demonstrate how to **Merge** a **Quick Admit** patient with an existing patient's record.

9. Demonstrate the steps for documenting an IV fluid bolus.

Charting Scenarios for Practice

Forms with Newborn Option

Scenario #1
Mrs. (pick a name) has never been here before. MR# (make up the number)
DOB make up one (or your DOB)
Entered with complaints of mild contractions
Examined in AR and allowed to walk
Chart her Vag exam and her vital signs
Her bed is needed for another patient
After 1 hour she is settled into a labor bed for additional observation
Chart your triage assessment and MD notification
She is discharged undelivered after three hours
Chart your patient instructions

Scenario #2
Your patient in Scenario #1 returns 3 weeks later with ROM and labor
She is placed in a labor bed and monitoring is begun immediately
Chart your VE, IV start, assessment, admission and anything else that you would complete on a new admit, including the ROM date and time.
Start some Oxytocin to help her contractions out a bit.
She develops a non-reassuring tracing along the way. Chart your interventions and notification.
Chart her Pitocin is stopped in medications. Document a 300ml IV bolus.
3 hours later she is transferred in an emergency to the OR where she delivers
Chart your prep notes
Baby boy is born with 6 and 8 APGAR scores, 3500 gms
Complete her labor summary and delivery record
Create a newborn record for her baby boy.
She is then transferred to PP charting and charting continues.
She is given a couple doses of antibiotic due to her prolonged ROM

Chart the initial assessment on the newborn in Scenario #2. Indicate that this is the initial assessment. Baby has a slight murmur. Add this to the problem list for the newborn. Chart that you have notified the pediatrician.
Complete the newborn admission sheet.
2 hours later baby attempts first breast feeding. Document feeding in newborn record and associated teaching in maternal record.

Scenario #3
A patient (any patient) is here for her 2nd NST for mild IUGR
Open her episode in a triage bed and select the reason for her visit.
Add IUGR to her problem list.
You wish to view the archived NST that was done 1 week ago
You then view the previous NST while you are performing today's test

After review, remove her retrieved NST
Chart the reasons for her test and the assessment along with any other appropriate findings.
Chart your MD notification
Her test is completed and she is discharged home undelivered
Chart your instructions and then close episode

Scenario #4
Mom in Scenario #2 is discharged on day 3. Baby stays behind for a couple more antibiotics and a rising bili. Chart their "separation" and note for your exercise the impact on the baby's chart when mom is discharged.

Newborn now is being cared for independently.
Where will he now be housed? Will that require a transfer to another bed location?
Chart the initiation of his phototherapy and your associated assessment. Chart your safety procedures during the phototherapy.
Baby will have more frequent vital signs and assessments. What charting map will you select?
Document 2 additional doses of antibiotic 6 hours apart.
Baby is discharged on evening of day 4.
Document your final nursing assessment that will include weights, head and abdominal measurements. How will you indicate that this is the final assessment?

Additional teaching is done with mom prior to newborn discharge. Where will you chart that teaching? Do so.
Discharge newborn to home with mom. Follow up planned with peds in 1 week.

Scenario #5
Patient (any patient) enters in acute distress and a language barrier
You need to start monitoring immediately! but you don't know who she is
After a short time her family arrives and informs you she was here last week
Complete the correct admission and continue monitoring.
What charting can you do with a quick admit patient?
What must be delayed?

Scenario #6
Your patient is now admitted.
Chart her gestational age and EDC, Gravity and Parity
Chart a Vag exam shortly after she arrives
Chart 2 sets of vitals
Start and IV of LR at 125ml/hr
Review her vital signs
Chart her complete admission assessment, plan of care and significant prenatal information (she is allergic to Penicillin, a victim of domestic violence and hypertensive)

Scenario #7
Nancy Nurse has forgotten her password
Help her update her password
How do you know when she last changed her password?

Check the rolodex for unclosed episodes
Check for pregnancies greater than 12 months
Print a list of VS only for any patient for a 12 hour period.
Find and print the printing map for a delivered patient prior to discharge.
What is included in that printing map?
Print the chalkboard for report. How would I print with empty and occupied beds displayed?

Dr. Dan needs to be on the user list so that he can be assigned to patients on the chalkboard, but he will not be using OB TraceVue yet? What will we do about a password for him?

System Without ADT Interface

Scenario #1
Mrs. (pick a name) has never been here before.
MR# (make up the number)
DOB make up one (or your DOB)
Entered with complaints of mild contractions
Examined in AR and allowed to walk
Her bed is needed for another patient
After 1 hour she is settled into a labor bed for additional observation
She is discharged undelivered after three hours

Scenario #2
Your patient in Scenario #1 returns 3 weeks later with ROM and labor
She is placed in a labor bed and monitoring is begun immediately
3 hours later she is transferred in an emergency to the OR where she delivers
She is then transferred to PP

Scenario #3
Patient (any patient) is here for her 2nd NST and you wish to view the archived NST that was done 1 week ago
Your patient is admitted to a bed
You then view the previous NST while you are performing today's test
After review, her retrieved NST is removed
Her test is completed and she is discharged home undelivered

Scenario #4
Patient (any patient) enters in acute distress and a language barrier
You need to start monitoring immediately! but you don't know who she is
After a short time her family arrives and informs you she was here last week
Complete the correct admission and continue monitoring.

Training class evaluation form

Name (optional): _____

Class Title: _____ **Date:** _____

Class Evaluation	**Excellent 4**	**Good 3**	**Fair 2**	**Poor 1**	**Not Applicable**
1. Class met the stated objectives					
2. Content covered topic adequately					
3. Overall quality of this class					
4. How well did this class meet your personal objectives?					
5. How well do you believe you can incorporate class content into your practice?					

Speaker Evaluation	**Excellent 4**	**Good 3**	**Fair 2**	**Poor 1**	**Not Applicable**
1. **Objectives** - covered the stated objectives					
2. **Audiovisuals** - contributed to presentation					
3. **Content** – relevant to my job					
4. **Presentation** – speaker qualified and held my interest					
5. **Effectiveness** – speaker was organized and effective					
6. **Practice** – content helped to validate or change practice					

Comments:

Class Attendance Sheet

Hospital Name: **Address:**	
Order#:	
Class Title:	
Date & Time:	
Location:	
Instructor:	

	Name: Please Print	Title:	Phone:	Email:
1.				
2.				
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18.				

Pre-Training Decision Questions and Guidelines

Issue	Considerations	Decisions
User Name Format	Last, first, uppercase, lowercase? Will you include titles/credentials? IS Dept may already have required format for electronic signature Nicknames/Shortened names should not be used unless it is the User's legal signature	
Profession Types	A user will appear on all lists of the defined types. Nurse Physician Midwife Other: A user whose profession is identified as "other" will not appear on any list where patient responsibility is implied	
User Passwords	Generic, pre-assigned, same as other hospital systems, uppercase, lowercase, letters/numbers/both? Password recognition is case sensitive; Passwords may be 2-12 characters, and may be alpha or numeric, or a combination of both Maintenance: Who & When? Bring list of Users to class	
User Privileges and Security Access	System Manager: Add Super Users and End Users All aspects of OB TraceVue configuration (except those specific to the Philips Engineer) Super User: Some or all of the Trainers and attendees of the Super User class Add new End Users and assist End Users in changing their name/passwords Adjust system time settings Adjust certain system wide configurations (ex: adding new monitoring locations, changing alert configuration and distribution, and configuring Charting maps) Patient Data Access Read & Write? Read Only? Print? Retrieve previous data? Change alert limits for patient in focus when that patient's norm falls outside the system defined limits Applies primarily to parameters related to FHR baseline and	

	signal quality; however also allows End User to prevent any fetal alert being generated by OB TraceVue for individual patients Change optical disk: Individuals with this permission level will have unrestricted access to the optical disk. When a user without optical disk permission levels attempts to physically access the archiving optical disk, e.g. remove from the drive, OB TraceVue will send a system alert	
User Types	RN, LPN, Providers, Unit Clerks Who will have to access OB TraceVue for any purpose? They must have a User Name; Password if applicable	
Auto Log-off of User	Yes, No, Time frame? Each PC in the network can be individually configured to automatically log off at a specific time limit The log off timer starts with the last keystroke or mouse movement	
Bed Overviews	Names, # of beds displayed in Overview? General and/or User Specific; 2-16 beds displayed Different General Overviews allow L&D staff to view an Overview of only the L&D patients, Triage staff to view an Overview of only Triage patients etc. Individual Users can be assigned a specific General Overviews Users are able to configure a User Specific Overview that displays only their own patients The gray area of Normocardia can be displayed on the Overview to assist in evaluating FHR baseline 16 bed overview displays ~ 8 minutes of tracing/screen 12 bed overview displays ~ 5 minutes of tracing/screen 8 bed overview displays ~ 3.5 minutes of tracing/screen 6 bed overview displays ~ 4 minutes of tracing/screen 4 bed overview provides ~ 6 minutes of tracing/screen 2 bed overview provides ~ 14 minutes of tracing/screen Do you need a policy that Overview displays on screen at log-off?	
Bed Names	Location names to appear in OB TraceVue Bring list of patient locations to class Bed locations are those locations where the patient will actually be monitored (ex: LDRs, etc)	
Departmental Locations Use	Yes/No? Name (ex: Chart, Hold) Criteria for use Patient data can be entered manually, but will not be sent from a	

	fetal monitor Departmental beds are useful when a patient record must be left open (ex: for additional documentation) but the patient has physically left the department. Also useful if a patient episode is opened for a reason other than to monitor (ex: Pre-admit, enter Lab results, etc)	
Other Locations	AP (will not be monitored), Home, PP-delivered, PP-not delivered (and will not be monitored/archived), Pre-Admit, "ABC" Medical Center Essentially these are locations were a patient is sent when the Episode &/or Pregnancy is closed	
Mandatory Fields for Patient Admit	Last, first, MI, uppercase, lowercase, DOB, MR#, ID#, SS#? The first question that must be answered is: how much information must the End User enter to create a patient? In order to minimize the occurrence of duplicate patient records, a unique identifier should be considered. Usually, the MR# is specific to a single patient as not all patients have SS#'s You could have 2 patients with the same name & DOB What to do if mandatory field (ex: MR#) is not available? Alphabetizing of patient names is case-sensitive; names in all caps will appear at the top of the database list; upper case/lower case will appear next; and all lower case will appear last A consistent case type should be identified	
Patient Admit Baseline Charting	DOB, Vaginal exam, Membrane status, G/P, EDC; (this information populates Patient in focus panel & Chalkboard) Additional information?	
Flowcharting	Yes/No? Phased approach? If yes, bring copies of Pitocin & MgSo4 protocols/standing orders to class Period of dual charting & chart audits? Involve Medical Records & Other departments/persons as required by your facility Print Data: Yes/No? Who? When/Frequency?	
Charting Maps	Creation of multiple maps (ex: PIH, PTL, Normal Labor, C/S, PP Recovery) Default map assigned to bed locations allows you to apply charting standards with parameters and time ranges, to specific locations The End User is able to select a different pre-configured Charting Map and is able to modify the Charting Map assigned to the	

	specific location, depending on the patient type and status	
Forms Documentation	Phased Approach? Identify paper forms to be replaced by electronic documentation Print Data: Yes/No? Who? When/Frequency? Customize Forms prior to Super User training Period of dual charting & chart audits?	
Chalkboard	Has 2 configurable columns Columns 1-13 are populated automatically when data is entered in the appropriate fields; this data is not changeable on this screen Columns 14 & 15 can also be populated from other places but may be entered and changed here Which Fields to be displayed?	
Quick Admit Use	Yes/No? Criteria for use? Rectify at end of shift? OB TraceVue will not save patient data not attached to some identifying information In those situations where a patient's data must be archived and no information is available, the Quick Admit can be helpful. The patient's record will be identified by the date and time she is admitted in OB TraceVue When the patient information becomes available, the date and time record can be merged to an actual patient record, or a new patient record can be created	
Use OB TraceVue Time for Birth Time	Yes/No? Should be consistent through out the staff	
Pre-Admit AP Patients	Yes/No? Patient data can be entered before the patient arrives in the department if the mandatory fields are available Ex: your MDs' send paper prenatal records and the patient has a MR#, much of the patient demographic, pregnancy, prenatal and medical history can be entered before she is ever seen in L&D	
Episode Close	Who & When? An episode is best described as an encounter or an event Ex: The patient is monitored for decreased FM and sent home; a patient is admitted in labor and delivers; lab results are entered in OB TraceVue; a patient is pre-admitted Typically, the episode is closed at the end of the "encounter" A patient may have a single or multiple episodes within a pregnancy	
Pregnancy Close	Who & When?	

	Documentation model impacts decision (L&D vs. PP vs. Clinics) This decision is sometimes determined by the care delivery model	
FHR Alert Name & Limits	FHR & duration settings for: Tachycardia, Severe Tachycardia, Bradycardia,& Severe Bradycardia; Signal loss % & time; Time amount for re-alarm Do you have similar settings for your current system? Policy &Procedure considerations: acknowledging, changing, & disabling alerts; actions & documentation, include default settings at Go-live; update P&P when defaults are modified	
Printed Reports	Who & When? Policy &Procedure for disposal of printed reports	
Policy & Procedures	Unit Policy &Procedure for Documentation and Fetal Monitoring should incorporate use of OB TraceVue	
Hardware Location	Nurses station, patient rooms, lounges Finalize all OB TraceVue locations	
Training Room Location	Large enough to accommodate Servers, Printer, FM, and 1 Client/attendee Secure room that is available for length of training Adequate Power & Climate Control Tables & Chairs and Telephone Network drops if applicable	
Identify Who Will Be	System Administrator, System Manager, Super User Need to identify prior to training	
End User Training Plan	Use of script, competency checklist, clinical training scenarios, handouts, # of attendees/class, length of class, scheduling of class, different classes for different users, 2 trainers/class, staff sign up vs. assigned timeslots? Will need to simulate FHR on FM during training Sample printed reports on walls Include Policy &Procedure draft	
OB TraceVue Shell Software	Yes/No: Which PC's?	
Patient Record Management	Maintenance: Who & When? Monitor closed Episodes, Pregnancies, and duplicate records Admit time into OB TraceVue vs. start time on FM Designated screen displayed on User Log Off Confidentiality of Printed Records Open Episodes are not sent to the Archive disk	

System Back-up & Maintenance	Who & when? Spare optical disks for back-up and storage location of back-ups Policy &Procedure (ex: use new optical disk annually) May want to refer to IS Dept for schedule of System Back-up & Maintenance and Maintenance log	
Web Clients	Type: Standard or Alert mode Screen size OB TraceVue log on: Local or Remote Web Session timeout setting Use model	

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