OBIX
perinatal data system

BY CLINICAL COMPUTER SYSTEMS INC.

OBIX 8
With EHR
Integration
User Manual

For use with software version 8.0
UDI number: 00868102000409
Approved for distribution to CCSI customers

CE

Date of issue: June 6, 2017

We, Clinical Computer Systems, Inc., 715 Tollgate Road, Elgin IL 60123 (telephone 01-847-622-0847) declare under our sole responsibility that the OBIX Perinatal Data System to which this declaration relates is in conformity with the following standard(s) or other normative document(s): Council Directive 93/42/EEC of the European Communities concerning medical devices.

Clinical Computer Systems, Inc. has determined that the OBIX Perinatal Data System is classified as a Class I device according to Rule 12 of the Medical Device Directive. As such, Clinical Computer Systems, Inc performed a self-assessment to confirm that the OBIX Perinatal Data System meets the essential requirements of Annex I of the Medical Device directive. The conformity assessment route is Annex VII.

The Technical Construction File is maintained at: 715 Tollgate Road, Elgin IL 60123.
The authorized representative located within the Community is:

| **EC REP**
Authorised
Representative | **Emergo Europe
Prinsessegracht 20
2514 AP The Hague
The Netherlands** |

Place of issue: Clinical Computer Systems, Inc, 715 Tollgate Road, Elgin IL USA 60123

| CE | This symbol represents adherence to Council Directive 93/42/EEC of 14 June 1993 concerning medical devices (21.9.2007) |
| Device | OBIX Perinatal Data System |
| **REF**
Catalog Number | 19862017 |
| Manufacturer | Clinical Computer Systems, Inc.
715 Tollgate Rd
Elgin, IL 60123
Made in USA |

1. Introduction

This manual provides instructions for using the OBIX Perinatal Data System from Clinical Computer Systems, Inc (CCSI) along with the electronic health record (EHR) system to chart on patients. It is intended for hospital staff who have been trained in the use of the OBIX system. Manuals are also available on the OBIX system **Help** menu.

OBIX is custom-configured to suit the needs of your facility. This manual applies to typical installations; your CCSI sales representative can provide information on special installations.

> **NOTE**
>
> **The OBIX system is modular and customizable. Some menu items may not be available at your facility.**

1.1   Contacting CCSI

For immediate technical customer service, call 1-888-871-0963.
Press 1 for technical service.

Clinical Computer Systems, Inc.
715 Tollgate Road
Elgin, IL 60123-9331
USA

Phone: 888-871-0963
Fax: 847-622-0880

email: info@obix.com

Web site: www.obix.com.

Authorised Representative in the European Union:

> **Emergo Europe**
> **Prinsessegracht 20**
> **2514 AP The Hague**
> **The Netherlands**

OBIX Unique Device Identification (UDI) Number: **00868102000409**

1.2   Safety Information Summary

This is a summary of the safety information included in this manual:

WARNING

The OBIX system provides fetal and maternal data monitoring and capture capabilities, and is not intended for use as a diagnostic tool or as a substitute for appropriate patient monitoring by the hospital staff.

WARNING

The fetal monitor must be properly applied to the patient, powered on, and connected to the OBIX system wall jack for fetal monitor data to be captured and archived by the OBIX system. Failure to connect the fetal monitor results in loss of patient data.

WARNING

Alerts displayed on the OBIX system are configurable. Fetal heart rate alert thresholds must be clinically appropriate and must be set as directed by the facility's standards of care.

WARNING

Patient names and data shown in this manual are examples for instructional purposes only. The examples do not represent actual patients nor should they be used for any purpose other than as aids for learning how to use the OBIX system.

WARNING

Audible alerts rely on the speakers being properly attached to the surveillance computer and the volume set appropriately. Muting or unplugging the speakers prevents audible alerts from being heard.

WARNING

For patient safety, do not turn alerts off unless it is clinically appropriate to do so and doing so is compliant with your facility's standards of care. It is recommended that alerts remain on unless the patient is being actively monitored from the bedside by clinical staff or if the pregnancy is nonviable.

WARNING

When a fetal monitor surveillance system is used, the paper fetal monitor strip is intended for patient management, and for backup if interruptions occur during the recording of the electronic tracings. The facility may choose to use the fetal monitor tracing as the legal, long-term medical record if they determine that storage of the fetal monitor tracing is superior to paper storage. However, each fetal monitor tracing must be verified for completeness before relying on it as the permanent medical record. When the fetal monitor tracing is verified as complete, the facility may decide to destroy the paper record.

WARNING

Many printers have an option that scales the printed file to fit the printable area on the paper, which can distort the EFM tracings. If you print tracings from the OBIX system, verify that the printer is set to print at 100% of the original size and that scaling is off. Refer to the printer's documentation for more information.

WARNING

Artifact Filtering can mask fetal heart arrhythmia.

WARNING

The OBIX E-Tools are adjuncts to clinical judgment and are not designed nor intended to substitute for clinical decision-making.

CAUTION

In the United States, use of the OBIX system is restricted by U.S. federal law to sale or use by, on the order of, or under the supervision of a physician or other licensed healthcare professional.

CAUTION

It is recommended to always verify that the right patient is in the right bed by selecting In Unit from the Patients menu and reviewing the accuracy of patient bed assignments.

CAUTION

CCSI provides optically-isolated cables for connecting the hospital's fetal monitors to the OBIX system. Contact CCSI to order replacement cables if needed. To help ensure optimum fetal monitor data capture, use only cables provided by CCSI to connect the fetal monitor to the OBIX wall jack. Do not use a standard network cable.

1.3   System Overview

1.3.1   Indications for Use

For obstetrical patients, the OBIX Perinatal Data System provides health care professionals a method to display and archive fetal monitor data and manage demographic information and documentation.

1.3.2   Intended Use

The intended use of the OBIX system is displaying and recording fetal and maternal physiological data obtained from fetal monitors. The OBIX system also has these capabilities:

- Monitors fetal and maternal physiological data obtained from standard fetal monitors and accompanying accessories and captures it on permanent storage media.

- Displays the monitored data for one or more patients in the patient rooms and at other locations as required by the facility.

- Supports patient management activities, including note entry onto the fetal monitor tracings and into the medical record.

- Provides tools that assist clinicians in evaluating fetal heart rate patterns.

- The optional Registration Interface registers patients in the OBIX system directly from the hospital's admissions system. Patients can also be registered in the OBIX system manually, when necessary.

- Provides optional remote access to patient monitoring and management activities through off-site workstations connected by a virtual private network (VPN) connection or a secure hospital Web page.

1.3.3   Workstations

The OBIX workstation typically consists of a bedside computer that provides:

- A bedside display of electronic fetal monitor (EFM) data that enables the user to view multiple fetal monitor tracings simultaneously

- Visual alerts of fetal heart rate (FHR) changes

- The ability to review archived patient records

Workstations may also be located at the central nurses' station or other areas of the hospital. The workstations are used in conjunction with the hospital's Electronic Health Record (EHR) System to monitor maternal patients. Charting is primarily done using the EHR.

1.3.4   Surveillance Display

The Surveillance Display is typically installed at the central nurses' station, and provides a central location from which all OBIX patients can be monitored simultaneously. The Surveillance Display PC requires speakers and provides the following:

- Centralized monitoring of all OBIX beds with active electronic fetal monitors. The surveillance display also has the ability to display cervical exam data and vital signs for monitoring in non-patient areas.

- Audible alerts occur if any monitored fetal heart rate deviates from within the configured limits.

1.3.5   Servers

The OBIX system servers are located in a data center, computer room, or a closet and perform the following functions:

- •   Capture data from the bedside fetal monitors for archiving and central monitoring

- •   Manage patient surveillance operations, provide central and remote display of fetal monitor tracings

- •   Provide remote access capability for authorized users

- •   Permanently archive patient data for retrieval from a workstation running the OBIX system

1.4   Logging In and Logging Off

You only need to log into OBIX if your session times out. OBIX uses single sign-on, meaning that when you log into the EHR and select the Single Sign-On button, you are also logged into OBIX. If you leave the workstation for a length of time, you should sign off to help ensure patient privacy. If you do not sign off, you are logged off automatically after a designated time period of inactivity.

1.   To log in to the OBIX system in situations where the EHR is not available, select the facility from the drop-down list and click **LOG IN** on the OBIX launcher window (Figure 1-1). The facility defaults to the facility where the workstation is located. You may not have login permissions at all facilities in the list. Login will fail if you attempt to log in to a facility for which you do not have permissions.
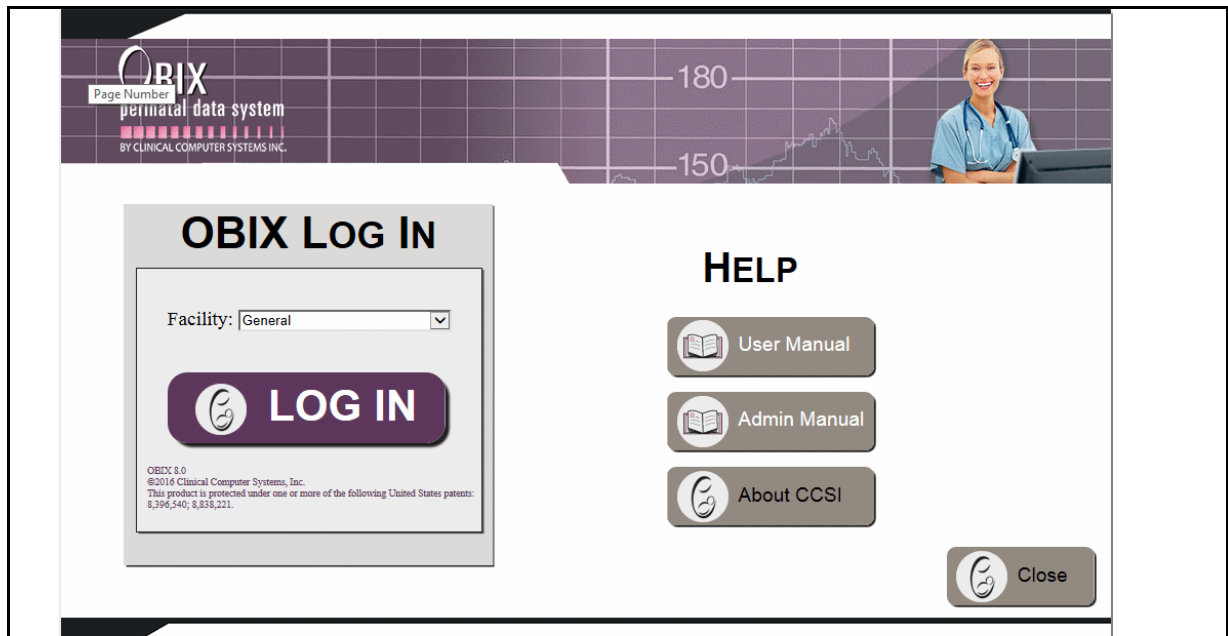
FIGURE 1-1 **OBIX Log In Screen**

NOTE

When a user logs in, the system may install program updates if available. If the OBIX Update window appears during login, do not close it during the update. If the OBIX update window is closed the program update will fail. The Update window will close by itself when the update installation is complete.

2. Type your User ID and Password (see Figure 1-2). If you do not know your user ID or password, ask the help desk or the hospital Information Technology (IT) department.
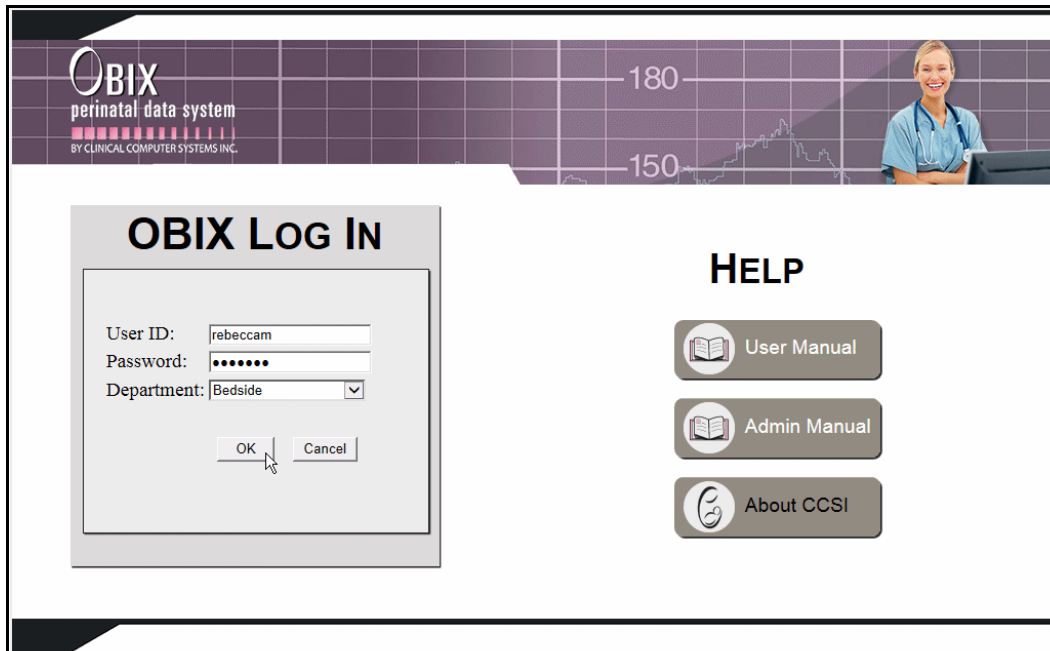
FIGURE 1-2 **Log In Information**

3. Click the **Department** arrow and select a department from the list.

4. Click **OK**. The Patient Manager menu bar is displayed and your user name appears in the lower left corner.

5. To log off, select **Log Off** from the **System** menu. Users are logged off automatically after a period of inactivity specified by your facility. You can also press the **F2** key to log off.

6. To close all open OBIX program modules, click the **Close** button on the OBIX Log In window.

1.5   Patient Manager

Figure 1-3 shows the Patient Manager application with a patient tracing displayed. Each element is described in Table 1-1 on page 1-12. Many hospitals use a dual-monitor setup for the bedside workstations, where Patient Manager is displayed on one monitor and the Bedside Surveillance of multiple beds is displayed on the other monitor.
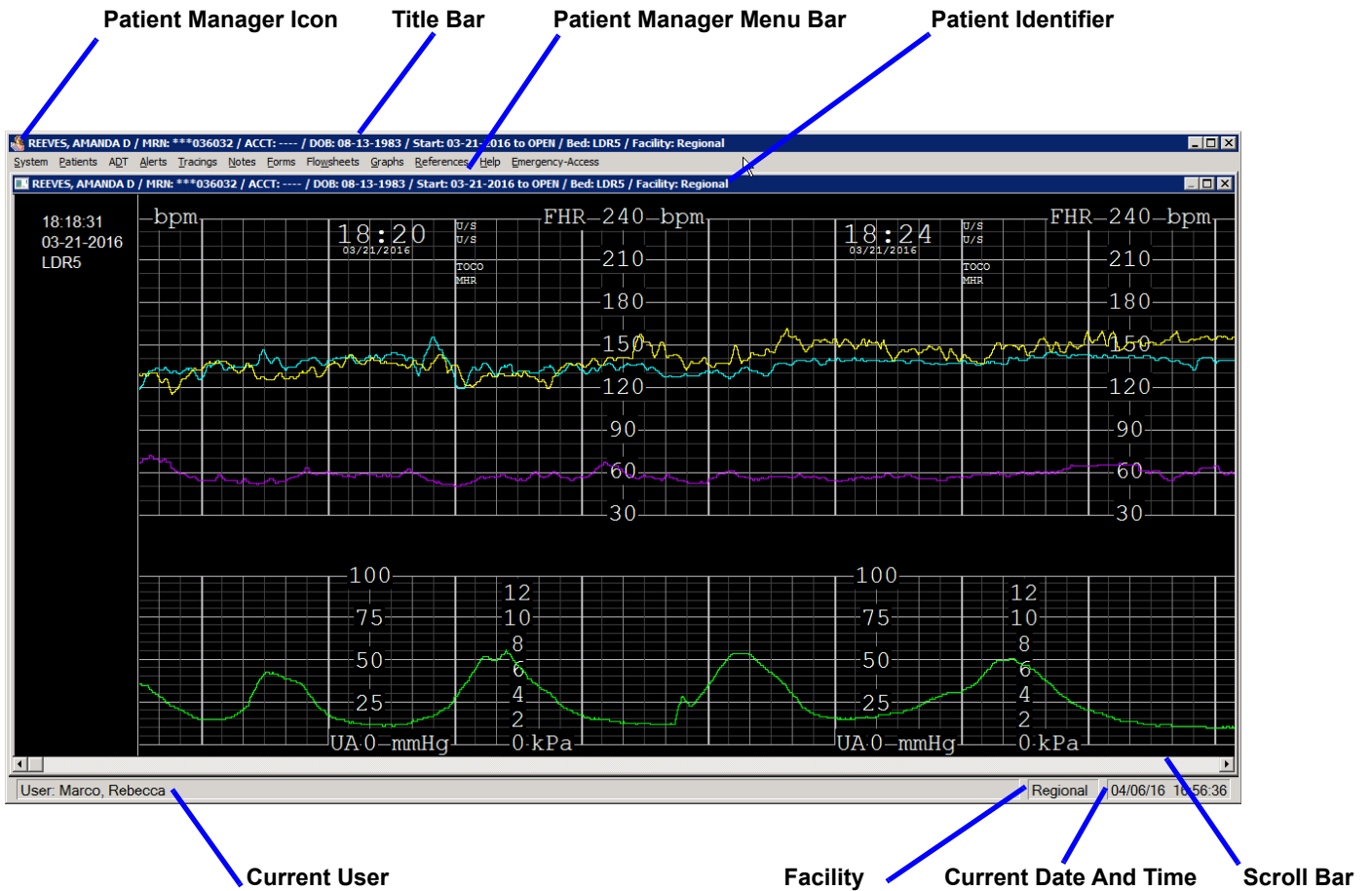
FIGURE 1-3 **Patient Manager Window Showing Patient Tracing**

TABLE 1-1 **Patient Manager and Bedside EFM Display Elements**

Element	Description
Title Bar	Displays the name, medical record number, account number (or other encounter ID if specially configured for the facility), date of birth, encounter start date, encounter status, assigned bed number, and facility location for the patient in focus. If no patient is in focus, title bar displays Patient Manager.
Patient Manager Menu Bar	Provides menus for using OBIX system functions. Not all menus may be available at your facility.
Patient Manager	Displays these for the patient in focus, depending on your selections: • auto scroll display of tracings • static display of tracings • notes review or notes entry screens
Current User	Displays the name of the user who is currently logged in.
Current Date and Time	Displays the current date and time from the workstation.
Bedside Surveillance Icon (see Figure 1-4)	Click to open a menu that enables you to select patients to display, and the appearance of the Bedside EFM Display on the screen.
Bedside EFM Display (see Figure 1-4)	Tracings and electronic fetal monitor status for selected patients.
EFM Status Indicator (see Figure 1-4)	The status of the electronic fetal monitor for each bed is shown next to the patient identifier.
Scroll Bar	Enables you to view other portions of the currently displayed tracing.

1.6   Bedside Surveillance Configurations

Surveillance of other beds is available on the bedside displays. Available configurations are described below.

1.6.1   Bedside EFM Display

The Bedside EFM Display (Figure 1-4) provides a current view of other beds, enabling you to monitor multiple patients simultaneously from a Patient Manager workstation (whether you are logged in or not) or the Surveillance Display(s) located elsewhere in your facility. You can select a bed or beds to display; the Bedside EFM display is not required to include the patient in focus. Each element is described in Table 1-1.
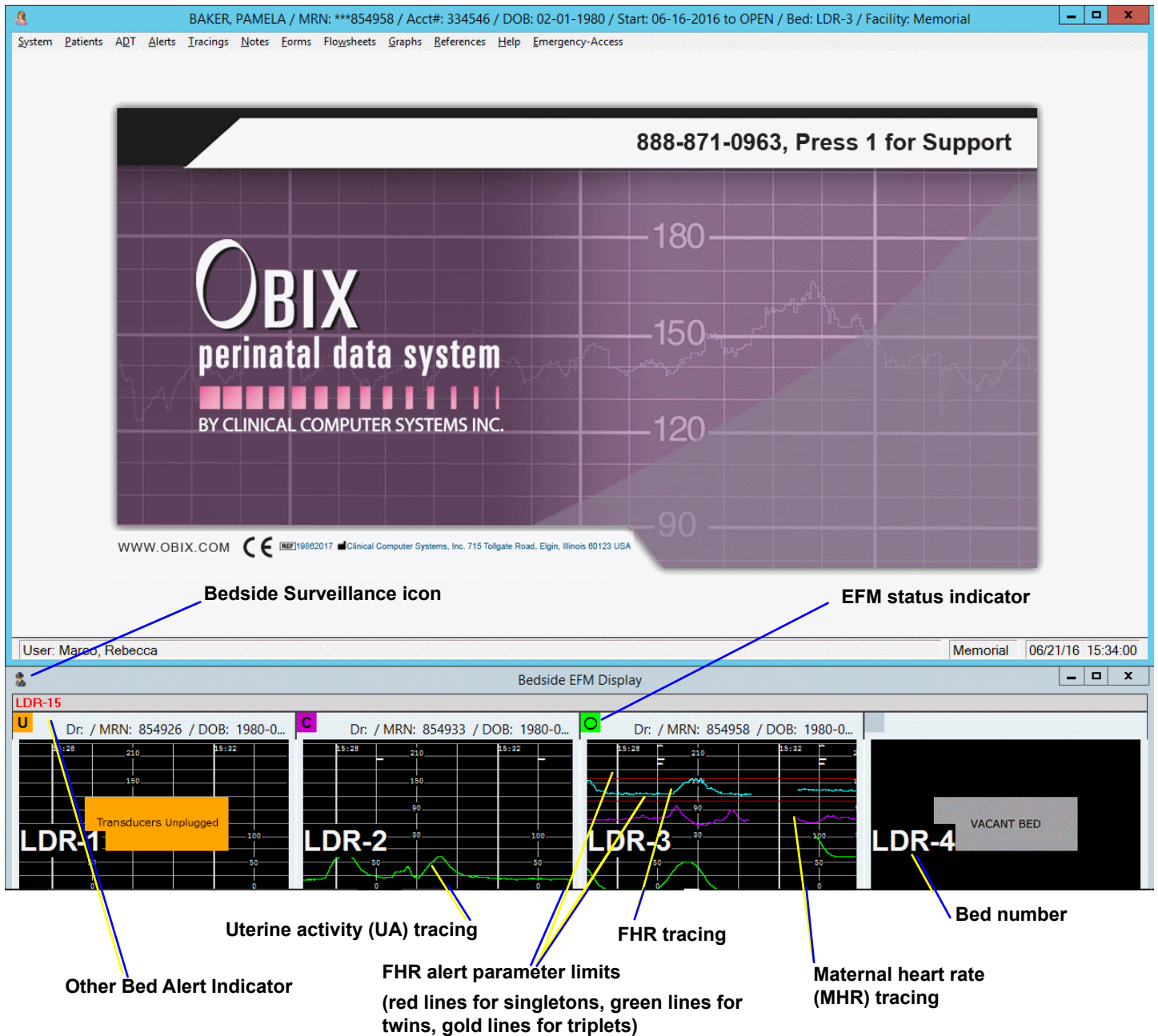
FIGURE 1-4 **Bedside EFM Display Example Showing 4 Beds**

NOTE

The standard Bedside EFM Display configuration identifies patients by bed, medical record number, account number, and date of birth. Care Provider may also be used as an identifier on the bedside EFM display.

A status indicator appears in the upper left corner of each bed display. Alerts are based on fetal heart rate (configurable for each bed) and fetal monitor status. For information about EFM status indicators and how to set fetal heart rate alert parameters, see Chapter 5, Alerts Menu.

NOTE

Artifact Filtering is automatically turned OFF (artifacts are not suppressed) on the bedside surveillance display when the fetus is monitored using DECG. Refer to Artifact Filtering, page 71.

To open the Bedside EFM Display menu, click the Surveillance icon in the upper left corner of the Bedside EFM Display.

The menu is shown in Figure 1-5 and described in Section . Menu items not available to all users or all security levels are disabled and appear gray on the menu.
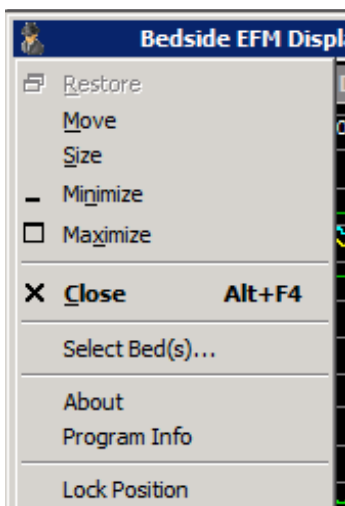
FIGURE 1-5 **Bedside EFM Display menu**

Selecting Surveillance Beds

Select Bed(s) enables you to select beds to view in the Bedside EFM Display.

To use Select Bed(s):

1. Click the Surveillance icon on the Bedside EFM Display to open the menu.

2. Click **Select Bed(s)**. The **Select the surveillance beds** window appears, listing each bed and its state (see Figure 1-6):

    •   Vacant bed - no state shown.

    •   **Occupied** - monitor off or disconnected

    •   **Tracing** - actively tracing, no active alert

    •   **Contractions Only** - Mother being monitored for contractions only, no transducers applied

    •   **Transducers Unplugged** - transducers are unplugged

    •   **New Alert** - active, unacknowledged alert
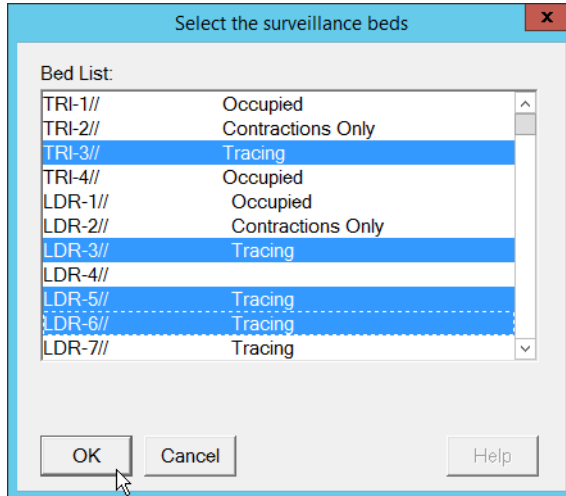
FIGURE 1-6 **Select the surveillance beds**

3. Scroll down the list if necessary and click to select beds for surveillance, then click **OK**. The Bedside EFM Display reconfigures to show the beds you selected. Each bed display resizes to maximize the use of the available Bedside EFM Display area. If a second display screen is available at the bedside, up to 12 beds may be selected by the user for surveillance.

1.6.2   Managing Alerts from the Bedside Surveillance Window

Bedside Full-screen Surveillance allows up to 12 beds to be monitored from a bedside workstation, and each bed's alert indicator is shown at all bedsides monitoring that bed.

If an alert occurs at a bed other than those you are monitoring in Bedside Surveillance, do the following:

1. Click the red Other Bed(s) Alerting indicator located just above the Bedside Surveillance displays (Figure 1-7). This indicator shows the bed numbers of all beds that have alerts.
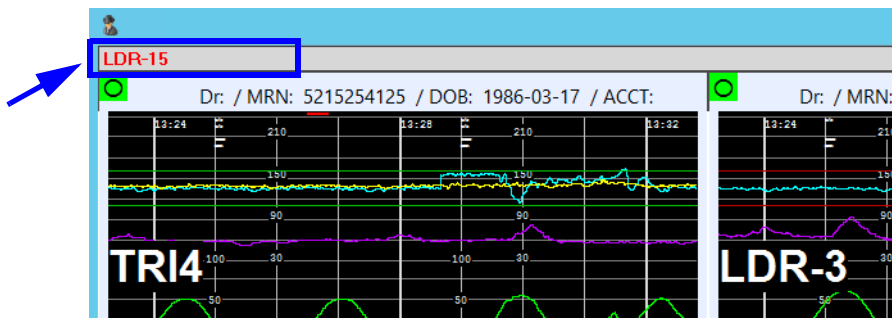
FIGURE 1-7 **Other Beds Alerting Indicator Area**

2. A window listing alerting beds appears (Figure 1-8). Highlight the patient(s) whose traces you want to view in Bedside Surveillance, or click **Select All** to select all alerting beds.
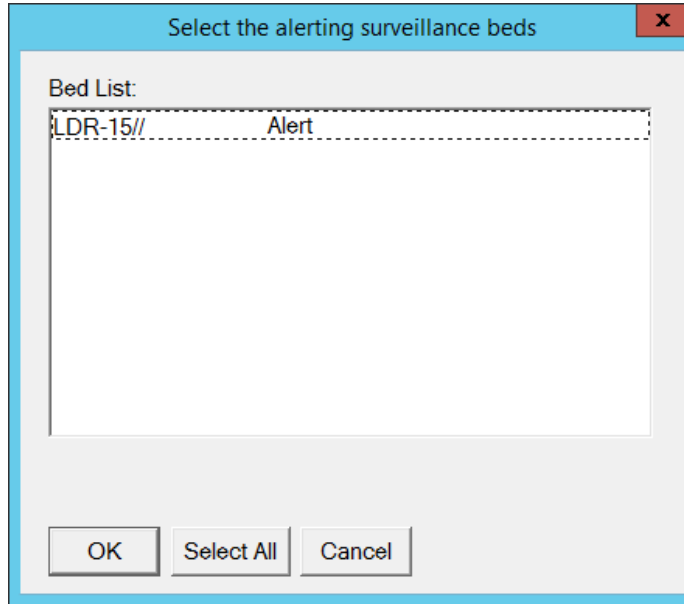
FIGURE 1-8 **Alerting Surveillance Bed Window**

3. Click **OK** to view the traces for the alerting bed(s) in Bedside Surveillance. Bedside Surveillance reconfigures to display the traces for the selected bed(s).

4. Review the patient(s) traces and respond to the alert(s) appropriately.

5. When finished, click the bedside surveillance icon to select other beds for monitoring if desired.

1.6.3 Bedside Full-Screen Surveillance

NOTE

This is an optional configuration. Your facility may not have this feature.

If the facility has dual-screen displays at the bedside, one screen may be configured for surveillance of up to 12 beds, Each bed's alert indicator is shown at all bedsides monitoring that bed.

If an alert occurs at a bed other than those currently monitored, do the following:

1. Click the red Other Bed(s) Alerting indicator (Figure 1-7).

2. A window listing alerting beds appears (Figure 1-8). Highlight the patient(s) whose traces you want to view in Bedside Full-Screen Surveillance, or click **Select All** to select all alerting beds.

3. Click **OK** to display the traces for the selected bed(s) in Bedside Full-Screen Surveillance.

4. Review the patient(s) traces and respond to the alert(s) appropriately.

5. When finished, click the bedside surveillance icon to select other beds for monitoring if desired.

1.6.4 Bedside Full-Screen Surveillance with Focus Bed
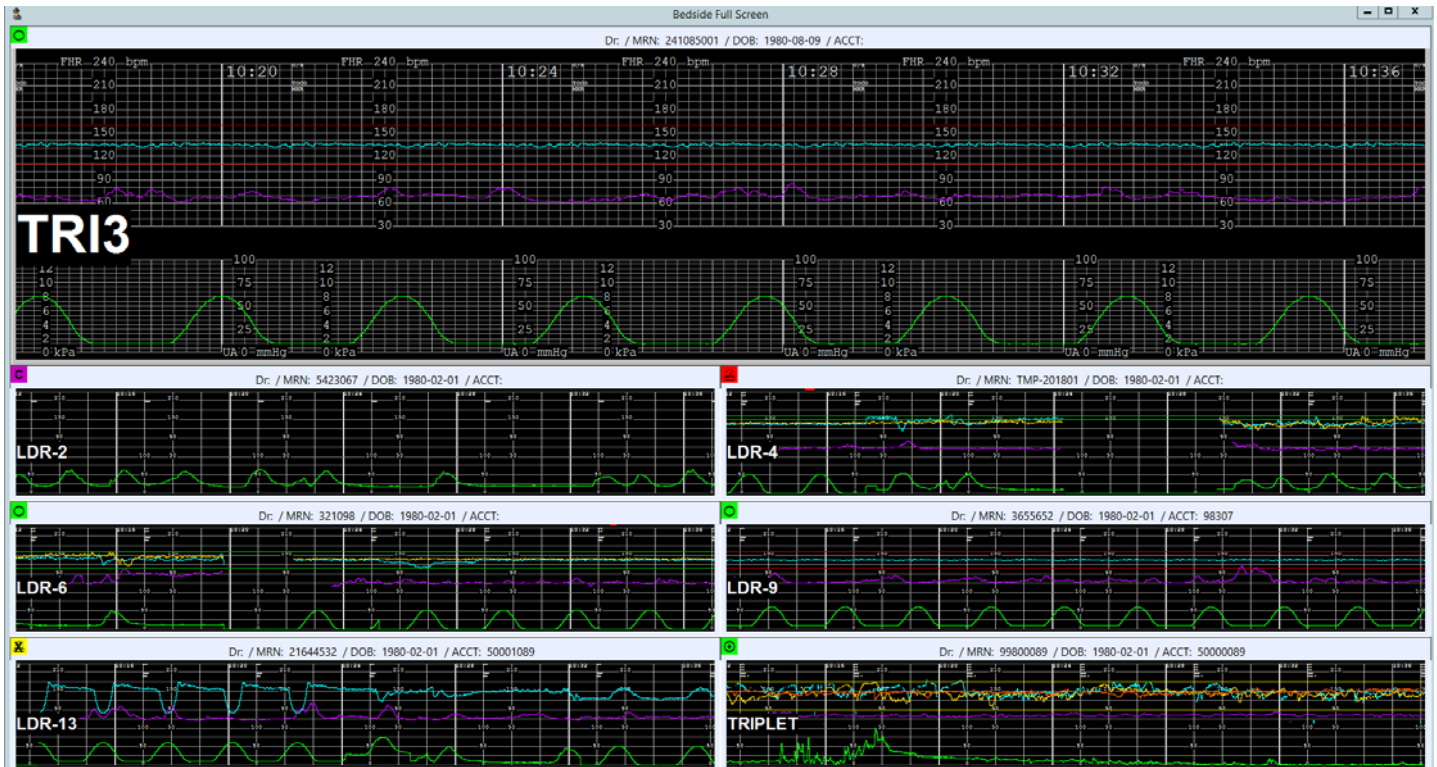
FIGURE 1-9 **Bedside Full Screen Surveillance with Focus Bed (Example)**

> **NOTE**
>
> **This is an optional configuration. Your facility may not have this feature.**

If dual-screen displays are available at the bedside, the second screen may be configured for bedside full screen surveillance with focus bed, which presents up to 10 beds plus one bed in a larger format that shows more minutes of tracings. Figure 1-9 shows an example.

To select a different bed as the focus bed, double-click its small tracing on the surveillance screen. The current focus bed replaces the selected bed in the surveillance screen, displayed in the smaller format.

1.7   Changing Program Focus

The OBIX system consists of several programs, some or all of which can run simultaneously.
To change the focus from one program to another:

1.   Press **ALT+TAB**. The program in focus is highlighted and its name is displayed. The open OBIX system programs are shown.

2.   Hold down the **ALT** key and press the **TAB** key to highlight another program.

3.   Release the **ALT** key when the desired program is highlighted to put it in focus.

> **NOTE**
>
> **If you use ALT+TAB to return to the EHR application and then select a different patient, OBIX closes automatically to prevent inadvertent OBIX charting on the wrong patient.**

2. System Menu

This chapter describes how to use the **System** menu options (see Figure 2-1).
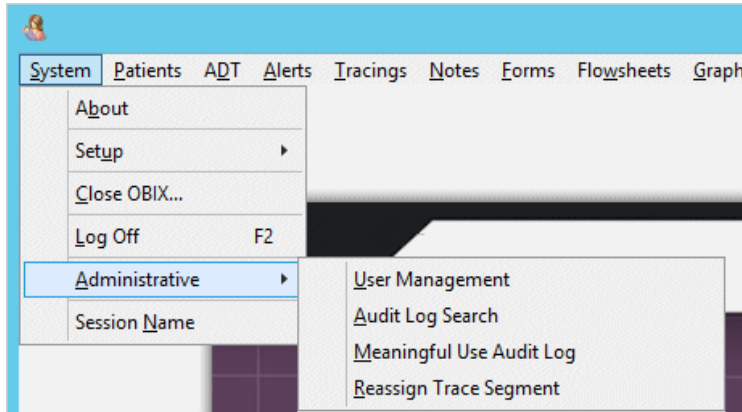
F<small>IGURE</small> 2-1 **System Menu showing Administrative Sub-menu**

The **System** menu contains:

- **About**: Shows OBIX software version, CCSI copyright statement, release date of the OBIX software, trademark information, and the OBIX Unique Device Identification (UDI) number.

- **Setup**: Enables the user to choose tracing display background color: black or white.

- **Close OBIX:** Closes Patient Manager on the workstation.

- **Log Off**: Logs the current user off Patient Manager. It is recommended that you always log off before leaving the workstation. You can also press **F2** to log off. The OBIX system logs the current user off automatically after a period of inactivity specified by your hospital.

- **Administrative**: Displays a sub-menu with the following options, available to authorized administrative users only:

    - **User Management**: Allows management of OBIX system user rights. See OBIX User Manager, page 101.

    - **Audit Log Search**: Allows an administrative user to audit previous OBIX system activity (see Audit Log Search, page 107).

    - **Meaningful Use Audit Log**: Allows an administrative user to audit OBIX system activity related to meaningful use items (see Audit Log Search, page 107)

    - **Reassign Trace Segment:** Allows authorized administrative users to transfer a trace segment from one patient's record to another, such as in situations where it is necessary to consolidate records for one patient who may have two sets of records under two different identities. See Audit Log Search, page 107.

- **Session Name:** Provides information for use by CCSI technical support staff.

This page intentionally blank.

3. Patients Menu

This chapter describes how to use the **Patients** menu (see Figure 3-1).

No patient selected   Matched patient selected   Unmatched patient selected
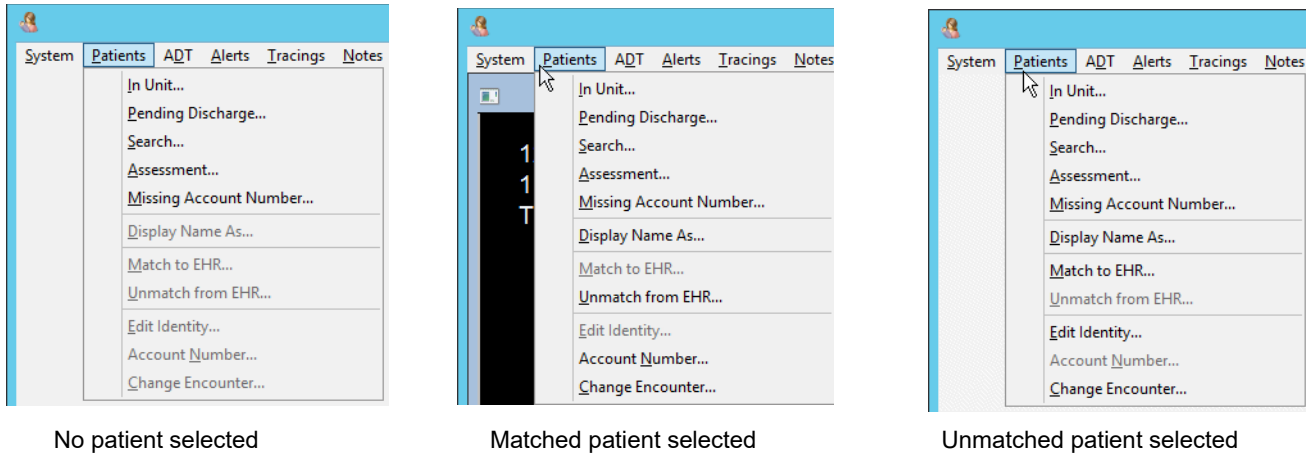
FIGURE 3-1 **Patients Menu**

The **Patients** menu contains:

- **In Unit:** Lists patients currently assigned to beds in the facility that you are logged on to. You can filter this list by unit: Triage, Labor, Postpartum, and so on. If you do not choose a unit (**In Unit** is blank), you see the unfiltered bed list.

- **Pending Discharge:** Lists patients recently discharged and who are still available for charting. The patient remains in pending discharge up to a time preset by the hospital, then the patient is automatically discharged from OBIX.

- **Search**: Finds a patient (see Searching for a Patient, page 25) or manually registers a patient in the OBIX system (see Manual Patient Registration, page 28).

- **Assessment** (installations with ADT interface only): The assessment state is used for patients who are transferred out of OBIX beds into other hospital beds, but are not discharged. Examples are patients who are transferred out of the unit to ICU or a medical unit, and patients sent for admission by the ADT interface when all OBIX system beds are occupied.

- **Missing Account Number**: Lists patients currently admitted or pending discharge who do not have an account number. Patients with no account number are listed in red in all patient lists.

- **Display Name As**: Specifies an alternate name displayed in OBIX for a patient (see Displaying an Alternate Patient Name, page 30).

- **Match to EHR**: Links the unmatched OBIX system patient to an electronic health record (EHR) for the patient in the hospital-wide system (see Matching a Patient, page 30).

- **Unmatch from EHR**: Enables administrative users to break the link between the OBIX system patient and the EHR in the hospital-wide system (see Unmatching a Patient, page 32).

- **Edit Identity**: Edits an unmatched patient's registration information (see Editing Patient Identity Information, page 33).

- **Account Number**: Enables selection of a patient's account number (see Selecting an Account Number, page 34). The default menu item is "Account Number" but it can be customized to suit the facility.

- **Change Encounter**: Enables selection of a different encounter for the same patient (see Changing Patient Encounter, page 36).

3.1   Selecting a Patient

> **NOTE**
>
> **You can double-click anywhere in the patient's row to put that patient in focus (select the patient).**

> **NOTE**
>
> **Patients who do not have an account number are shown in red in the Select a Patient window.**

To select a patient:

1. From the **Patients** menu, select the patient type: **In Unit, Assessment,** or **Pending Discharge**. You can also click **Search** to find a specific patient (see Searching for a Patient, page 25).

    - **In Unit** lists patients currently assigned to beds in the OBIX system. To filter the list by unit, click the arrow next to the **Unit** field and make a selection (see Figure 3-2).

Select a Patient, In Bed

Unit [L&D ▾]

Patients In Bed: 16

Bed	Name	Medical Record Number	Date Of Birth	Acct#	Matched
LDR-4	SMITH, MARY	***854922	02/01/1980		☑
LDR-5	Seven, Sweetie S	1234959696	07/05/2016		☐
LDR-6	ABBOTT, LORETTA	***55000089	02/01/1980	50000089	☑
LDR-7	THOMAS, NANCY	***854933	02/01/1980	332521	☑
LDR-8	Fraser, Clare Elizabeth	5454875487	10/12/1986		☐

[Trace Display] [Select] [Search] [Next] [Cancel]
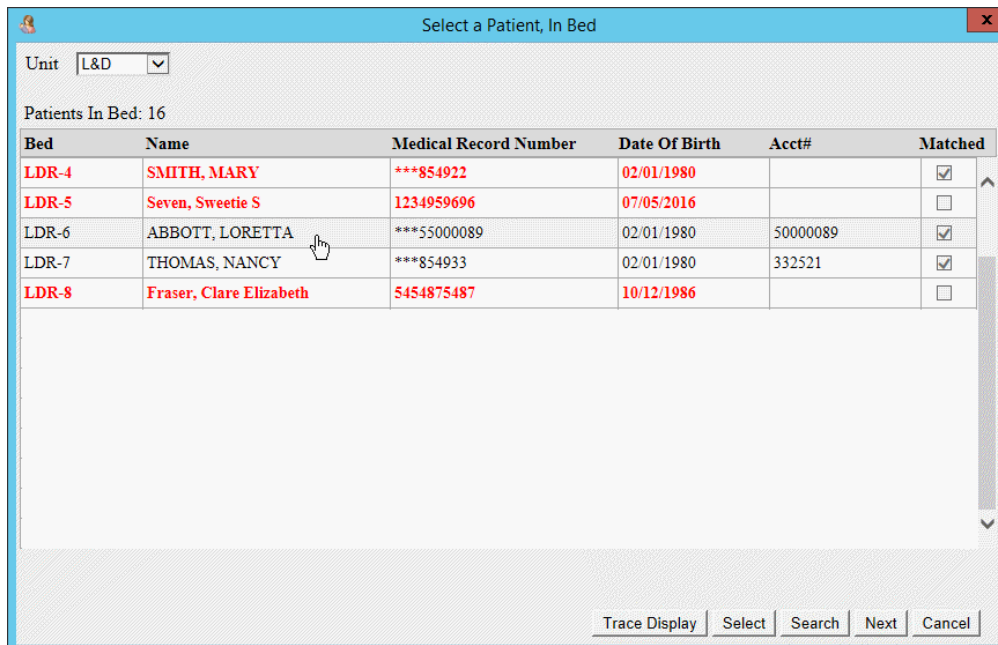
FIGURE 3-2 **Select a Patient Window**

- **Assessment** lists patients who are active in the hospital-wide admissions system but are no longer in an OBIX system bed.

- **Pending Discharge** lists patients who are awaiting discharge from the OBIX system.

NOTE

Click the Next button to switch to the Pending Discharge patient list from the In Unit patient list. Click Next again to switch from the Pending Discharge patient list to the Assessment list.

2. Click anywhere in the patient's row—you can select only one patient at a time. The selected row is highlighted.

3. Do one of the following:

    •   To select the patient and view her active tracing, select **Trace Display.** If she has no active tracing, her information is displayed at the top of the Patient Manager window and no trace is displayed.

    •   To select the patient, click **Select** (or double-click the patient's row).

        •   If you selected an unmatched patient (Figure 3-3) and wish to match the patient to an existing record, click **Match Patient** and see "Matching a Patient" on page 30.

        •   If you selected a patient shown in red who has no account number (Figure 3-4), and wish to add an account number, click **Add Acct#** and see "Selecting an Account Number" on page 34.

        •   If you want to proceed without matching or adding an account number, click **Continue**. The patient's information is displayed at the top of the Patient Manager window.
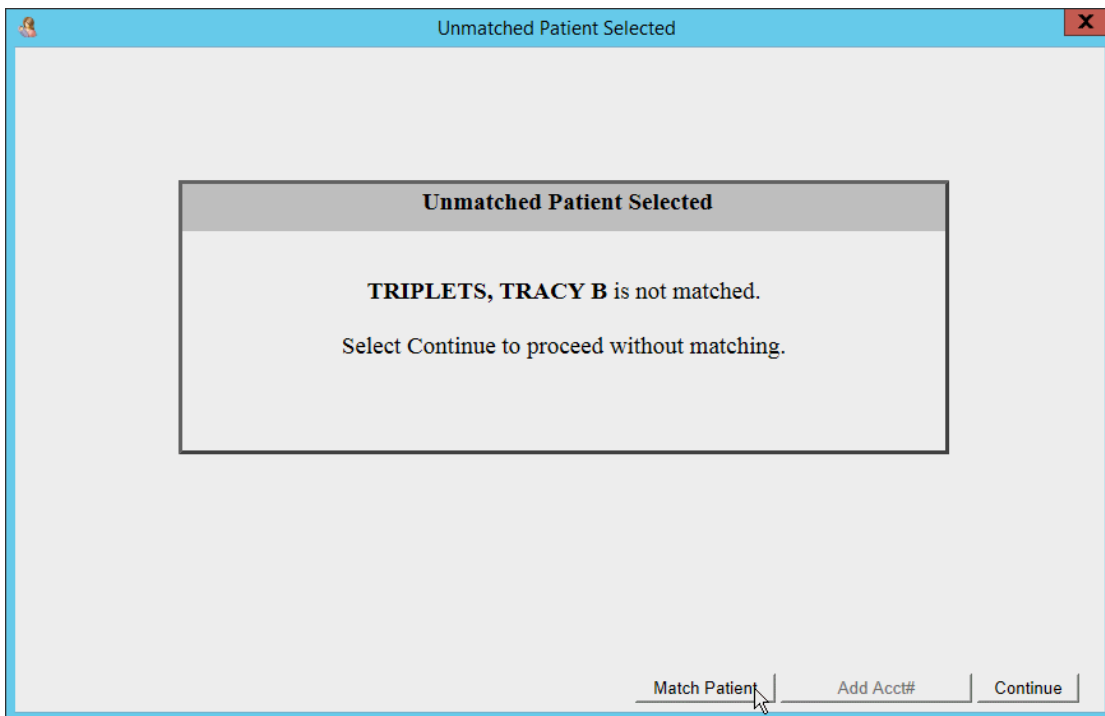
FIGURE 3-3 **Unmatched Patient Message**
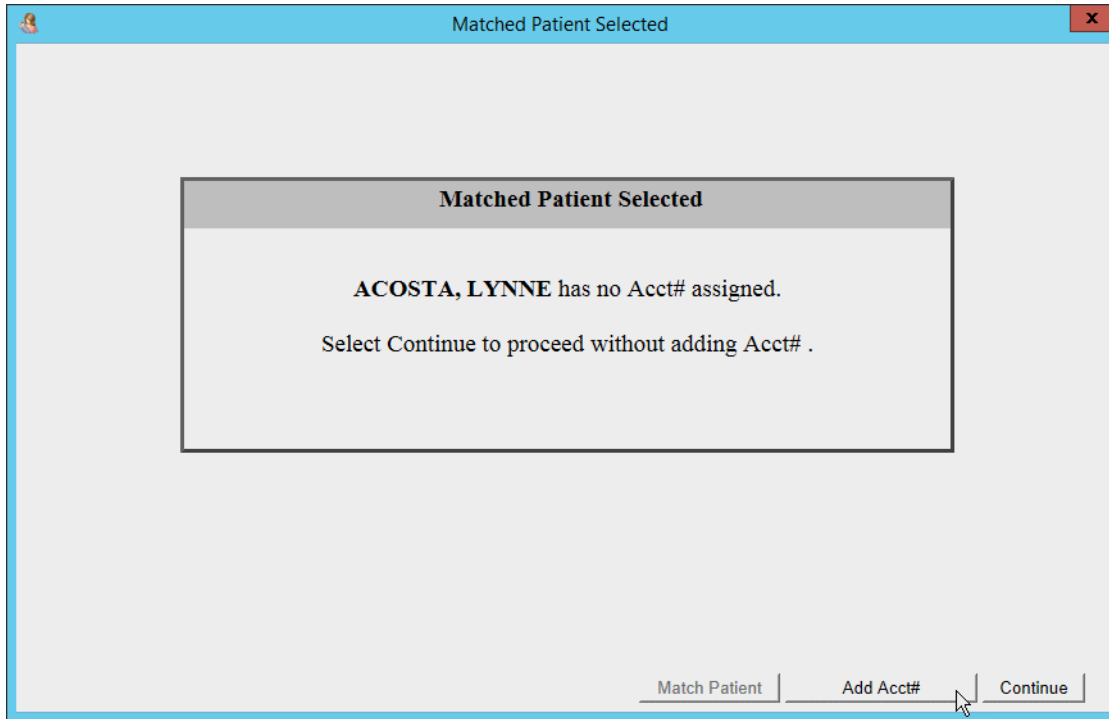
FIGURE 3-4 **Missing Account Number Message**

3.2   Searching for a Patient

1. To find a patient in the OBIX system, click **Search** on the **Patients** menu. The Search window shown in Figure 3-5 appears.

FIGURE 3-5 **OBIX Patient Search Window**

> **NOTE**
>
> **Emergency Access allows users with Emergency Access rights to select patient encounters that took place at another facility in a multi-facility enterprise. For instructions on using the Emergency Access menu, see Chapter 9.**

2. Limit your search criteria to as little patient information as possible. For example, type the first three characters of the last name and the first character of the first name. Use the other fields and filters in the window to narrow your search.

3. Users at multi-facility enterprises can search for patients in other facilities by selecting a different facility from the **Facility** drop-down list.

4. Click **Search**. A list of patients that match your search criteria appears. An example of search results is shown in Figure 3-6.

NOTE

The Results tab lists encounters that are open, in Pend Discharge, or discharged less than 270 days ago. The Archived tab lists encounters that took place at other facilities, and encounters that took place at the current facility and were discharged over 270 days ago.

FIGURE 3-6 **OBIX Patient Search Window with Results**

5. To select a patient, click anywhere in the patient's row, then click **Select** or **Trace DIsplay**. The Search window closes and the Patient Manager title bar shows the patient you selected, along with her active tracing if **Trace Display** was selected.

NOTE

The Emergency Access menu allows users with Emergency Access rights to select patient encounters that took place at another facility in a multi-facility enterprise. For instructions, see Chapter 9.

NOTE

You can double-click anywhere in the patient's row to put that patient in focus (select the patient).

6. If the patient does not appear in the search results and must be registered in the OBIX system manually, click **New** and then see Manual Patient Registration, page 28.

7. Click **Close** to close the search window without selecting a patient.

3.3 Registering a Patient

> **NOTE**
>
> **If your hospital purchased the OBIX Registration Interface, patients appear in the OBIX system patient list when they are registered at the hospital; they do not need to be registered manually. Patients can be registered in the OBIX system manually, with or without the Registration Interface.**

3.3.1 Automatic Patient Registration

The OBIX Registration Interface automatically places patients in the OBIX system search list based on information sent by the hospital-wide system. Use the Search window to search for a patient (see Searching for a Patient, page 25). Registered patients who are never actually assigned to an OBIX system bed are automatically removed from the OBIX system patient list after 270 days.

This information is usually sent to the OBIX Registration Interface from the hospital-wide system:

- Last Name, First Name, Middle Name (if present)*
- Medical Record Number* and Facility Identifier
- Enterprise ID*
- Date of Birth*
- Account Number or Encounter Number
- Physician

An asterisk indicates required information; any other information sent by the hospital-wide system is optional.

Patients sent by the interface are listed with a check mark in the **Matched** column; they are already matched to the hospital-wide system for interfaces.

If a patient is manually admitted to the OBIX system before she is admitted by the EHR, her chart "merges" when the information is sent from admitting as long as the patient name, date of birth, facility ID, and medical record number fields match in the OBIX and hospital-wide systems.

If the hospital-wide admissions system registers a patient after she has been discharged from the OBIX system, the merge still takes place. Notes are stamped with the time they were entered into the patient's notes log and the time they were received by the OBIX system. Notes received from the HL7 registration interface have an HL7 note type. These HL7 notes do not always appear in the same order from encounter to encounter.

3.3.2   Manual Patient Registration

1. If you cannot find a patient using the search window and must manually register her in the OBIX system, click **New** in the **Search** window (see Figure 3-6).

    The **OBIX Patient Registration** window appears (Figure 3-7).
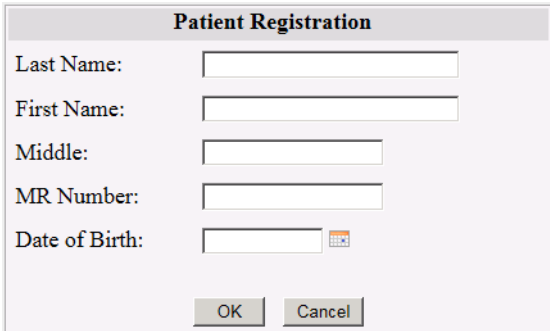
FIGURE 3-7   **OBIX Patient Registration**

2. Type the patient's Last Name, First Name, Middle, and MR Number, if available.

3. Type the patient's Date of Birth or enter it using the calendar control.

4. Click **OK** when data entry is done.

    •   If you enter a new patient, Patient Manager shows that patient at the top of the window and in the OBIX Patient Search list. You must assign her to a bed to record her tracings. See Assigning a Patient to a Bed, page 37.

    •   If you enter a patient who matches a patient already in the system, the message shown in Figure 3-8 appears. To put the matched patient in focus, click **OK**. If you did not intend to enter the name of an existing patient, click **Cancel** to clear the message, then search for the patient, or retype the patient name and verify that you are using the correct MR number.
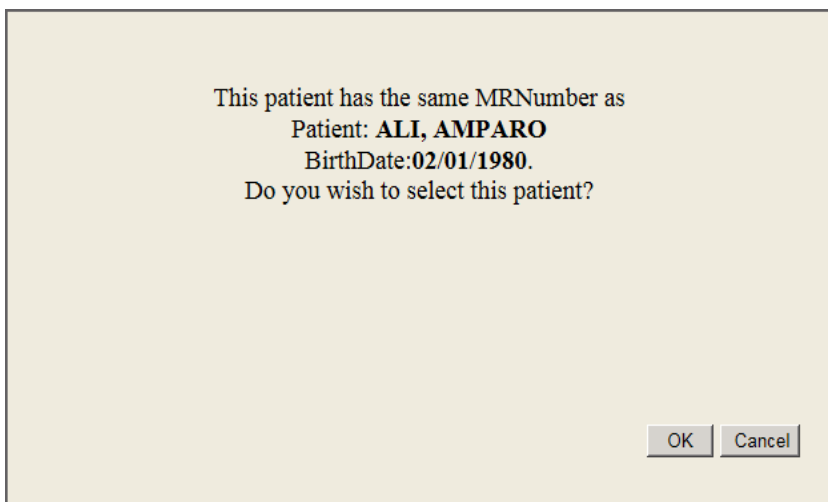
FIGURE 3-8   **OBIX Patient Registration Message**

3.4   Resuming an Encounter

To resume a patient's encounter, you must do one of the following:

- select her from the pending discharge list and assign her to a bed

- cancel her discharge and then resume the encounter from the pending discharge state. See "Cancel Discharge" on page 44.

To resume an encounter:

1. Select the patient from the Pending Discharge list or the Search window to put her in focus.

2. On the **ADT** menu, click **Assign Bed** or **Transfer**. A confirmation message appears (Figure 3-9).
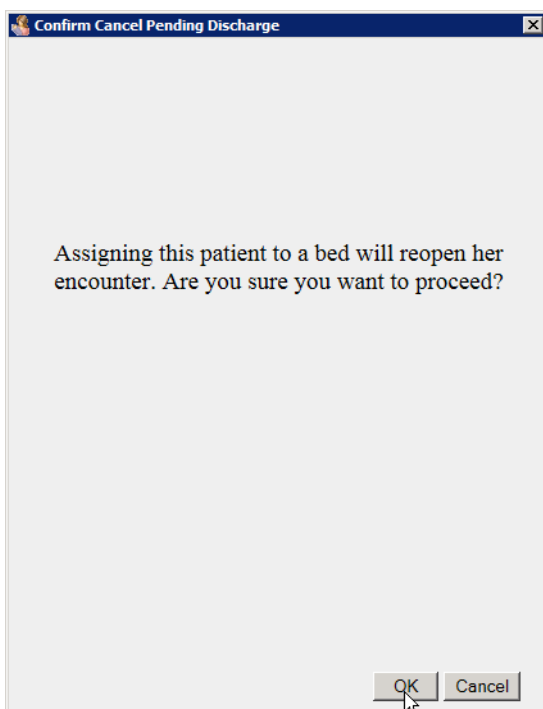
FIGURE 3-9 **Confirm Cancel Pending Discharge**

3. Click **OK** to show the bed selection list, then assign the patient to a bed.

3.5 Displaying an Alternate Patient Name

To protect a patient's identity if necessary, the **Display Name As** option on the **Patients** menu allows you to specify an alternate name to display for a patient. The Display Name appears in Patient Manager and Surveillance views. The patient's real name is displayed on all print previews and all printed patient documentation. When a user performs a search, only the real name appears for admitted and archived patients.

3.6 Matching a Patient

An unmatched patient is a patient in the OBIX system who is not linked to the hospital-wide system. In Figure 3-10, **ALIe, AMPARO** is an unmatched patient (no check mark in the **Matched** column).

FIGURE 3-10 **Unmatched Patient**

To match a patient to the hospital-wide system:

1. Select the unmatched patient.

2. On the **Patients** menu, click **Match to EHR**. The OBIX Match Patient window appears.

3. Enter criteria to help you search for an identity match, then click **Search**. The list shows patients who match the criteria you entered (Figure 3-11). If necessary, you can change the criteria and submit a new search.

FIGURE 3-11 **OBIX Match Patient**

4. Select the patient you want to match to and click **Match**. A confirmation window appears (Figure 3-12).

FIGURE 3-12 **OBIX Match Patient Confirmation**

> **NOTE**
>
> **Ensure that the patients you are matching are correct.**

5.   Verify that you are matching the correct patients, then place a checkmark in the box indicating that you would like to proceed with this match.

6.   Click **OK**. The records are merged and Patient Manager reflects the change.

> **NOTE**
>
> **You can match an unmatched patient who has been discharged.**

3.6.1   Scenario: Matching Patients, Prior Encounter with Middle Initial

CINDY CHEN is an unmatched patient in the Labor Unit. There is an entry in the search results for **CINDY C CHEN**, a matched patient with identical first name, last name, medical record number, and date of birth. In her previous encounters, **CINDY** was admitted using her first name, last name, and middle initial; she is listed twice in the search results because of the data entry discrepancy. Her nurse selects unmatched patient **CINDY CHEN** and uses **Match Patient** to merge her record with **CINDY C CHEN** in the hospital-wide system. Refer to Matching a Patient, page 30.

3.6.2   Scenario: Matching Patients, Uncommunicative Patient

A patient presents to the unit and is unable to communicate name, date of birth, or doctor, so she is admitted to the OBIX system with **X** for her first and last names. Later, when the patient is identified as Susan Smith, her **X X** OBIX system record and **SUSAN SMITH** hospital-wide medical records are matched. See Matching a Patient, page 30.

3.7   Unmatching a Patient

Only an authorized administrative user is permitted to break the link between an OBIX system patient and a patient in the hospital-wide system. For more information, see Unmatching a Patient, page 126.

> **NOTE**
>
> **When you unmatch an OBIX system patient, ID information from the hospital-wide system is removed, other names the patient was known by are removed, and the patient is put in the unmatched state.**

3.8   Searching for a Patient with More Than One Name

When a patient's name differs from the one used in a previous encounter or encounters, the older name is stored.

Name changes are sent by HL7 or manually entered into the OBIX system. Name changes during a patient's encounter are not added to the search list; a name is committed to the patient record only if it is the name at the time of discharge.

You can use **Search** to find a patient's other name (or names).

For example, **MARY SMITH** was admitted to the OBIX system for the birth of her first child and discharged at the end of her stay. Later, **MARY** remarried and her name was changed to **MARY JONES** with an HL7 update message. When **MARY JONES** returns to the hospital and a user searches for **MARY SMITH** in the OBIX system, the search returns:

- **MARY JONES**

- other patients named **MARY SMITH**

The OBIX system behaves the same way if a user admits **MARY SMITH** for the birth of her second child and manually changes her name to **MARY JONES**. When **MARY** is discharged, the name **MARY SMITH** is stored with **MARY JONES**' records and is searchable.

3.9   Editing Patient Identity Information

Edit Identity on the **Patients** menu enables you to change registration information for a patient with an open encounter (in the unit or pending discharge) who is not matched to the hospital-wide system. A user can only edit registration information for an unmatched patient.

> **NOTE**
>
> **You cannot edit a patient's registration information if she has never been assigned to a bed in the OBIX system.**

To edit patient registration information:

1. Select the patient whose registration information you want to edit.

2. Click **Edit Identity** on the **Patients** menu. The Edit a patient window appears (see Figure 3-13).
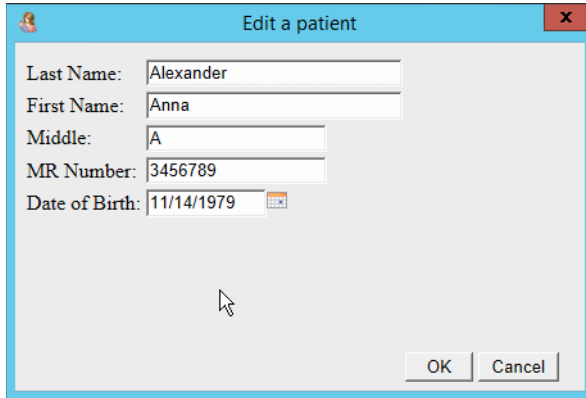
FIGURE 3-13 **Edit a patient**

3. Edit the patient registration information displayed in the window.

4. Click **OK** when you are finished editing the patient's information. Patient Manager displays the change(s) you entered.

3.10   Selecting an Account Number

> **NOTE**
>
> **Your facility may have configured OBIX to use a term other than "account number" for the Encounter ID. "Account number" is the default.**

> **NOTE**
>
> **To see a list of all patients missing account numbers, select Missing Account Number from the Patients menu. Patients missing an account number are shown in red in all patient lists.**

To select an account number for a matched patient:

1. Select the patient's open encounter.

2. On the **Patients** menu, click **Account Number**. The Select an Account Number window appears (see Figure 3-15).

3. You can also assign the Account Number at the time you place the patient into a bed or if you choose to transfer a patient.

FIGURE 3-14 **Patients Missing Account Number List**

FIGURE 3-15 **Select Account Number**

4.   Select a number from the **Select Account Number** list.

5.   Click **Select**. The account number is assigned to the patient's encounter.

3.11   Changing Patient Encounter

Change Encounter lets you change patient encounters, or select an encounter if one is not already selected. When you put an active patient in focus, her current encounter is automatically selected. If she has no current encounter, **No Encounter Selected** appears in the title bar (see Figure 3-16). If no patient encounter is selected and you choose a menu item that requires an encounter, the OBIX system prompts you to choose one.
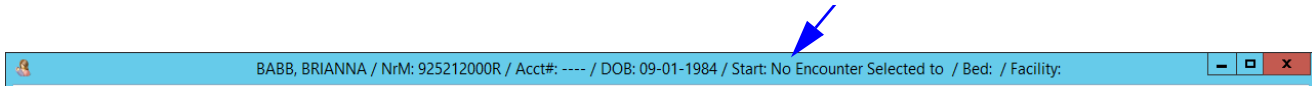
FIGURE 3-16 **No Encounter Selected Indicator**

To select or change an encounter:

1. On the **Patients** menu, click **Change Encounter**. The **OBIX Select an Encounter** window appears (see Figure 3-17).
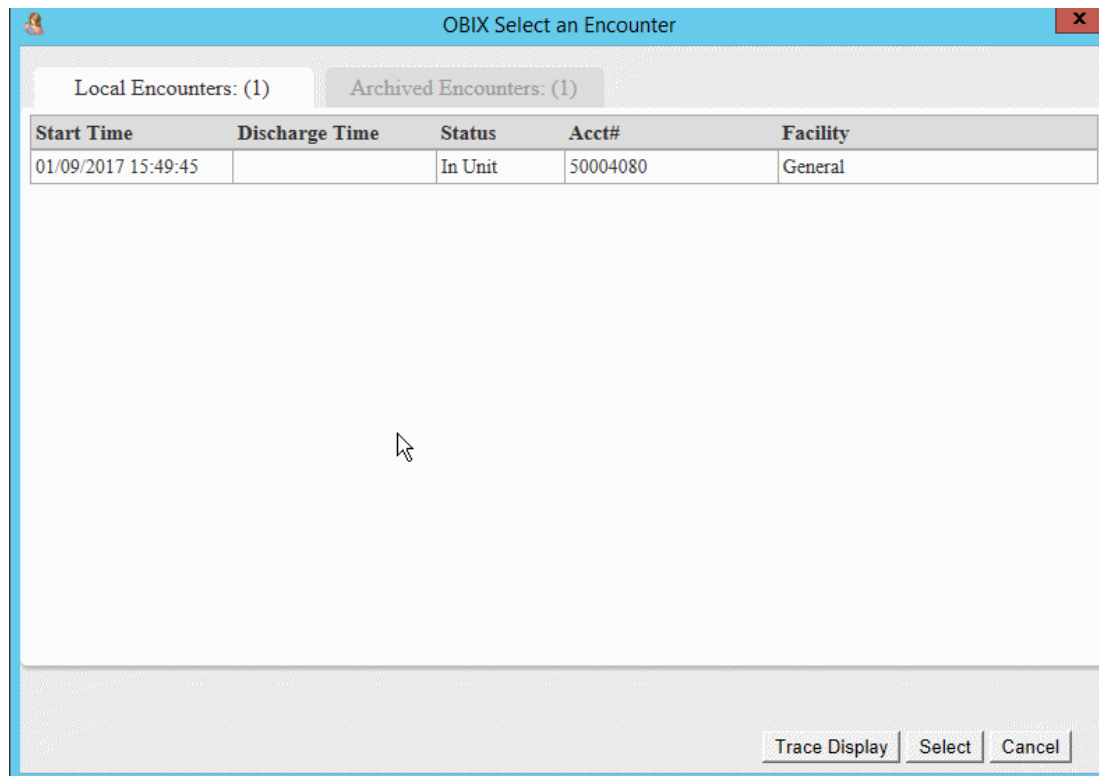
FIGURE 3-17 **OBIX Select an Encounter**

2. Encounters that are open or have not yet been archived appear on the **Local Encounters** tab. The **Archived Encounters** tab lists the patient's previous closed encounters. Encounters are archived 270 days after they are closed. Archived encounters may be viewed but cannot be reopened.

3. Select an encounter, then click **Trace Display** to view the trace or select **Open**. The encounter is put in focus and the window closes.

4. ADT Menu

This chapter describes how to use the Admit–Discharge–Transfer (**ADT**) menu (see Figure 4-1).
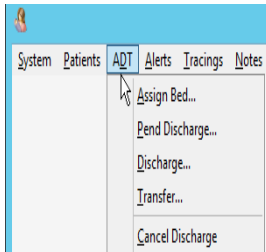
FIGURE 4-1 **ADT Menu**

4.1　Assigning a Patient to a Bed

To assign a patient to a bed:

1. Search for the patient you want to assign to a bed using the **Patients** menu (see Searching for a Patient, page 25). If you cannot find the patient, click **New** on the **OBIX Patient Search** window to begin registering her in the OBIX system first. See Manual Patient Registration, page 28.

2. If the patient is listed in the **OBIX Patient Search** window, highlight her name and click **Select**.

3. Click **Assign Bed** on the **ADT** menu. The **OBIX Assign Bed** window appears (see Figure 4-2).
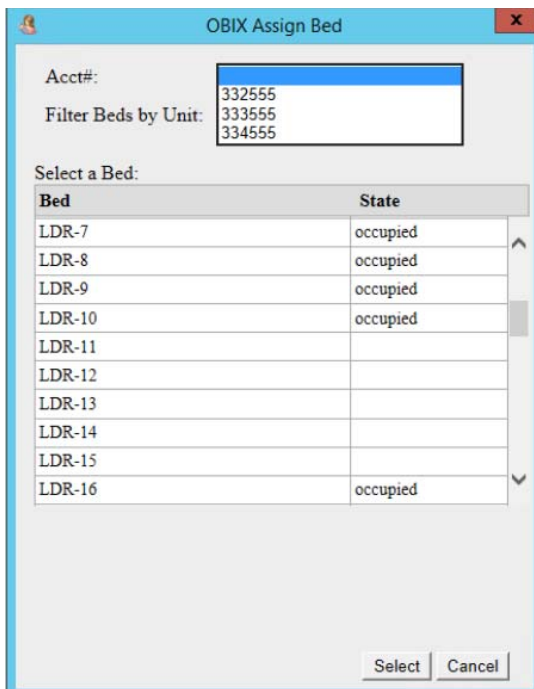
FIGURE 4-2 **OBIX Assign Bed Window**

4. If necessary, select the appropriate account number for this encounter from the **Account Number** drop-down list. The associated visit or encounter number may be displayed in parentheses following the account number as shown.

5. Filter the bed list by unit as needed, then scroll through the list to assign the correct bed.

6. Highlight the bed and click **Select**.

    If the patient has already been assigned to a bed, an error message (Figure 4-3) appears. A patient can be assigned to one bed only.
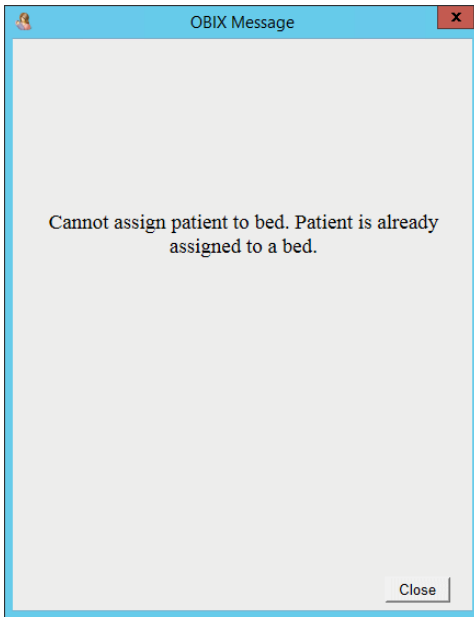
FIGURE 4-3 **Assign Bed Message**

> **WARNING**
>
> **The fetal monitor must be properly applied to the patient, powered on, and connected to the OBIX system wall jack for fetal monitor data to be captured and archived by the OBIX system. Failure to connect the fetal monitor results in loss of patient data.**

7. Apply the fetal monitor to the patient to display the tracing in the OBIX system.

> **NOTE**
>
> **A single electronic tracing segment is limited to a maximum of 107 hours and 30 minutes. If your patient's segment exceeds that limit, it is automatically restarted and joined to the previous segment.**

> **NOTE**
>
> **At multi-facility hospitals, an unmatched patient cannot begin a new encounter in a different facility until she is matched. See Matching a Patient, page 30.**

4.1.1 Assigning a Patient Delivering Triplets to a Bed

> **NOTE**
>
> **OBIX can be used to monitor a triplet birth in two ways:**
>
> - using a triplet-capable fetal monitor
> - using a labor room wired for 2 fetal monitors and using the second monitor to capture data for the third fetus. If the patient is in a room that is not wired for a second fetal monitor, an OBIX mobile cart may be used to monitor the third fetus. Using a second toco plugged into fetal monitor 2 is recommended for this scenario.

Using a Triplet-Capable Fetal Monitor

1. Assign the triplet gestation Mom to an OBIX bed in a room equipped with a triplet-capable fetal monitor. OBIX will display all three fetal tracings for the patient.

Using 2 Fetal Monitors to Monitor Triplets

1. Assign the mother to an OBIX bed as a twin gestation.

2. After assigning the matched twin gestation patient to a bed, manually register her using her same name and **FETUS C** in the middle name field, then assign her to the second bed in the same room (Figure 4-4). Do not enter a MRN. This record is unmatched until the encounter is closed.

Select a Patient, In Bed

Unit

Patients In Bed: 15

Bed	Name	Medical Record Number	Date Of Birth	Acct#	Matched
TRI-1	JONES, BARBARA	***854925	02/01/1980	333513	☑
TRI-2	PACKER, DIANA	0005687	09/19/1990		☐
TRI-3	BELL, PAT	5215254125	03/17/1986		☐
LDR-1	BROWN, ELIZABETH	***854926	02/01/1980		☑
LDR-2	THOMAS, NANCY	***854933	02/01/1980	334521	☑
LDR-3	BAKER, PAMELA	***854958	02/01/1980	334546	☑
LDR-4	BOWEN, BARB	0987654321	03/10/1989		☐
LDR-5	YOUNG, CYNTHIA	***854949	02/01/1980	332537	☑
LDR-6	YOUNG, CYNTHIA FETUS C	TMP-20160715184003	02/01/1980	332537	☐
					☐
					☐
					☐
		.			☐
					☐

Trace Display   Select   Search   Next   Cancel

FIGURE 4-4 **Search Results for Charting Triplets**

3. Document on the matched patient's encounter only.

4. Allow OBIX to assign a temporary number to the mother's second admission so that when she is discharged the system will prompt you to match the patient.

5. After the patient delivers and charting is done, discharge the **matched** patient from the OBIX system first.

6. Use **Match to EHR** on the **Patients** menu to match the mother's second unmatched **FETUS C** encounter with her matched patient encounter (see Matching a Patient, page 30).

4.1.2   Scenario: Using Match Patients to Trace Triplets if there is no Triplet-Capable Fetal Monitor

AMANDA ADAMS is admitted to the hospital in labor with triplets. **AMANDA** is assigned to bed **LD7**, but the room does not have a triplet-capable fetal monitor. Because only one encounter per patient can be active at a time, the L&D nurse manually admits **AMANDA** and assigns her to bed **LD7B** as **AMANDA ADAMS FETUS C** to capture EFM data for the third fetus. The nurse uses Patient **Search** to look for **AMANDA** in the patient list and she verifies that fetuses A and B are being monitored in the **AMANDA ADAMS** encounter in bed **LD7** and fetus C is being monitored in the **AMANDA ADAMS FETUS C** encounter in bed **LD7B**. Charting entries are made on the **AMANDA ADAMS** matched patient encounter in bed **LD7**. After **AMANDA** delivers and charting is complete, the nurse discharges the **AMANDA ADAMS** matched patient encounter from the OBIX system, and matches the unmatched **AMANDA ADAMS FETUS C** encounter to merge the encounters. A search for **AMANDA ADAMS** now shows only one entry in the search results, but her encounter shows two sets of tracings that almost exactly overlap. One tracing has the waveforms for fetuses A and B and the charting. The second tracing has the waveform for fetus C and transaction charting associated with data collected for the third fetus. The next time **AMANDA ADAMS** is a patient on the unit, she will appear only once in the **Patients** list and all information collected on her previous labor is stored together.

4.2   Pend Discharge a Patient

NOTE

If a patient is not matched to the EHR, or does not have an account number assigned, an error code appears when she is pend-discharged. Match the patient first, or assign an account number before proceeding with the Pending Discharge function.

When a patient is placed into pending-discharge status, her assigned bed becomes available and her tracings are no longer recorded, but her OBIX chart remains open for a period of time to allow completion of her documentation. The patient's status automatically changes from pending discharge to discharged when the time period elapses.

To put a patient in pending discharge state:

1.   Select the patient.

2.   Click **Pend Discharge** on the **ADT** menu. A confirmation message appears; an example is shown in Figure 4-5.

3.   Click **OK** to close the message and change the patient's status to pending discharge.

Confirm Pending Discharge

Click OK to place this patient in a pending discharge state or click Cancel to exit.

OK   Cancel
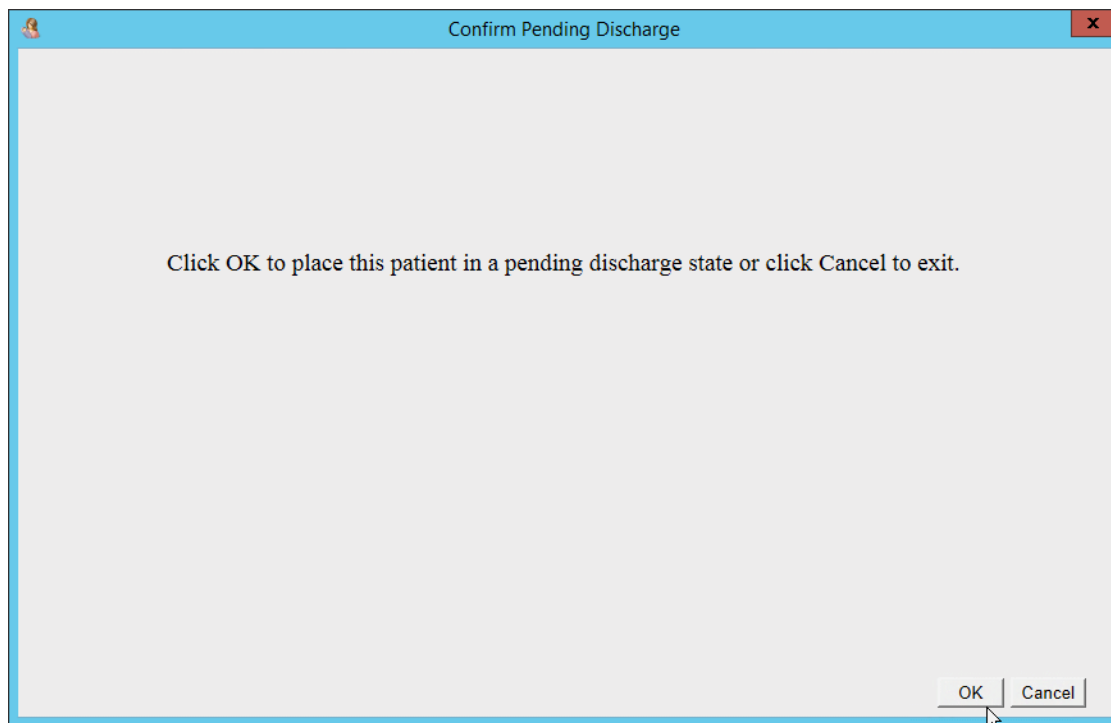
FIGURE 4-5 **Confirm Pending Discharge Message**

NOTE

If you pend discharge a patient by mistake, you can resume her encounter by transferring or assigning her to a bed. See Registering a Patient, page 27.

4.3   Discharging a Patient

When a patient is discharged, her tracings are closed and no alterations or additions to her medical record can be made in the OBIX system. Ensure that the patient's notes are complete before you discharge her from the OBIX system. After discharge, OBIX cannot be used to make alterations or additions to the patient's medical record unless a user with security level 5 or higher reopens the record using the **Cancel Discharge** function.

> **NOTE**
>
> **Patient identity updates made by the EHR apply even if the patient is discharged from OBIX.**

To discharge a patient from OBIX:

1.   Select the patient. See Selecting a Patient, page 22.

2.   Click **Discharge** on the **ADT** menu. A confirmation message appears; an example is shown in Figure 4-6.
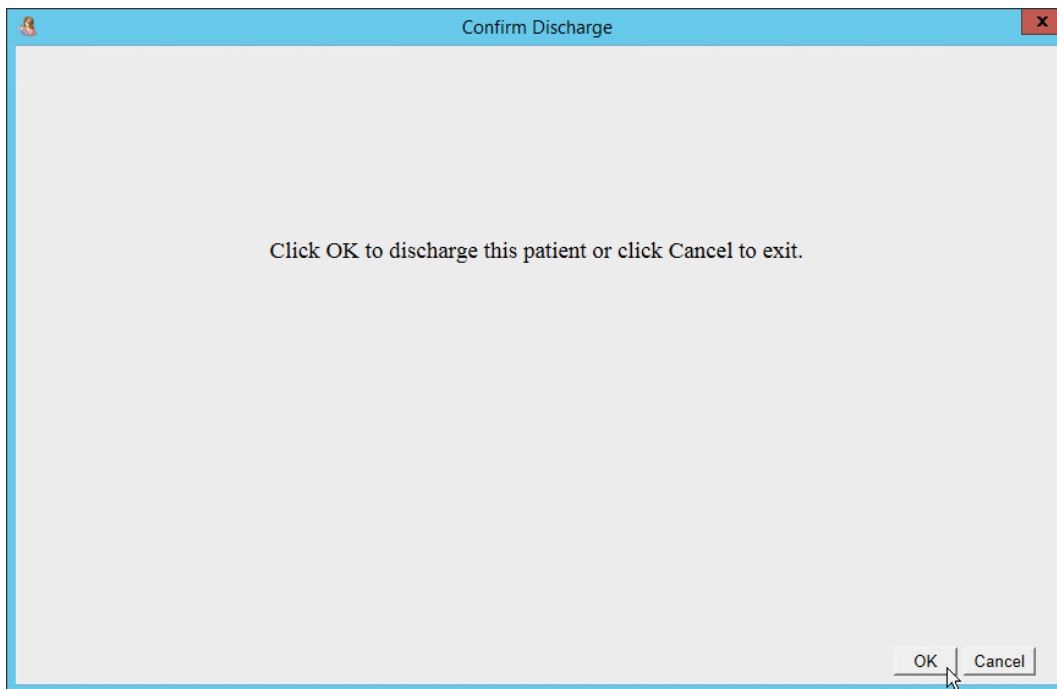
FIGURE 4-6 **Confirm Discharge Message**

3.   Click **OK** to close the message.

4.   Provide any additional patient information as requested by the confirmation message and discharge the patient. The patient's tracings are closed, her notes are closed, and her assigned bed becomes available.

4.4   Transferring a Patient

> **NOTE**
>
> **To prevent loss of data, validate the interfaced documentation, such as vital signs, before transferring the patient to another bed.**

To transfer a patient from one bed to another:

1. Select the patient.

2. Click **Transfer** on the **ADT** menu. The OBIX Transfer window appears (Figure 4-7).
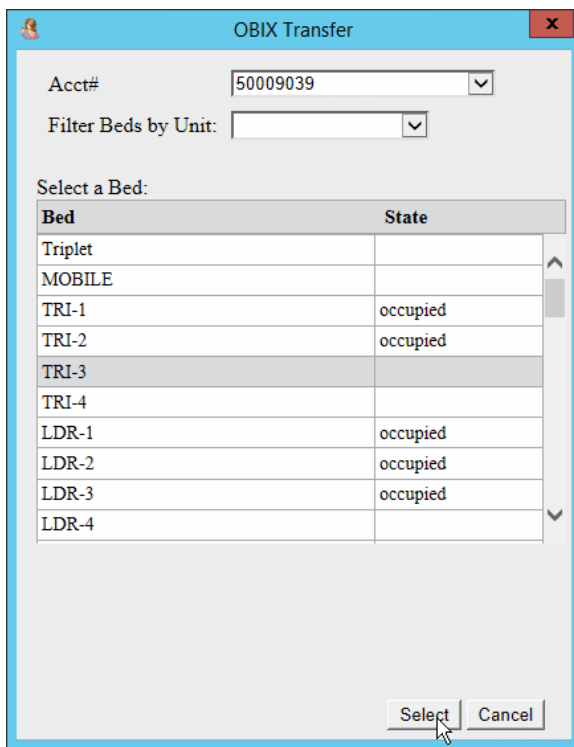
FIGURE 4-7 **OBIX Transfer Window**

3. Verify that the correct account number is selected.

4. Filter the bed list by unit, if needed, and scroll through the list to assign the correct bed.

5. Click to highlight the correct bed, then click **Select**.

4.5   Cancel Discharge

The Cancel Discharge feature is available to any user with a security level of 5 or higher. The Cancel Discharge feature allows authorized users to reopen a discharged patient's encounter. Cancel Discharge allows additional charting on a previously discharged patient.

Cancel Discharge may also be used to update patient registration information to facilitate locating all of a patient's encounters. For example, Cancel Discharge may be used to reopen an encounter for a patient whose name or medical record number was incorrectly entered, allowing the record to be corrected and merged into the proper medical record.

> **NOTE**
>
> **Cancel Discharge is available only to users with security level 5 or higher.**

> **NOTE**
>
> **You cannot use Cancel Discharge if the selected patient has an active encounter. If the status of any encounter is Active or Pending Discharge, you must complete the encounter and discharge the patient before you can use Cancel Discharge to reopen a previous encounter.**

> **NOTE**
>
> **When you use Cancel Discharge, be aware of the effect of the seasonal time change to or from daylight saving time:**
>
> **In the spring, when the computer's clock moves forward one hour, the time shown on tracings running during the time change appears as though the hour from 2:00 AM to 3:00 AM was skipped. The tracing is broken into two segments at the point where the time change took effect. One segment ends at 2:00 AM and the next segment starts at 3:00 AM.**
>
> **In the fall, when the clock is turned back one hour, the hour from 1:00 AM to 2:00 AM is repeated for encounters taking place when the time change occurred. The tracing is broken into two segments at the point where the time change took effect. One segment ends at 2:00 AM and the next segment begins at 1:00 AM. The hour from 1:00 AM to 2:00 AM is repeated on the second segment because the clock was turned back one hour.**

NOTE

During the seasonal time change to or from daylight saving time, ensure that late notes appear in the order in which the events actually occurred and are listed in the correct order in the notes log. Enter late notes by opening the appropriate tracing segment, scrolling to the appropriate point in the tracing according to the time shown at the top of the tracing, and double-clicking at the point where the note is to be inserted.

If you use the Notes menu to enter a late note, the time used for placing the note in the notes log is calculated from the computer's *current* time setting. If the event the late note is recording took place prior to the change to/from daylight saving time, the time stamp on the late note is correct, and all note data is captured correctly, but the late note may not appear in the correct chronological order in the notes review window.

4.5.1   Cancelling a Discharge

NOTE

You can only cancel the discharge of a local encounter created in a facility you are a member of (at which you are permitted to practice). You cannot use Cancel Discharge to reopen an archived encounter.

NOTE

Cancel Discharge is available to users with an OBIX security level of 5 or higher. If your security level is less than 5 and you need to reopen a patient's encounter, ask your supervisor to perform Cancel Discharge.

NOTE

Local Encounters are encounters that are open, in Pend Discharge, or discharged less than 270 days ago. Archived encounters are encounters that took place in any facility other than the facility the user is currently logged into, or in the current facility but were discharged over 270 days ago.

To reopen a discharged patient's encounter:

1.   Select the patient to put her in focus.

2.   Select **Cancel Discharge** from the **ADT** menu. The Select an Encounter window opens, showing the patient's previous encounters (Figure 4-8).
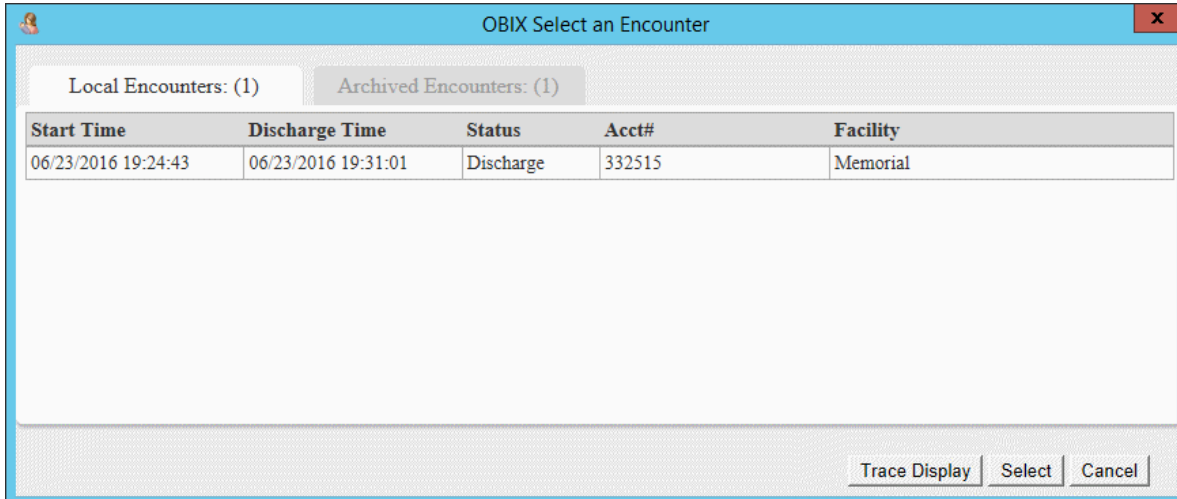
FIGURE 4-8 **OBIX Select an Encounter Window**

3.   Select the **Local Encounters** tab.

4.   Highlight the encounter you want to reopen, then click **Select** (or double-click the encounter). The patient's encounter is selected and a confirmation message appears (Figure 4-9).
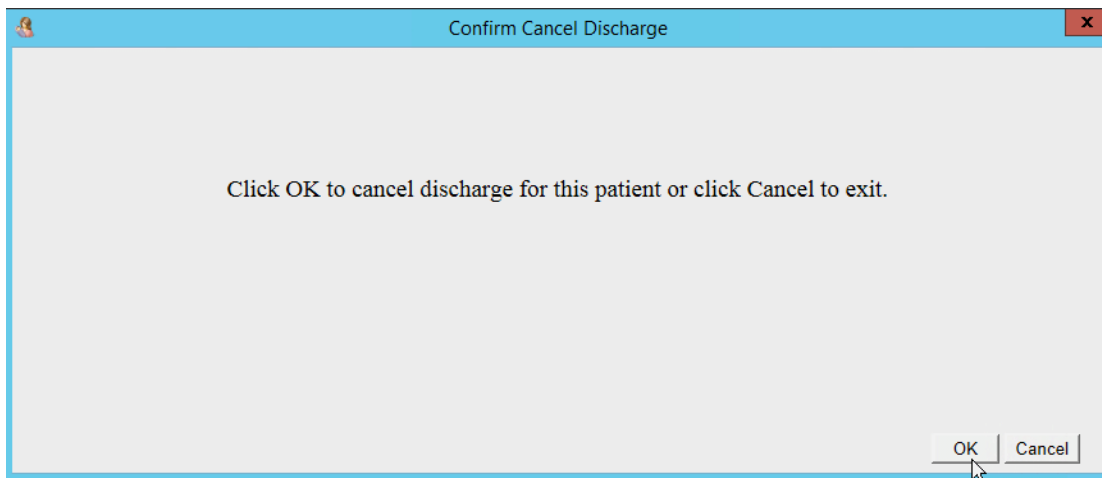
FIGURE 4-9 **Confirm Cancel Discharge Message**

5.   Click **OK** to close the message and cancel the discharge. The message shown in Figure 4-10 appears to indicate that the patient's encounter has been reopened.
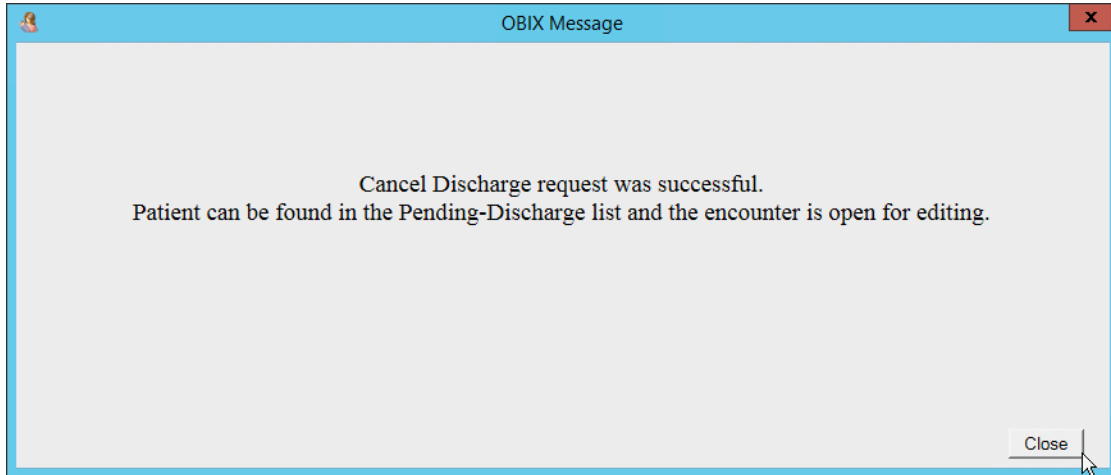
FIGURE 4-10 **Cancel Discharge Successful Message**

NOTE

A note documenting the Cancel Discharge is automatically added to the patient's record, and can be viewed in the complete notes log.

6.   The patient is moved to the **Pending Discharge** list (Figure 4-11) and her selected encounter is opened.
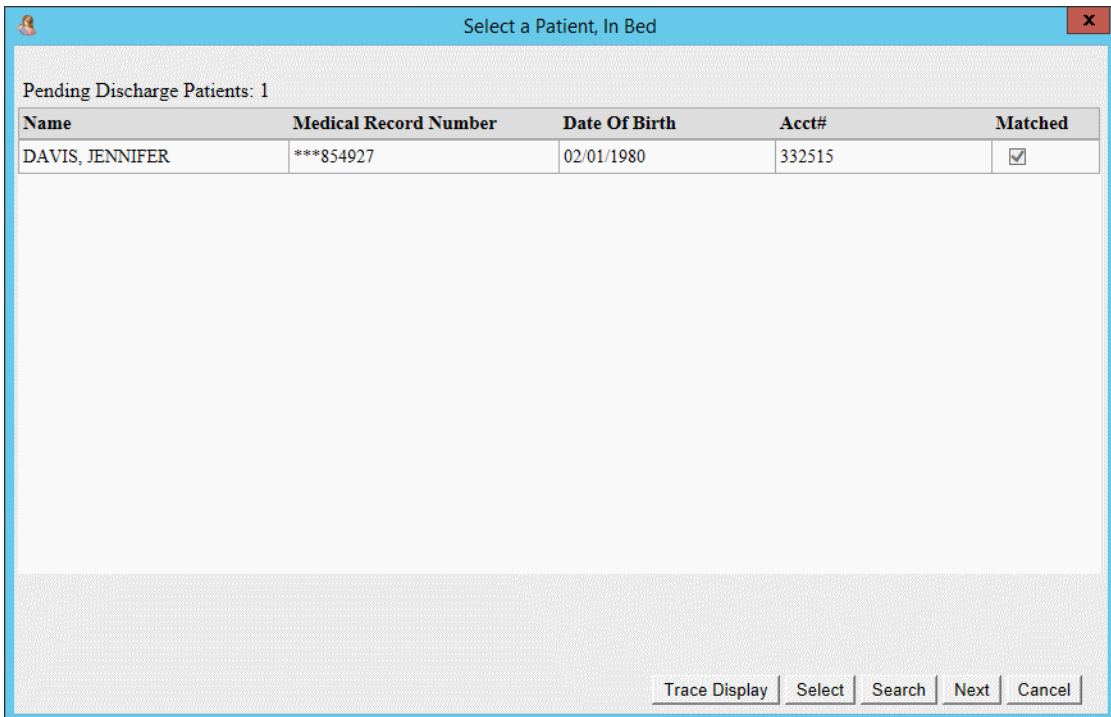
FIGURE 4-11 **Pending Discharge List Example**

7.   Assign the patient to a bed if necessary. It is not necessary to assign a bed if the cancel discharge was done only to edit records.

8. Make the necessary changes to the patient's record.

9. When finished, discharge the patient by selecting **Discharge** from the **ADT** menu. If the patient is not assigned to a bed and you do not discharge the encounter, it is discharged automatically at the end of the pending discharge period.

10. To edit more than one encounter for the selected patient, repeat step 2 through step 9 for each encounter.

4.5.2 Cancel Discharge Scenarios

Patient Discharged in Error

If you accidentally discharge the wrong patient, put the patient's encounter in focus, then select **Cancel Discharge** from the **ADT** menu. When the **Confirm Cancel Discharge** message appears, click **OK**. Click **Close** to acknowledge and close the message box. Click **Assign Bed** on the **ADT** menu to assign the patient to a bed. The **Confirm Cancel Pending Discharge** message appears. Click **OK** and select the appropriate bed to resume the patient's fetal monitor tracing.

Correcting Patient Identity Information

> **NOTE**
>
> **Before manually editing the patient's name, see "Matching a Patient" on page 30 to check whether the correctly-spelled name is already in the system. If she is, match the patient instead of manually editing her name.**

After your unmatched patient **Barbara Brown** is discharged, you learn that the correct spelling of her last name is **Browne**. Check to see if there is a Barbara Browne in the EHR and match the patient to her correct identity. **Barbara Browne'**s encounter is automatically discharged at the end of the pending discharge period.

Late Charting

You want to add a note to your patient's chart, but she has been discharged. To reopen her chart, put the patient's encounter in focus, then select **Cancel Discharge** from the **ADT** menu. The message shown in Figure 4-10 appears. Do one of the following:

- Click **Close** to acknowledge and close the message, select the patient from the **Pending Discharge** list, click **Notes**, select the appropriate note type, adjust the clock back to the correct entry time, and add the late note. When you are finished, discharge the patient.

- If the delivery took place before the Daylight Savings Time change, review the tracing and scroll to the point in the delivery where the note is to be added. Add the note by double-clicking at that point on the tracing to open the Late Notes Entry window. Adding the note using the time shown on the tracing as your guide, rather than entering the time in the Late Notes Entry window, helps ensure that the note is entered at the correct point in the delivery and appears in the proper sequence in the Notes log.

Discharge the patient when you are finished.

4.6   Admit–Discharge–Transfer Interface

The admit-discharge-transfer interface (ADT) enables the hospital-wide information system to manage admit, discharge, and transfer functions using the hospital-wide electronic health record system.

With ADT, admits, bed transfers and discharges occur automatically based on HL7 messages sent by the EHR. When the EHR places a patient in the bed, transfers a patient to a different bed, or discharges a patient, OBIX places the patient in the same bed in the OBIX system provided the patient is matched to the EHR.

CAUTION

It is recommended to always verify that the right patient is in the right bed by selecting In Unit from the Patients menu and reviewing the accuracy of patient bed assignments.

4.6.1   ADT Override

There are workflow situations that cause ADT to no longer automatically perform the actions based on the EHR messages, ultimately causing an increase in the usage of manual ADT functions. In situations where the patients are not moving as expected, the EHR has complete control of which patient should occupy a given bed. If a new patient is admitted to a bed that is already occupied, ADT Override will move the patient that was occupying the bed to the Assessment list and admit the new patient to the bed.

It is recommended to always verify the Assessment list if the patient cannot be located in the In Unit list.

The manual ADT functions in OBIX are supported for emergencies and times when the interface is unavailable.

This page intentionally blank.

5. Alerts Menu

This chapter describes how to use the **Alerts** menu (see Figure 5-1).
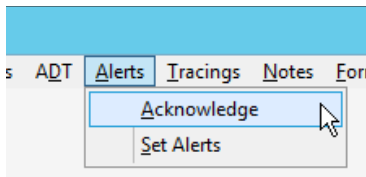
FIGURE 5-1 **Alerts menu**

The Alerts menu enables you to acknowledge alerts and configure the fetal heart rate (FHR) parameters. OBIX alerts clear automatically, without human intervention, if the fetal heart rate returns to and remains within the established limits for at least 5 seconds. Alerts are on by default when a patient is assigned to an OBIX system bed and she is connected to a fetal monitor.

Alerts for all beds are shown on the Surveillance Display and the Status Board. The workstation Bedside EFM Displays show alert status for the selected beds.

The Multi-Patient Alerts feature allows other bed alerts to be viewed from the bedside, enhancing the user's ability to monitor other beds from a patient's room.

> **WARNING**
>
> Audible alerts rely on the speakers being properly attached to the surveillance computer and the volume set appropriately. Muting or unplugging the speakers prevents audible alerts from being heard.

> **WARNING**
>
> For patient safety, do not turn alerts off unless it is clinically appropriate to do so and doing so is compliant with your facility's standards of care. It is recommended that alerts remain on unless the patient is being actively monitored from the bedside by clinical staff or if you are monitoring a nonviable pregnancy.

> **WARNING**
>
> The OBIX system provides fetal and maternal data monitoring and capture capabilities, and is not intended for use as a diagnostic tool or as a substitute for appropriate patient monitoring by the hospital staff.

5.1 Acknowledging an Alert

When you acknowledge an alert, the alert indicator stops flashing and the audible alert is silenced. To acknowledge an alert, do one of the following:

5.1.1 Acknowledging Alerts from the Alerts Menu

1.   : Click **Acknowledge** on the **Alerts** menu. The **OBIX Acknowledge Alert** window appears (Figure 5-2).
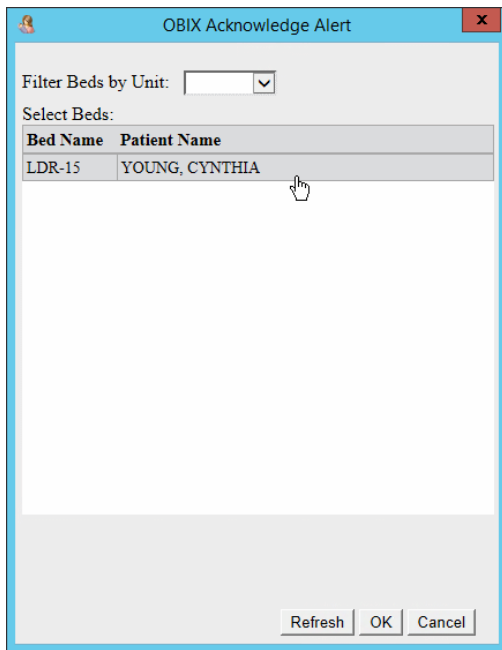
FIGURE 5-2 **OBIX Acknowledge Alert**

2. Use **Filter Beds by Unit** to list only the beds in one unit, if desired.

3. The beds with unacknowledged alerts are displayed. You may select **Refresh** to display the current list of alerting patients.

4. Select the patient whose alert you want to acknowledge, then click **OK** to acknowledge the alert. The audible alert is silenced and the alert indicator stops flashing on the Surveillance Display, the Status Board, and the Bedside EFM Display. A note is automatically entered into the patient's record to indicate when and by whom the alert was acknowledged.

5.1.2   Managing Alerts from the Bedside Surveillance Window

Each bed's alert indicator is shown at all bedsides monitoring that bed in the Bedside Surveillance window. If an alert occurs at a bed other than those you are monitoring in Bedside Surveillance, do the following:

1. Click the red Other Bed(s) Alerting indicator located just above the Bedside Surveillance displays (Figure 5-3). This indicator shows the bed numbers of all beds that have alerts.
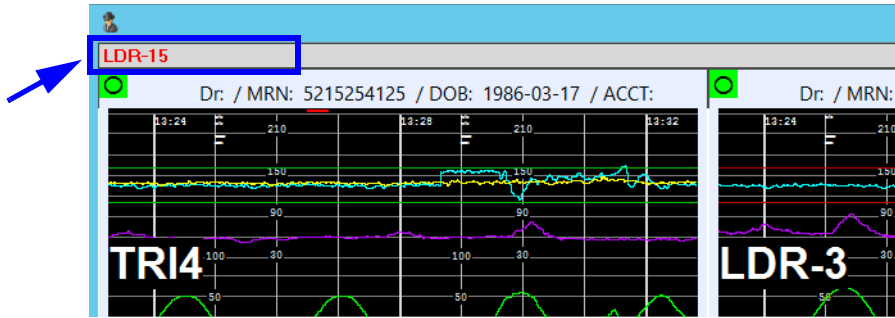
FIGURE 5-3 **Other Beds Alerting Indicator Area**

2. A window listing alerting beds appears (Figure 5-4). Highlight the patient(s) whose traces you want to view in Bedside Surveillance, or click **Select All** to select all alerting beds.
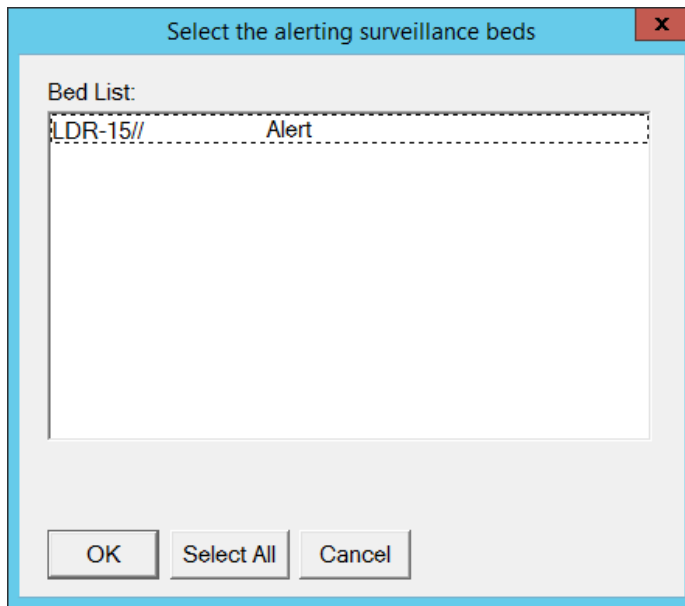
FIGURE 5-4 **Alerting Surveillance Bed Window**

3. Click **OK** to view the traces for the alerting bed(s) in Bedside Surveillance. Bedside Surveillance reconfigures to display the traces for the selected bed(s).

4. Review the patient(s) traces and respond to the alert(s) appropriately.

5. Wen finished, click the bedside surveillance icon to select other beds for monitoring if desired.

5.2   Setting Alert Parameters

> **WARNING**
>
> **Alerts displayed on the OBIX system are configurable. Fetal heart rate alert thresholds must be clinically appropriate and must be set as directed by the facility's standards of care.**

> **NOTE**
>
> **Alert values configured to settings other than the default follow the patient if she is transferred to another room, and do not need to be reconfigured to the non-default values when she is moved to another bed. Alert values for a bed revert to the default settings when the patient is discharged.**

Alerts are configurable for each patient. The default values that trigger an alert are fetal heart rates of:

- 110 bpm or less, measured within a 15-second period, or
- 160 bpm or higher, measured within a 120-second period.

The alert parameter limits for a single fetus are red lines on the bedside surveillance and central surveillance displays. If you change the alert parameters, the positions of the lines change accordingly. Figure 5-5 shows default alert parameter limits for a single gestation (bed **LDR-4**) and a twin gestation (bed **LDR-3**). The default alert parameter limits for twins are red for FHR and green for FHRB, but appear to be green because the fetus 2 lines overlap the fetus 1 lines. If a triplet fetal monitor is used, the alert parameter lines for Fetus C are gold.
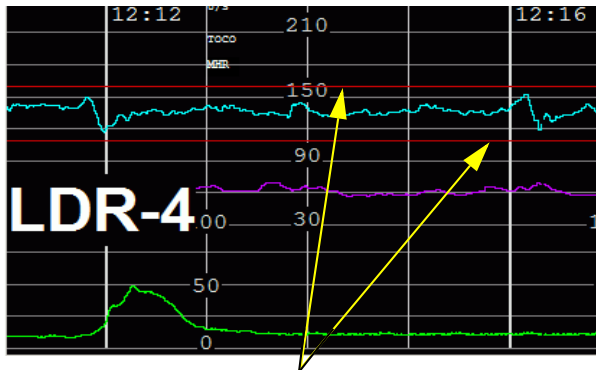
Alert parameter limits (single fetus, default settings)
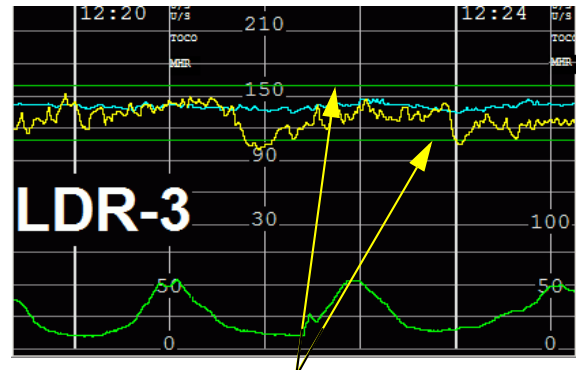
Alert parameter limits: twins
(default setting applies to both tracings)

FIGURE 5-5   **Default Alert Parameter Limits**

Figure 5-6 shows custom alert parameter limits for a triplet gestation. Fetus A displays FHR as a light blue waveform with red parameter lines, green are for Fetus B displays FHR as a golden yellow tracing with green parameter lines, and Fetus C displays an orange waveform for FHR and gold parameter lines.
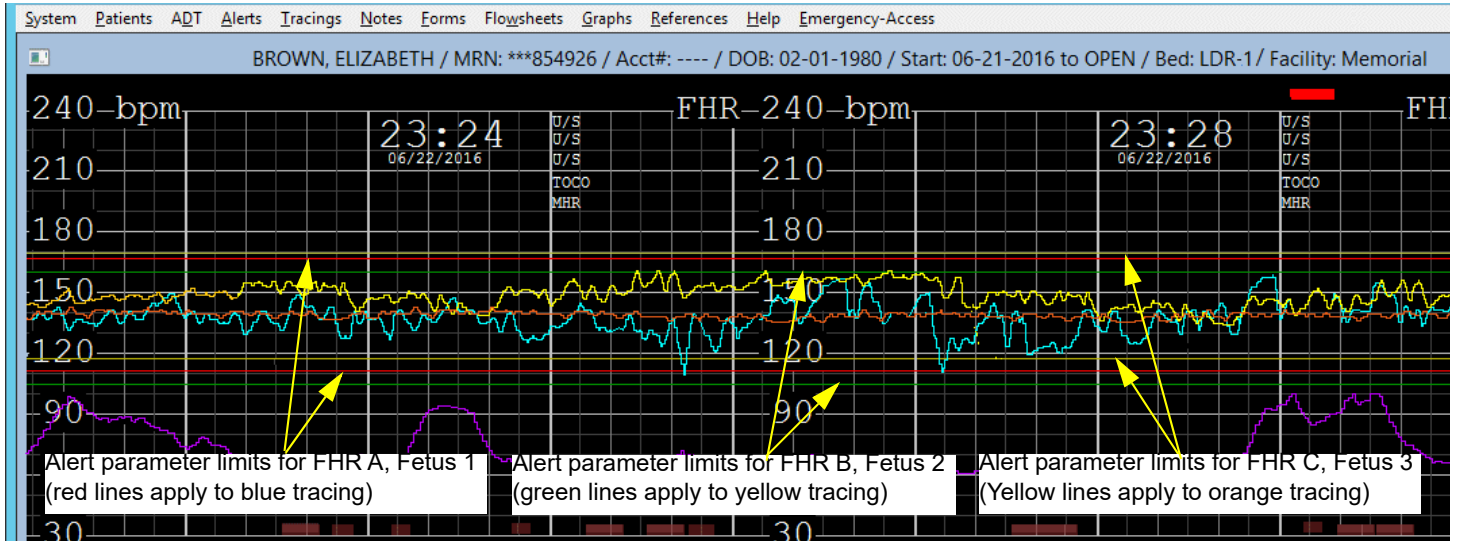
FIGURE 5-6 **Custom Alert Parameter Limits, Triplet Tracing**

To configure alerts for values other than the default FHR range:

1.   Click **Set Alerts** on the **Alerts** menu. The Change Alert Parameters window appears (see Figure 5-7).
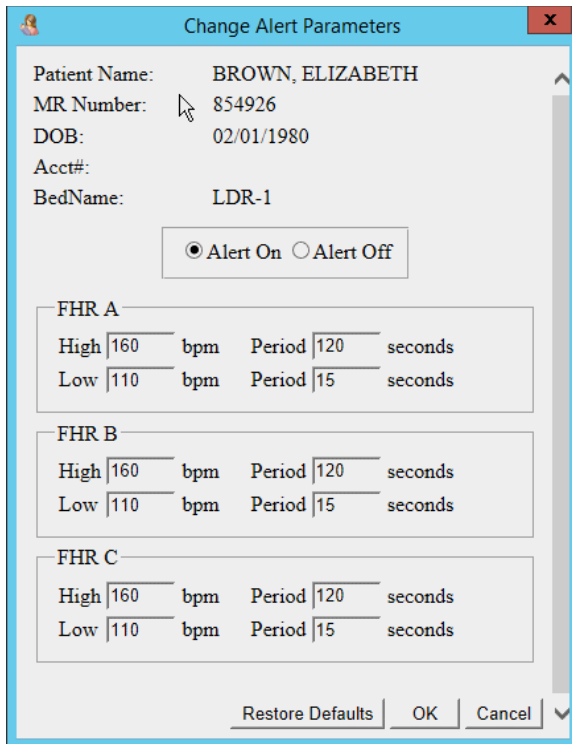
FIGURE 5-7 **Change Alert Parameters**

WARNING

Audible alerts rely on the speakers being properly attached to the surveillance computer and the volume set appropriately. Muting or unplugging the speakers prevents audible alerts from being heard.

> **WARNING**
>
> **For patient safety, do not turn alerts off unless it is clinically appropriate to do so and doing so is compliant with your facility's standards of care. It is recommended that alerts remain on unless the patient is being actively monitored from the bedside by clinical staff or if the pregnancy is nonviable.**
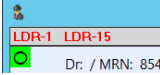
2. To change the **High** fetal heart rate alert parameters for a single fetus, type numbers in the **FHR A** box to set the **High** value (in **bpm**) and the **Period** (in seconds) that the heart rate must exceed to trigger an alert.

    • The range for **FHR High** is 110 to 239 bpm.

    • The range for **Period** is 0 to 120 seconds.

    • You cannot set the **High** value lower than the **Low** value.

3. To change the **Low** fetal heart rate alert parameters, type numbers in the **FHR A** box to set the **Low** value (in bpm) and the **Period** (in seconds) that the heart rate must fall below to trigger an alert.

    • The range for **FHR Low** is 0 to 239 bpm.

    • The range for **Period** is 0 to 120 seconds.

    • You cannot set the **Low** value higher than the **High** value.

4. To turn the alert off, click the **Alert Off** option. When alerts are off, the alert parameter limit lines do not appear on the tracing(s). For multiple gestations, turning alerts off turns them off for all fetuses.

5. To restore the fetal heart rate alert parameters to their default values, click **Restore Defaults**.

6. For a twin gestation, also set the alert parameters for the second fetus in the **FHR B** box of the **Change Alert Parameters** window (see steps 2 and 3 of this procedure).

7. For a triplet gestation, also set the alert parameters for the third fetus in the **FHR C** box of the **Change Alert Parameters** window (see steps 2 and 3 of this procedure).

8. Click **OK** to put the alert parameter changes into effect. The alert indicator for this bed now has a black dot on it to show that the alert parameters are set to values other than the defaults. A note is automatically entered in the patient's record to indicate when and by whom the alert parameters were changed.

5.3   Alert and Fetal Monitor Status Indicators

Table 5-1 describes the indicators that may appear on the Surveillance Display, Status Board, and Bedside EFM Display.

TABLE 5-1 **Alert and Fetal Monitor Status Indicators**

Status Indicator		Description
	Yellow bell	Fetal heart rate alerts are turned off for this bed.
	Green circle	No alerts. Alert parameters are set to default values for this bed.
	Green circle with black dot	No alerts. Alerts are turned on and alert parameters are set to non-default values for this bed.
	Flashing red bell, audible alert at central surveillance	Active unacknowledged alert. Alert parameters are set to default values for this bed.
	Flashing red bell with black dot, audible alert at central surveillance	Active unacknowledged alert. Alert parameters are set to non-default values for this bed.
	Red bell	Acknowledged alert. Alert parameters are set to default values for this bed.
	Red bell with black dot	Acknowledged alert. Alert parameters are set to non-default values for this bed.
LDR-1 LDR-15 Dr: / MRN: 854	One or more red bed names above bedside surveillance displays	An unacknowledged alert(s) is occurring at bed(s) not selected for bedside surveillance displays. The bed name is displayed in red and alternates between bold and regular.
?	Gray box with question mark	Alerts data is being updated.
C	Magenta box with letter **C**	Contractions only. Toco is connected to fetal monitor and OBIX is displaying contractions only.
X	Blue box with letter **X** Monitor Off/ Disconnected	Fetal monitor power is off or there is no communication. There is no audible alert and there is no electronic tracing capture.
U	Orange box with letter **U** Transducers Unplugged	Transducers are unplugged from the fetal monitor. There is no audible alert. If the transducer is plugged in, the OBIX system records and displays tracing data again.
	Gray box VACANT BED	Vacant bed

This page intentionally blank.

6. Tracings Menu and Tools

This chapter describes the components of a tracing, and provides instructions for using the **Tracings** menu (Figure 6-1) and working with tracings.
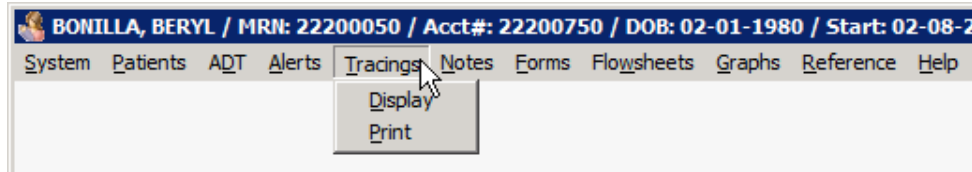
FIGURE 6-1 **Tracings Menu**

> **WARNING**
>
> When a fetal monitor surveillance system is used, the paper fetal monitor strip is intended for patient management, and for backup if interruptions occur during the recording of the electronic tracings. The facility may choose to use the fetal monitor tracing as the legal, long-term medical record if they determine that storage of the fetal monitor tracing is superior to paper storage. However, each fetal monitor tracing must be verified for completeness before relying on it as the permanent medical record. When the fetal monitor tracing is verified as complete, the facility may decide to destroy the paper record.

> **WARNING**
>
> Many printers have an option that scales the printed file to fit the printable area on the paper, which can distort the EFM tracings. If you print tracings from the OBIX system, verify that the printer is set to print at 100% of the original size and that scaling is off. Refer to the printer's documentation for more information.

> **WARNING**
>
> If you suspect there may be a problem with the electronic charting system, run the paper fetal monitor strip as a backup to help ensure that patient records are complete.

6.1   Tracing Components

Tracing segments of an encounter are joined in chronological order. Each segment has a header and footer showing time in 24-hour format, date, and bed name.

Refer to Figure 6-2. This example tracing shows the break that occurred when the patient was moved from bed **LDR-1** to bed **LDR-4** in the labor and delivery unit.

> **NOTE**
>
> **A single electronic tracing segment is limited to a maximum of 107 hours and 30 minutes. If your patient's segment exceeds that limit, it is automatically restarted and joined to the previous segment.**
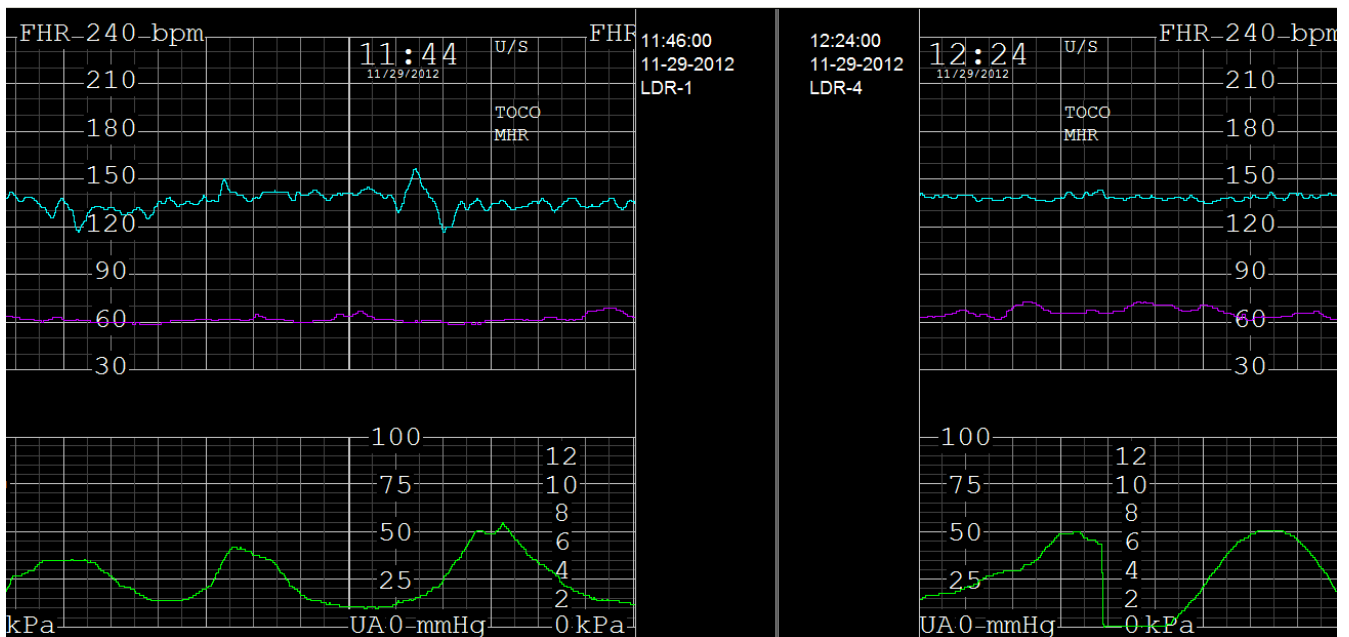
FIGURE 6-2 **Joined Tracing Segments**

FIGURE 6-3 Tracing Components
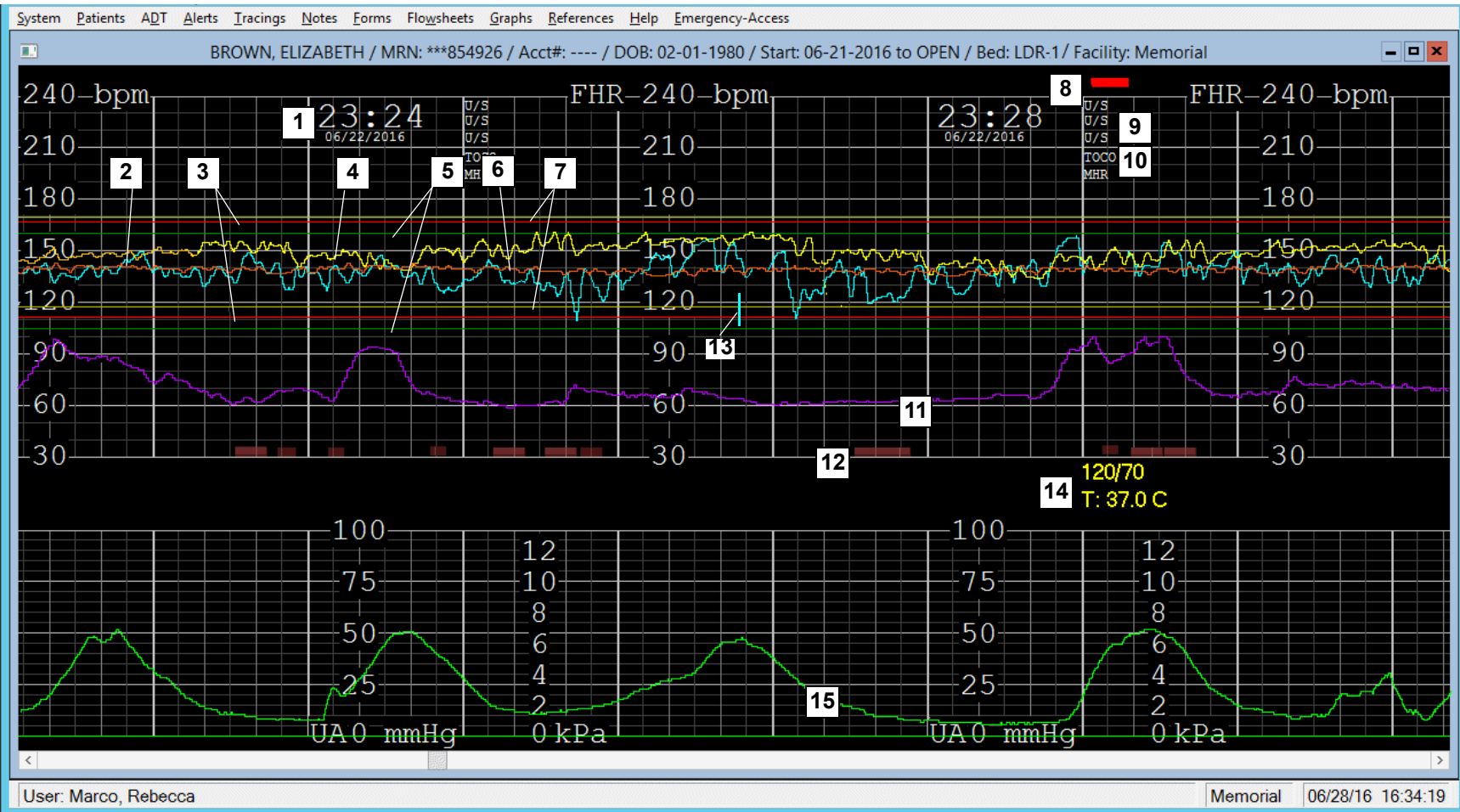
1. Time and date (24-hour format)

2. FHR A: Pale blue tracing, in BPM

3. FHR A alert parameter limits: red lines

4. FHR B: Golden yellow tracing, in BPM (prints in gold)

5. FHR B alert parameter limits: green lines

6. FHR C (triplet EFM only): Orange tracing, in BPM

7. FHR C alert parameter limits: yellow lines (triplet EFM only)

8. Coincidence: Red marks above tracing indicate coincident tracings for multiple fetuses (FHR A and FHR B in this example).

9. FHRA/B/C mode: indicates method of acquiring FHR signal(s): U/S=ultrasound, FECG=fetal electrocardiogram.

NOTE: If viewing traces from OBIX version 6.x or older, the FHR Mode appears on the trace as UNKNOWN. OBIX did not have FHR mode detection capability until version 7.x.

10. Contraction mode: method of acquiring uterine activity

11. Maternal heart rate (MHR) Purple tracing, in BPM

12. Fetal movement profile (FMP) markers: Pink blocks indicate fetal movement automatically detected by the fetal monitor. Location of FMP on OBIX electronic display is dependent on format display setting.

13. Manually entered event marker

14. Annotations (yellow text)

15. Uterine activity (Green tracing, in mmHg and kPa)

6.2   Using the Tracings Menu

The **Tracings** menu enables you to select fetal monitor tracings for displaying, charting, or printing. When a tracing is displayed, right-clicking on it opens a pop-up context menu, which contains tools for evaluating fetal heart rate and uterine contraction information.

> **WARNING**
>
> **To ensure accurate charting, always verify that the correct patient is selected.**

6.2.1   Displaying a Tracing

1.   Click **Display** on the **Tracings** menu. If the patient has an open encounter, it is automatically selected and the tracing is displayed.
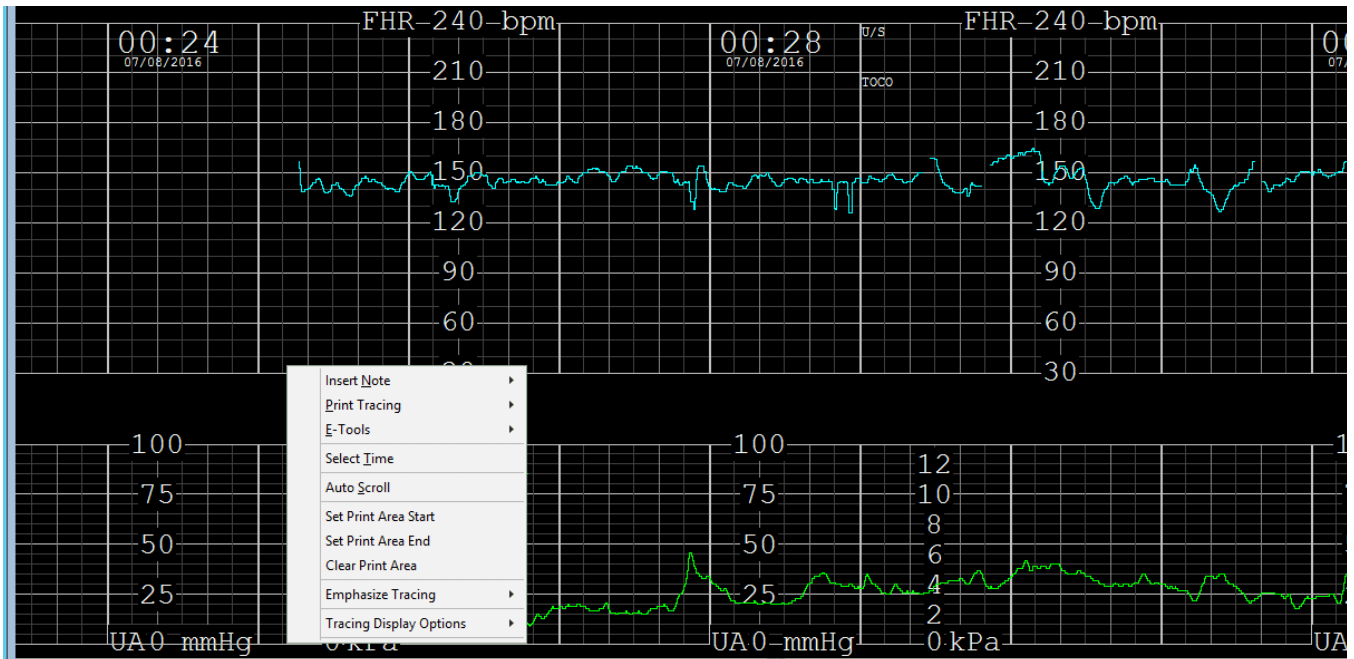
FIGURE 6-4 **Start of Tracing Segment, with Context Menu Showing**
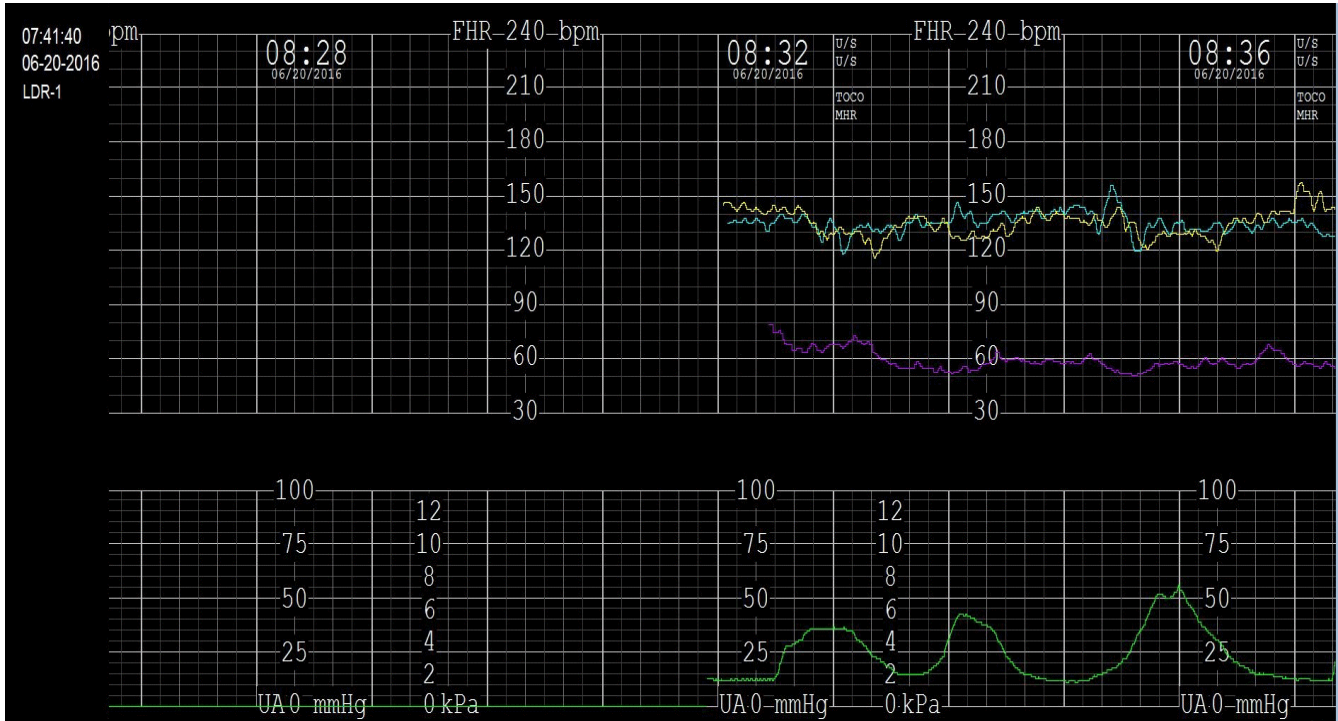
FIGURE 6-5 **Start of Tracing Segment**

2. To display different parts of the EFM tracing, use the:

    •   Scroll bar arrows or slider to move the tracing forward and backward

    •   **Page Up/Page Down** keys to move to the beginning / end of the current tracing segment one screen width at a time

    •   **Home/End** keys to move to the beginning / end of the encounter

    •   Right/left arrow keys to move forward / backward approximately half a minute at a time

    •   **Ctrl+Page Up / Ctrl+Page Down** to move the tracing to the previous / next zippered segment

    •   **Select Time** option on the context menu to specify the date and time you wish to view.
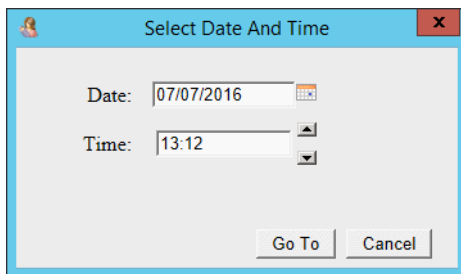
FIGURE 6-6 **Select Time Dialog Box**

3. Use **Auto Scroll** to keep the tracing current. See "Using Auto Scroll to Display a Tracing," page 69.

6.2.2   Printing a Tracing

To print a whole tracing or part of a tracing:

1. Display the tracing you want to print. See "Displaying a Tracing," page 62.

2. To print the entire tracing and associated notes, right-click and select **Print Tracing** from the context menu.

3. To select part of the tracing and associated notes for printing, set the print area markers (see Figure 6-7):

    3.1. Right click on the tracing where you want the print to start. On the context menu that appears, click **Set Print Area Start** to mark the start time with an orange line.

    3.2. Right click on the tracing where you want the print to stop. On the context menu that appears, click **Set Print Area End** to mark the end time with an orange line.

    3.3. Right click on the tracing, select **Print Tracing**, then **Print**.

> **NOTE**
>
> **The area of the tracing between the orange markers is printed, regardless of which marker is set as Print Area Start and Print Area End.**
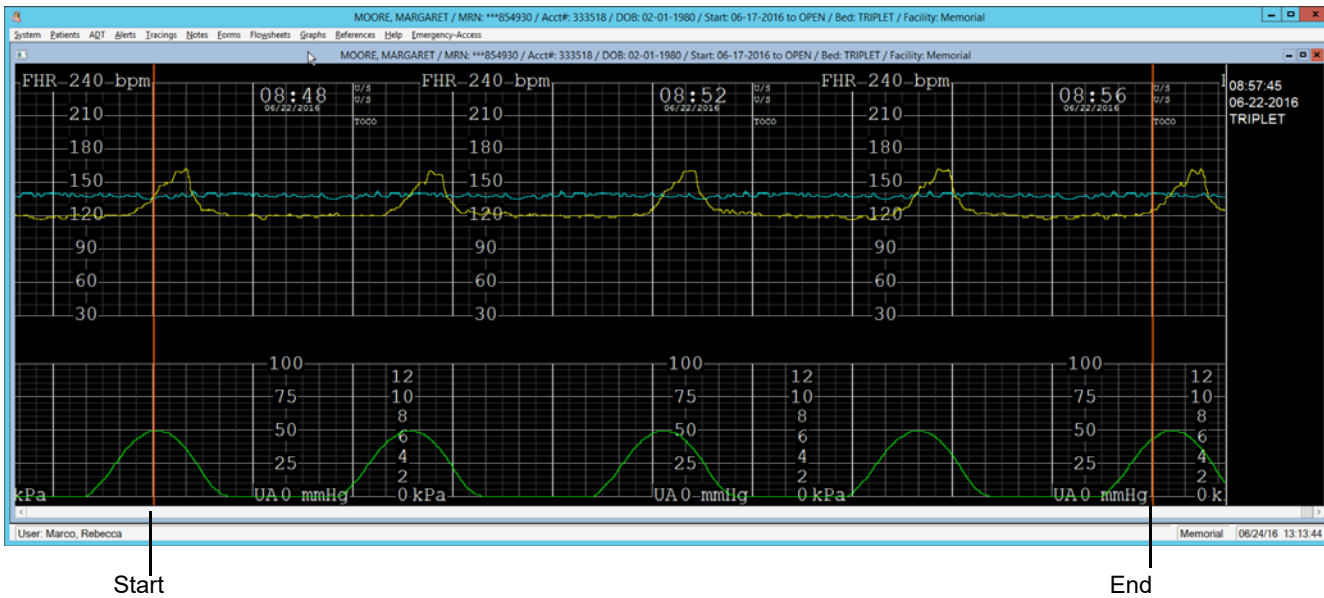
FIGURE 6-7 **Print Area Markers**

4. To select trace print format, do one of the following:

    •   Select **Print** from the **Tracings** menu.

    •   Right-click on the tracing, click **Print Tracing** on the context menu that appears, then select **Print**. The Print Tracing window appears with **Print All** or **Print Area** chosen (Figure 6-8).

5. To clear the Print Area markers, right-click on the tracing, then select **Clear Print Area** from the context menu. Relaunching the trace display also clears the print markers.
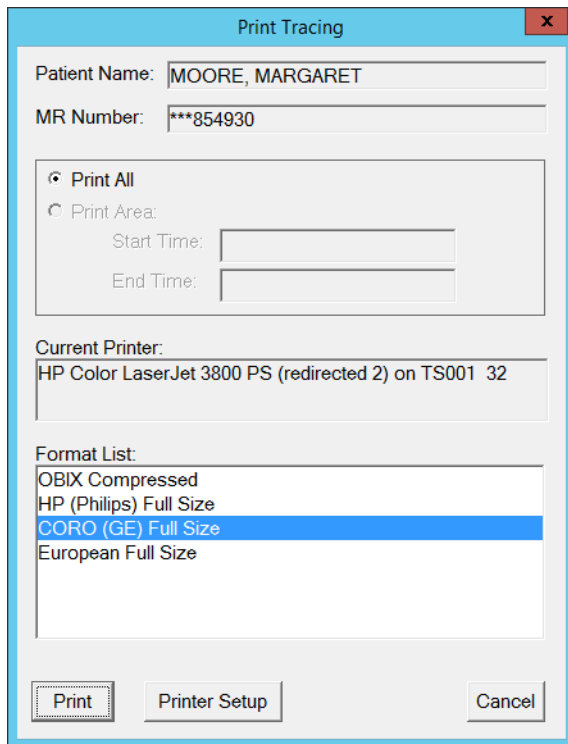
FIGURE 6-8 **Trace Print Format**

6. If necessary, click **Printer Setup** to change printer settings.

7. To print your tracing selection, click to highlight the preferred format, then click **Print,** or double-click the format you prefer.

6.3   Using the Context Menu

Right-click anywhere on the currently displayed tracing to open the context menu (see Figure 6-4). The context menu provides options for adding notes, printing tracings, annotating tracings, and using tools for fetal heart rate and uterine contraction assessment.
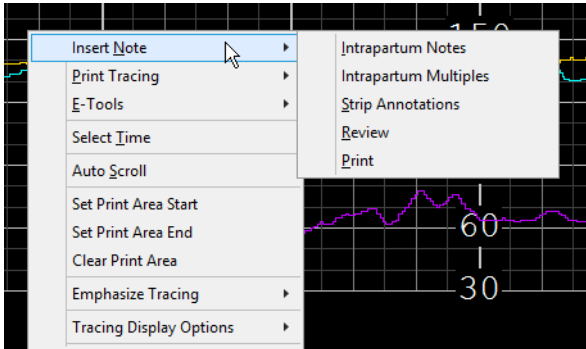
FIGURE 6-9 **Context Menu**

6.3.1   Inserting Notes on the Tracing

With the appropriate optional interface, you can enter notes directly onto the patient's tracing from OBIX, in addition to entering them using the EHR. It is recommended that you enter notes as you evaluate and care for the patient. However, you can also enter late notes on the tracing if you were unable to enter notes as you were providing care.

You can enter late notes anytime during a patient's stay for the current encounter including one hour before the patient was admitted to the OBIX system.

To enter a note from OBIX:

1. Select the patient.

2. Click **Display** on the **Tracings** menu.

3. Scroll to the point on the tracing where you want to insert the note, or use the **Select Time** option on the context menu to specify a time.

4. To insert the note, do one of these:

    • Double-click on the tracing at the time where you want to add the note.

    • Right-click on the tracing at the time where you want to insert the note. When the context menu opens, select **Insert Note** and then select the note type.

The Notes Entry window appears. The Late Notes Entry Time area is highlighted in yellow to remind you that you are entering a late note. The Late Notes Entry Time area defaults to the tracing time you clicked to open the Notes Entry window. Figure 6-10 is an example of a late note entry window.

5. Select the appropriate Category and Keyword for the note, then enter the appropriate documentation.

6. Add the selected documentation. Click **Add** to add the note. Click **Close** to close the Note Entry window when you are finished.
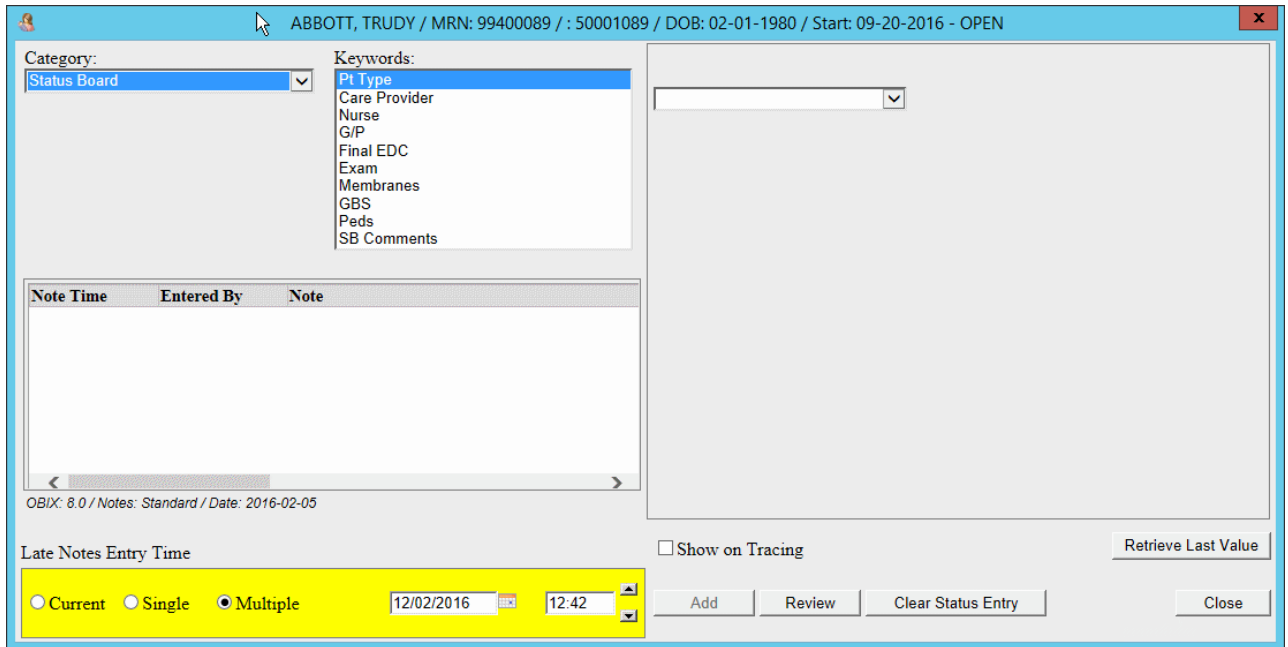
FIGURE 6-10 **Notes Entry Window with Late Note Area Highlighted - Example**

NOTE

If your system has the ASI interface and you attempt to enter a note with the same category/keyword and date and time as an existing note, an error message appears as shown below. Click Close to clear the message.
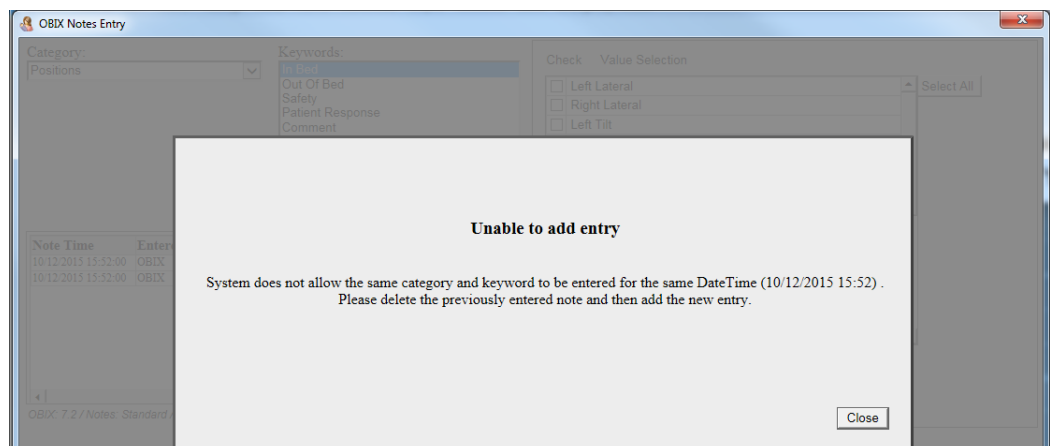
FIGURE 6-11 **Late Note Duplicate Entry Example**

About Strip Annotations

When notes appear on the tracing, they appear truncated to prevent notes from overlapping. To read the complete note from the strip, click within the area between the UA tracing grid and the FHR tracing grid, on or near the condensed note. A pop-up appears, displaying the full content of the note. See Figure 6-12 for an example. Click **Cancel** to close the pop-up. The pop-up closes automatically after 1 minute.

Click within this area to view note pop-up.
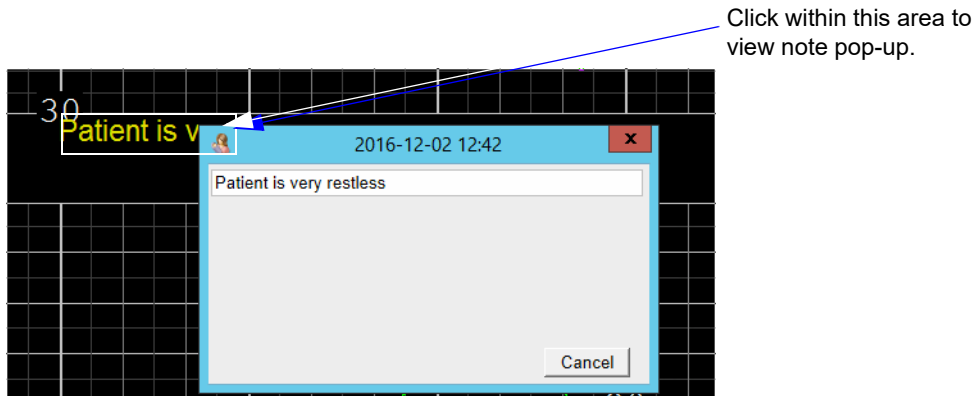
FIGURE 6-12 **Expanded Strip Annotation Example**

6.3.2   Selecting a Specific Tracing Time Period

The **Select Time** menu option lets you view a specific portion of the currently-displayed tracing by specifying its time instead of scrolling to it. To view a section of tracing by specifying date/time:

1.   Right-click on the tracing to view the context menu.

2.   Click **Select Time**. The current time and date are displayed in a pop-up window. (Figure 6-13).
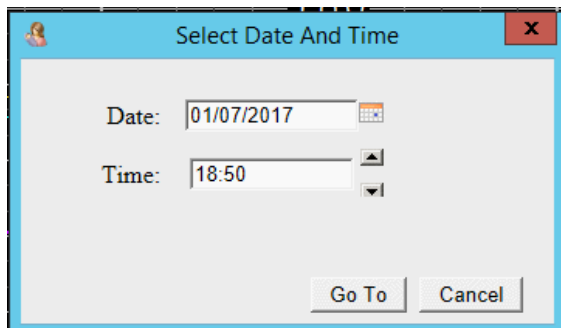
FIGURE 6-13 **Select Tracing Date and Time window**

3.   Use the calendar control to select a different date if appropriate. You can also type a new date in the field.

4.   Use the scroll arrows to select a previous time, or type a time (in the format HHMM) directly into the **Time** field.

5.   Click **Go To** to view the portion of the tracing that occurred at the selected time.

NOTE

If you enter a time in the future, or a time before the trace started, a message appears that provides the trace duration. The selected time must be within the time period displayed in the message. Click Close to clear the message and re-enter a time within the tracing start-to-end time.
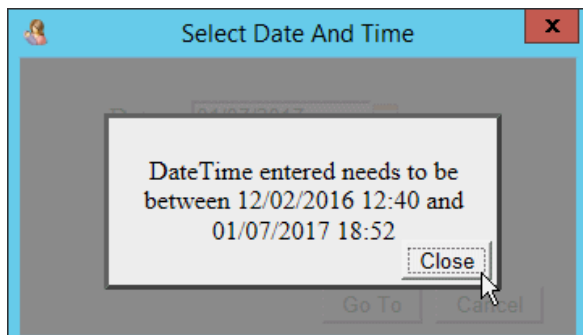
FIGURE 6-14 **Date/Time out of Range Message Example**

6.3.3 Using Auto Scroll to Display a Tracing

The Auto Scroll function automatically scrolls the selected patient's active tracing forward so the most current portion is always displayed. The tracing continues scrolling unless you right-click again or choose another menu item. When Auto Scroll is in effect, the words **AUTO SCROLL** appear to the left of the patient's name at the top of the display. Auto Scroll is on by default.

To stop Auto Scroll if desired, either make a menu selection, or right-click on the tracing. **AUTO SCROLL** no longer appears beside the patient's name on the tracing display.

To restart Auto Scroll for the currently selected tracing:

1. Select the active tracing as described in "Printing a Tracing," page 64.

2. Right-click on the tracing to view the context menu.

3. Click **Auto Scroll.** The encounter starts scrolling so that the most current portion is always displayed.

6.3.4 Emphasizing a Tracing

Emphasize Tracing accentuates the heart rate tracing of fetus 1 (**FHR**), fetus 2 (**FHR2**) or fetus 3 (**FHR3**) of a multiple gestation to enable you to easily see one tracing (see Figure 6-15). **Emphasize Tracing** remains on when **Auto Scroll** is used.

Regular and emphasized versions of a twin fetus tracing are compared in Figure 6-15. The emphasized heart rate appears brighter; the heart rate with no emphasis is dimmed.

| No emphasis | FHR emphasized | FHR2 emphasized |
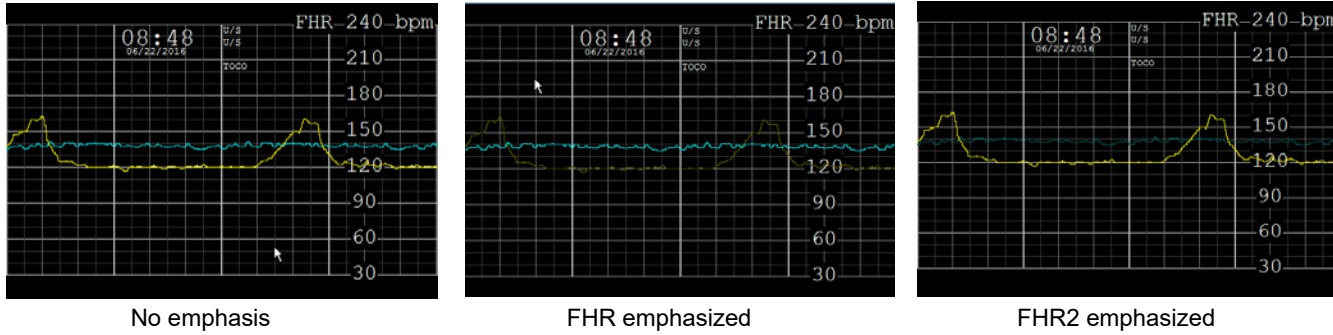
FIGURE 6-15 **Regular and Emphasized Versions of a Tracing**

To emphasize a fetal heart rate tracing:

1. Right-click on the tracing to display the context menu.

2. Click **Emphasize Tracing** and make a selection:

    • **FHR** to emphasize the blue fetus 1 tracing

    • **FHR2** to emphasize the yellow fetus 2 tracing

    • **FHR3** to emphasize the fetus 3 tracing for a triplet delivery

3. The selected tracing is emphasized and a check mark appears next to your selection on the **Emphasize Tracing** submenu.

4. To de-emphasize a tracing, select **None** from the **Emphasize Tracing** submenu. The tracing is no longer emphasized and a check mark appears beside **None** on the submenu.

6.3.5 Tracing Display Options

The Tracing Display Options are **Artifact Filtering** and **Format** (see Figure 6-16).
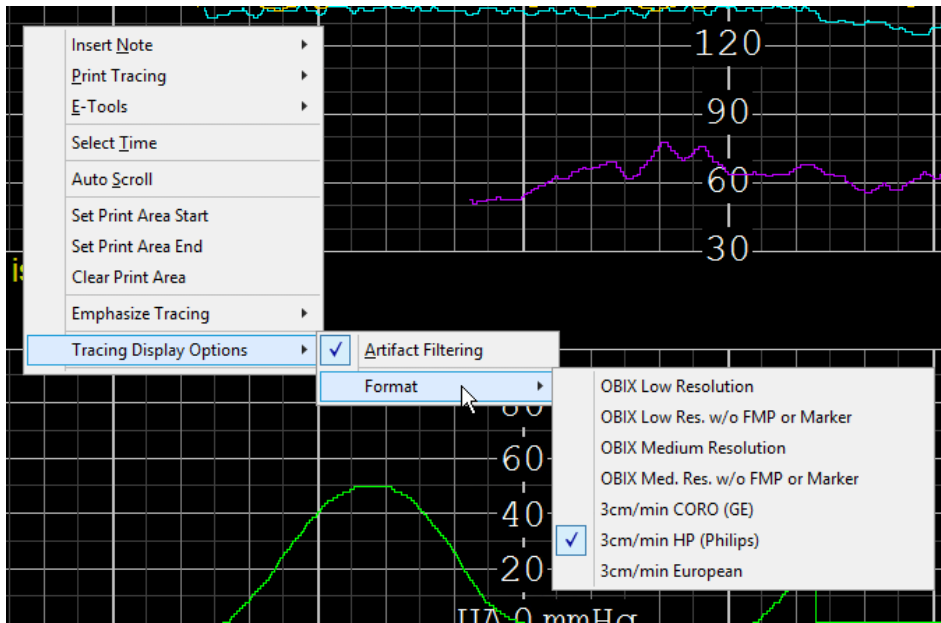
FIGURE 6-16 **Tracing Display Options**

Artifact Filtering

> **WARNING**
>
> **Artifact Filtering can mask fetal heart arrhythmia.**

Artifact Filtering enables you to turn fetal heart rate artifact filtering on or off. When you open a tracing for review, Artifact Filtering is on so that fetal heart rate artifacts are not visible (see Figure 6-17).
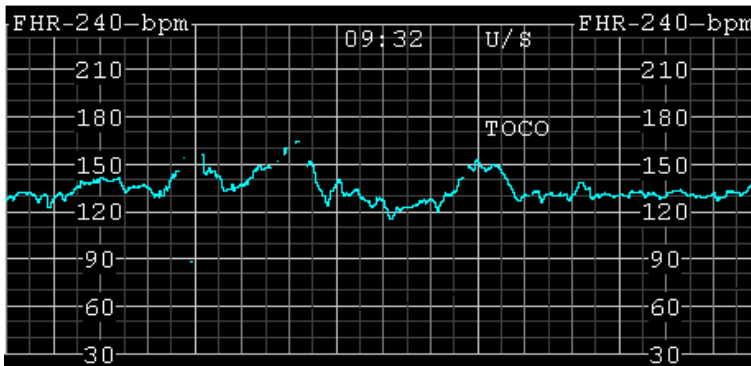
FIGURE 6-17 **Artifact Filtering On**

NOTE

Artifact Filtering is automatically turned off (artifacts are not suppressed) on the surveillance display when the fetus is monitored using DECG.

To turn Artifact Filtering off so that artifacts are visible:

1. Right-click on the tracing to display the context menu.

2. Click **Tracing Display Options** then click **Artifact Filtering**. The check mark next to **Artifact Filtering** is removed to indicate it is off, and fetal heart rate artifacts are displayed on the tracing (see Figure 6-18).

   If the clinical situation warrants a continuous view of the tracing with Artifact Filtering off, invoke **Auto Scroll** for a continuous display of the tracing with artifacts visible. See "Using Auto Scroll to Display a Tracing," page 69.
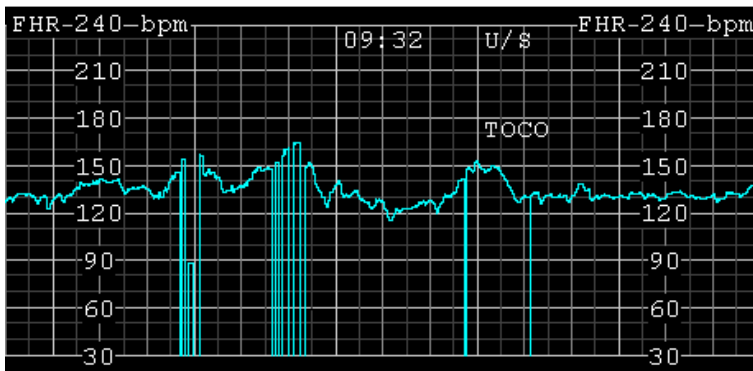
FIGURE 6-18 **Artifact Filtering Off**

To turn Artifact Filtering on so that artifacts are not visible:

1. Right-click on the tracing to display the **context** menu.

2. Click **Tracing Display Options** then click **Artifact Filtering**. A check mark appears beside **Artifact Filtering** to indicate it is on, and fetal heart rate artifacts are not displayed on the tracing (see Figure 6-17).

Format

Format affects only the trace review display and printouts, not the appearance of the Bedside EFM Display or Central Surveillance. Format changes are applied only to the tracing being reviewed.

To change the tracing format:

1. Right-click on the tracing to display the context menu.

2. Click **Tracing Display Options** then click **Format** to open the submenu. A check mark indicates the current format. The choices are:
   • OBIX Low Resolution
   • OBIX Low Res. w/o FMP or Marker

- OBIX Medium Resolution

- OBIX Med. Res. w/o FMP or Marker

- 3 cm/min CORO (GE)

- 3 cm/min HP (Philips)

- 3 cm/min European

3.   Highlight the desired format, then click **OK**. A check mark appears next to the format you selected.

6.4   Using Fetal Heart Rate Tools

The OBIX system E-Tools for electronic fetal monitoring (**E-Tools for EFM**) enable a clinician to assess fetal heart rate baseline, variability, acceleration, and deceleration. Access the FHR Tools from the context menu (see Figure 6-19).
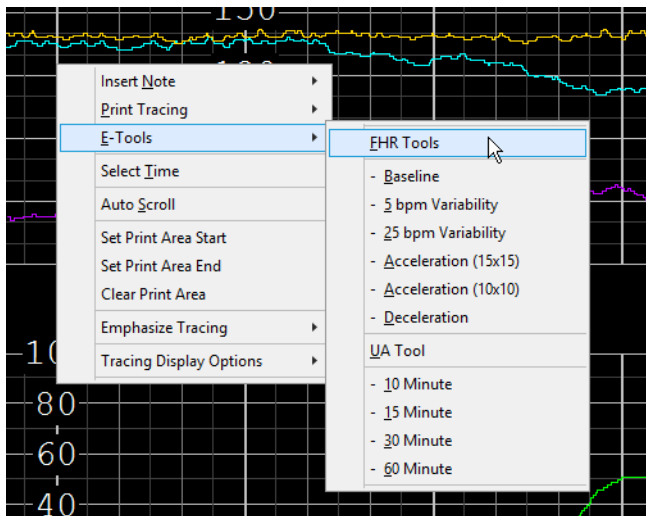
FIGURE 6-19 **FHR Tools Sub-menu**

WARNING

The OBIX E-Tools are adjuncts to clinical judgment and are not designed nor intended to substitute for clinical decision-making.

6.4.1   Baseline Tool

The Baseline tool is a horizontal red line that the clinician places over the FHR tracing to help assess baseline.

To use the Baseline tool:

1.   Right-click on the tracing review area, click **E-Tools** on the context menu, then click **Baseline** on the **FHR Tools** sub-menu. A red horizontal line appears on the screen as shown in Figure 6-20.

FIGURE 6-20 **Baseline Tool**

2. Use the crossbar to position the red line over the top of the fetal heart rate that you recognize as the baseline. The FHR baseline appears in the upper left corner of the tracing display. The FHR is displayed in increments of 5 BPM. The baseline tool scrolls up and down with the movement of the ruler.

6.4.2   5 BPM Variability Tool

The **5 BPM Variability** tool is a magenta horizontal line, 60 seconds wide and 5 BPM high.

To use the **5 BPM Variability** tool:

1. Right-click on the tracing review area, click **E-Tools** on the context menu, then click **5 BPM Variability** on the **FHR Tools** sub-menu. A magenta horizontal line that is 60 seconds wide and 5 BPM high appears on the screen, as shown in Figure 6-21.
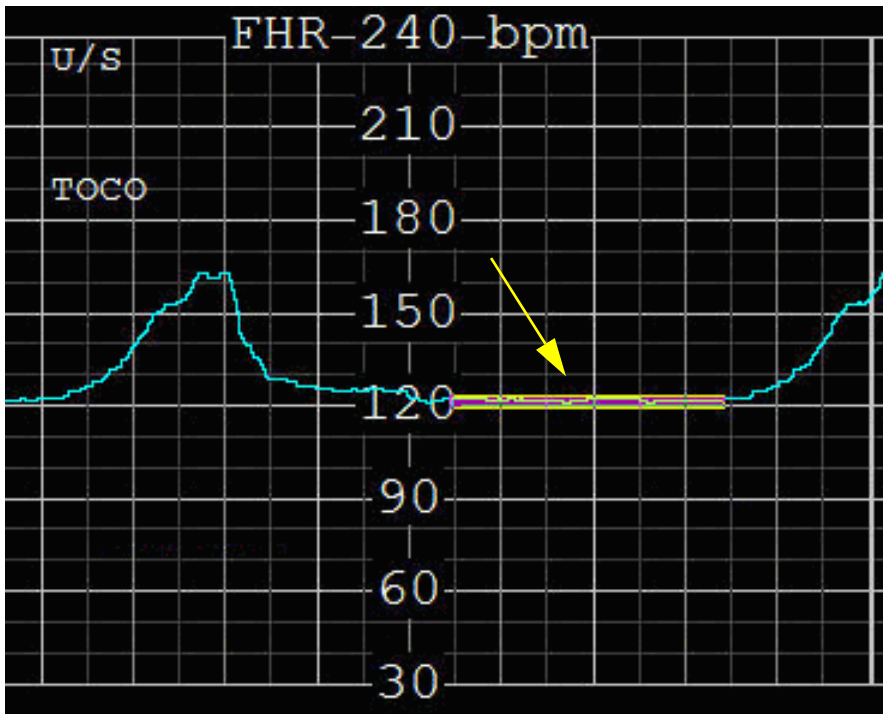
FIGURE 6-21 **5 BPM Variability Tool**

2. Use the crossbar to position the tool over the top of the FHR tracing to assess the baseline variability.

6.4.3　25 BPM Variability Tool

The 25 BPM Variability tool is a magenta horizontal line, 60 seconds wide and 25 BPM high.

To use the 25 BPM Variability tool:

1. Right-click on the tracing review area, click **E-Tools** on the context menu, then click **25 BPM Variability** on the **FHR Tools** sub-menu. A magenta horizontal line that is 60 seconds wide and 25 BPM high appears on the screen, as shown in Figure 6-22.
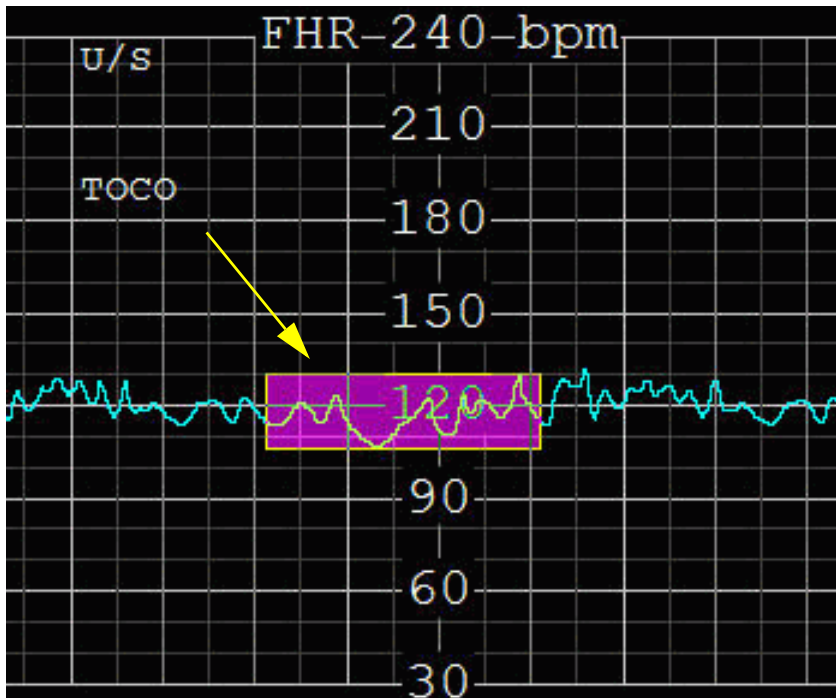
FIGURE 6-22 **25 BPM Variability Tool**

2. Use the crossbar to position the tool over the top of the FHR tracing to assess the baseline variability.

6.4.4   Acceleration Tools

The acceleration tools are horizontal lines with equilateral triangles that correspond to the acceleration definitions for gestations of less than 32 weeks, and gestations of 32 weeks and greater.

For gestations less than 32 weeks, use the **Acceleration (10 x 10)** tool (Figure 6-23). This tool has a horizontal magenta line with an equilateral triangle that is 10 BPM high and 10 seconds wide.
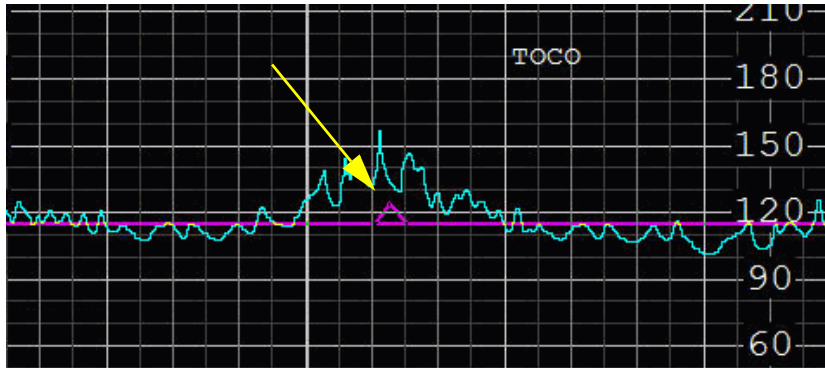
FIGURE 6-23 **Acceleration (10 x 10) Tool**

For gestations of 32 weeks and greater, use the **Acceleration (15 x 15)** tool (Figure 6-24). This tool has a horizontal red line with an equilateral triangle that is 15 BPM high and 15 seconds wide.
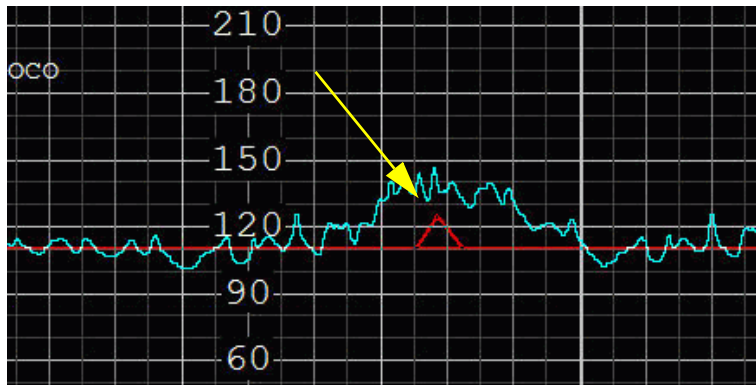
FIGURE 6-24 **Acceleration (15 x 15) Tool**

To use the acceleration tools:

1.   Right-click on the tracing display to display the context menu.

2.   Click **E-Tools** on the context menu. Depending on gestational age, click **Acceleration (15 x 15)** or **Acceleration (10 x 10)** on the **FHR Tools** sub-menu.

3.   Use the crossbar to position the tool over the FHR baseline.

4.   The FHR baseline appears in the upper left corner. Slide the triangle along the fixed baseline to the acceleration being evaluated.

6.4.5   Deceleration Tool

The **Deceleration** tool assists clinicians in evaluating the onset, nadir, and offset of decelerations as they relate to the onset, peak, and offset of uterine contractions.

To use the tool:

1. Right-click on the tracing display to view the context menu.

2. Click **E-Tools** on the context menu, then click **Deceleration** on the **FHR Tools** sub-menu. The Deceleration tool is displayed as shown in Figure 6-25.

FIGURE 6-25 **Deceleration Tool**

3. Place the white crossbar on the starting point of the deceleration. Determine the duration of the deceleration.

6.5   Using Uterine Activity Tool

WARNING

The OBIX E-Tools are adjuncts to clinical judgment and are not designed nor intended to substitute for clinical decision-making.

6.5.1   Description

The Uterine Activity (UA) Tool is intended to support clinicians during the assessment of uterine activity during intrapartum labor. The tool provides key information to help clinicians evaluate uterine activity at the bedside. The tool is an adjunct to individual clinical judgment, allowing the clinician to confirm bedside assessments. The UA Tool does the following:

- Displays uterine contraction average frequency for a user-selectable 10, 15, 30, or 60 minute tracing segment.

- For patients monitored using a toco, provides selection lists that allow clinicians to enter values for contraction intensity and resting tone.

- Displays uterine contraction intensity, duration, and resting tone when an intrauterine pressure catheter (IUPC) is in place.

- Calculates relaxation time (average number of seconds between contractions) for the selected segment. Relaxation time is displayed on the screen as **Relax time** and is a configurable option.

- Calculates Montevideo units (MVUs) when an IUPC is the source of contraction data according to AWHONN, (2005) Fetal Heart Monitoring Principles & Practices, 3rd Ed. 98-102. MVUs are not calculated if a toco is the source of contraction data.

- Allows the clinician to add, reposition, or remove contractions if UA Tool display does not match clinician's visual assessment.

- Allows a clinician with security level 5 or higher to confirm UA Tool evaluation results or contraction modifications and add UA information from the UA Tool to notes and flowsheets.

- Allows clinicians to utilize the UA Tool on active traces or on traces archived within the past 270 days.

NOTE

Notes entered using the UA Tool will be documented in the EHR if the hospital has the Annotation Sync Interface (ASI).

The UA Tool opens in a separate window displayed on top of the tracing area (). Its title bar contains the patient's information and the segment range selected. The UA Tool displays contraction data for the segment range selected. An example is shown in the following figure.
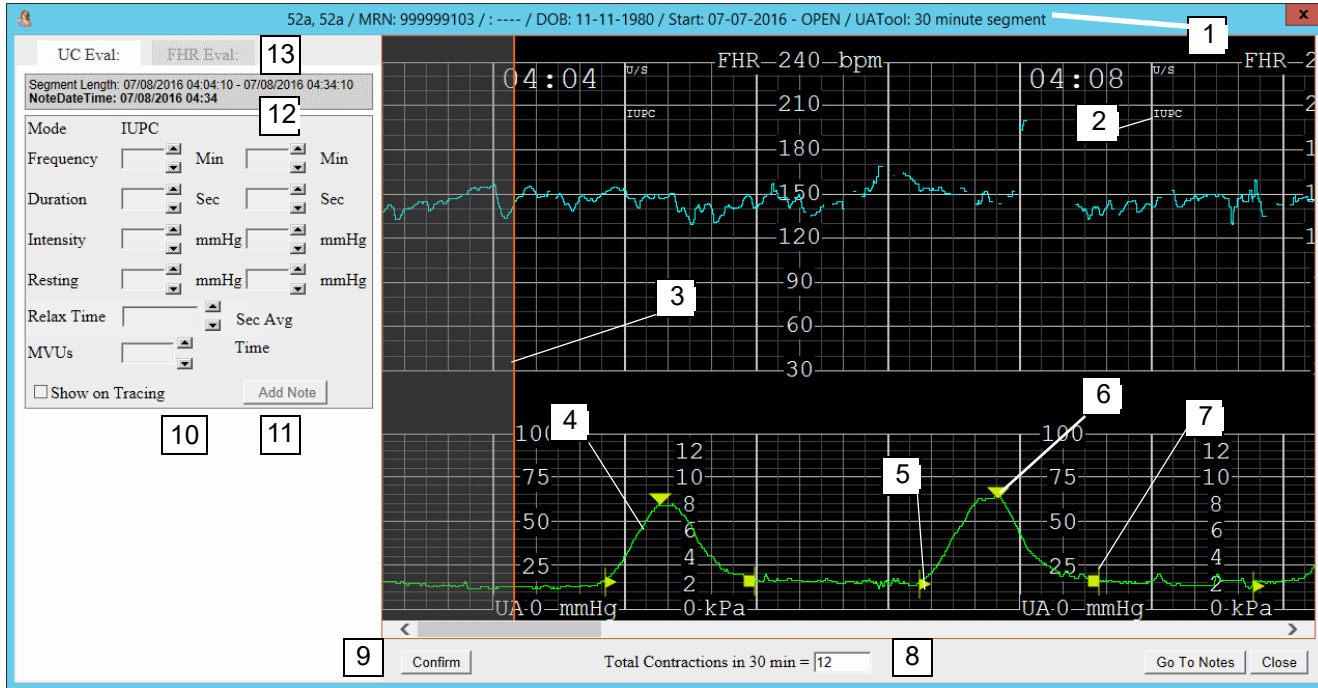
1. Segment length selected for UA Tool
2. Contraction mode: method of acquiring uterine activity (TOCO or IUPC)
3. Start of Evaluation Period (orange vertical line)
4. Uterine activity (Green tracing, in mmHg and kPa)
5. Contraction Start Marker
6. Contraction Peak Marker
7. Contraction End Marker
8. Calculated Contractions
9. **Confirm** Button
10. UC Evaluation Note Entry Area
11. **Add Note** button
12. Segment Length Date/Time and Note Entry Date/Time
13. FHR Evaluation Notes Tab

FIGURE 6-26 **UA Tool Example: IUPC Input**

NOTE

The UA Tool window cannot be minimized.

The start, peak, and end of contractions are automatically identified with symbols as shown in the example of for the selected segment range. The UA Tool has the following features:

- Clinicians can reposition the contraction markers based on their clinical judgment if deemed necessary.

- Clinicians can add or remove a contraction indication if they deem it clinically appropriate.

- A toco or an IUPC can be used as the contraction data input. Montevideo Unit (MVU) calculations are available with IUPC only. The sensor in use (TOCO or IUPC) is displayed in the Mode field on the left side of the UA window.

- When an IUPC is used, OBIX can calculate the MVUs based on the location of the markers. The clinician can specify the 10-minute window for MVU calculation when assessing a trace segment using the UA Tool.

NOTE

Notes added using the UA tool have a note entry time coinciding with the end of the selected UA Tool segment. For example, if you select a 30-minute UA Tool segment starting at 10:00, and start MVU calculation at 10:05, the entry time for the UC evaluation note with MVU calculation will be 10:30, the end time of the 30-minute trace segment, not 10:15, the end of the 10-minute MVU calculation period. Therefore, if you require the note entry time to more closely match the MVU calculation period, it is recommended to select a shorter UA Tool segment.

- The user can confirm and document the UA assessment and calculated MVU. Upon confirmation, OBIX uses the contraction data within the segment to calculate frequency, duration, intensity, resting, relaxation time (when configured), and MVUs (if IUPC is used). At least one contraction must exist within the selected segment. The data automatically populates the appropriate UC Eval Notes Entry fields in the UA Tool window. Partial contractions or contractions outside the segment range are not included in calculations.

- The UC Eval Notes Entry area becomes enabled, allowing the clinician to add intensity and resting information for toco patients, If the hospital has the Annotation Sync Interface (ASI), users can directly document the results from the OBIX system into the EHR. Without the ASI, EHR users may manually enter results shown in the UA Tool into the EHR system.

- The clinician can close the UA Tool by clicking the **Close** button. Selecting another range option from Patient Manager also closes the UA Tool and opens the new selected segment range. Unsaved notes will be lost.

- Selecting another patient or encounter closes the UA Tool window. Unsaved notes will be lost.

6.5.2   UA Tool Navigation

The following keyboard keys may be used to navigate the UA Tool window:

•   **Right Arrow**: advances the trace to the right by 1 scroll step

•   **Left Arrow**: advances the trace to the left by 1 scroll step

•   **Page Down**: advances the trace one screen forward.

•   **Page Up**: advances the trace one screen back

•   **End**: moves to the end of the tracing.

•   **Home**: moves to the start of the tracing.

If the trace is not long enough for the chosen UA Tool segment range, a message appears and the UA Tool window is dimmed. If the chosen segment range was greater than 10 minutes, then the tool checks whether the trace is long enough for the next shorter time segment. If it is, then two buttons are displayed. For example, if the user selected 60 minutes but the trace is only 42 minutes long, the button shows **30 Min segment**.

6.5.3   Using the UA Tool

To use the UA Tool for evaluating uterine activity:

1.   Select a patient and view the desired trace segment time period.

2.   Right-click the trace display at the desired starting point for the UC Evaluation Segment. The starting point must be at least 3 minutes after the start of the tracing. The selected time period will include one minute before and one minute after the trace segment to be evaluated.

3.   From the context menu, select **E-Tools, UA Tool,** and the desired trace segment time period to review (10, 15, 30 or 60 minutes). If the trace duration is not long enough for the time period selected, a message is displayed allowing selection of a shorter time period, otherwise, the UA Tool window is displayed, with contractions identified by yellow markers.

   •   The UA Tool window title bar shows patient information, trace start time, and segment length selected for review. Segments that extend past the viewable area require scrolling to see the end line. For shorter segments, the end line is visible without scrolling.

   •   The UA Tool window automatically includes one minute preceding the user-selected segment start time and one minute following the calculated segment end time. For example, if the user selects a 10-minute segment beginning at 8:30 AM, 12 minutes of tracing, beginning at 8:29 AM and ending at 8:41 AM will be accessible in the UA Tool window.

   •   After selecting a segment, you cannot change the segment range within the UA Tool. To select a different segment section or length, click **Close** to close the UA Tool and repeat step 3 to select a different segment.

   •   If IUPC is the sensor input, select a segment range for a trace segment with Mode = IUPC. This allows MVUs to be calculated. **This option is not available if a toco is being used.** If the selected starting time for the 10-minute MVU calculation period is the middle of a contraction, the start line moves to the start of the contraction.

4. Evaluate the uterine activity tracing.

    •   The start of a contraction is indicated by a triangle pointing to the right.

    •   The peak of the contraction is indicated by a downward-pointing triangle.

    •   A square indicates the end of each contraction.

    •   If only one or two symbols indicating a contraction are inside the selected time segment, the contraction will not be counted as part of the total count in the segment, and a **+** symbol will appear beside the total count.

5. Adjust the markers if your clinical judgment indicates that the contraction designations need adjustment:

    •   **To remove a contraction** designation that does not meet your clinical criteria, right-click on a marker for that contraction, then select **Remove** from the pop-up menu (Figure 6-27). The start, middle, and end markers are deleted and will not be included in calculations.
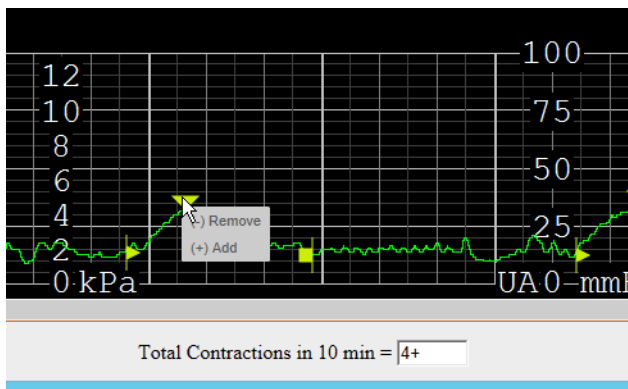
FIGURE 6-27 **Removing Contraction Designations**

    •   **To adjust marker position,** place the cursor on a marker, hold down the pointing device to select the marker, and drag it to the position you believe to be clinically appropriate (Figure 6-28). Repositioned symbols change from yellow to gold. You cannot move a symbol beyond the symbols adjacent to it. For example, you cannot move the start marker for a contraction to occur later than its peak marker.
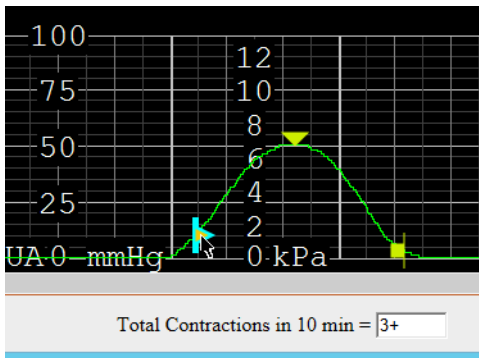
FIGURE 6-28 **Repositioning Contraction Markers**

NOTE

To add contraction markers, there must be at least 20 seconds of space between other contraction markers, and the contraction peak cannot be placed within 10 seconds of an existing start or end marker. An error message is displayed if you try to add contraction markers where there is not enough room.

- **To add contraction designations,** place the cursor approximately where you want to designate the peak of the unmarked contraction. Right-click and select **Add** from the pop-up menu. A set of three red markers is added to the tracing, and the number of contractions increments by 1 (Figure 6-29). Use the cursor to drag the start, peak, and end markers to the appropriate locations on the uterine tracing, based on your clinical judgment (Figure 6-30). The added markers cannot overlap any other markers on the tracing.
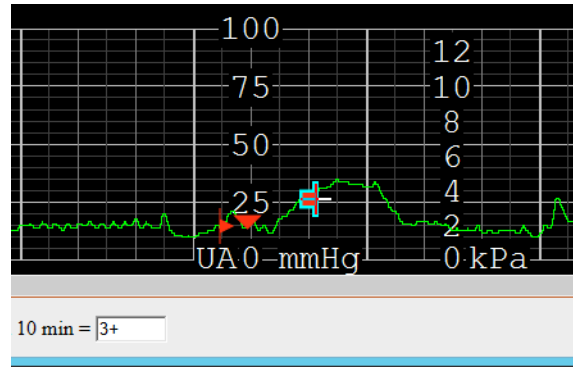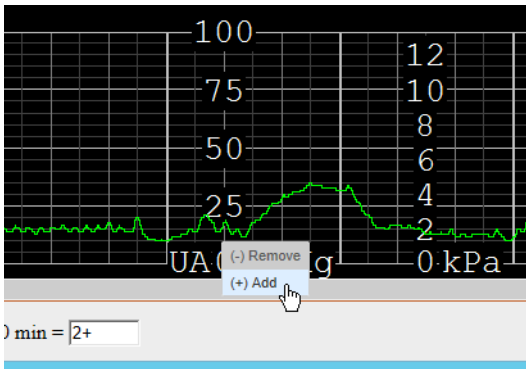
FIGURE 6-29 **Adding a Contraction Designation**
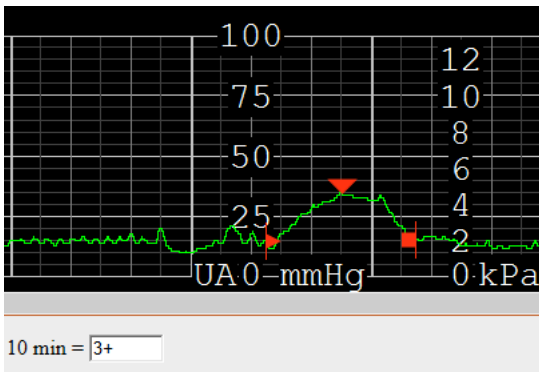
FIGURE 6-30 **Adding a Contraction Designation: Adjusting Marker Position**

NOTE

If only 2 out of 3 symbols indicating start, peak, and end of a contraction are within the selected segment range, the number of contractions is shown as with a plus (+) symbol to indicate a partial contraction.

6. **For IUPC trace segments only** (Figure 6-31): To calculate MVUs, you must specify the start of the 10-minute MVU calculation period.

   • If the entire UA segment time is 10 minutes, the MVU segment is selected automatically. The **Start MVUs Calc** context menu option is not available for a 10-minute UA segment.

   • If a 15, 30, or 60-minute UA Tool segment was selected, place the cursor at the desired start position for the 10-minute MVUs calculation, right-click on the tracing, and select **Start MVUs Calc** option from the context menu. A blue Start line appears (Figure 6-31).

   • Only full contractions within the 10-minute MVU time range are used in MVU calculation. If the user-selected MVU start time is in the middle of a contraction, OBIX automatically moves the blue line to the start of the next contraction. You can reset the 10-minute MVU calculation window by right-clicking on the UA Tool web window trace display and selecting **Start MVUs Calc.** The line moves to a new start point.
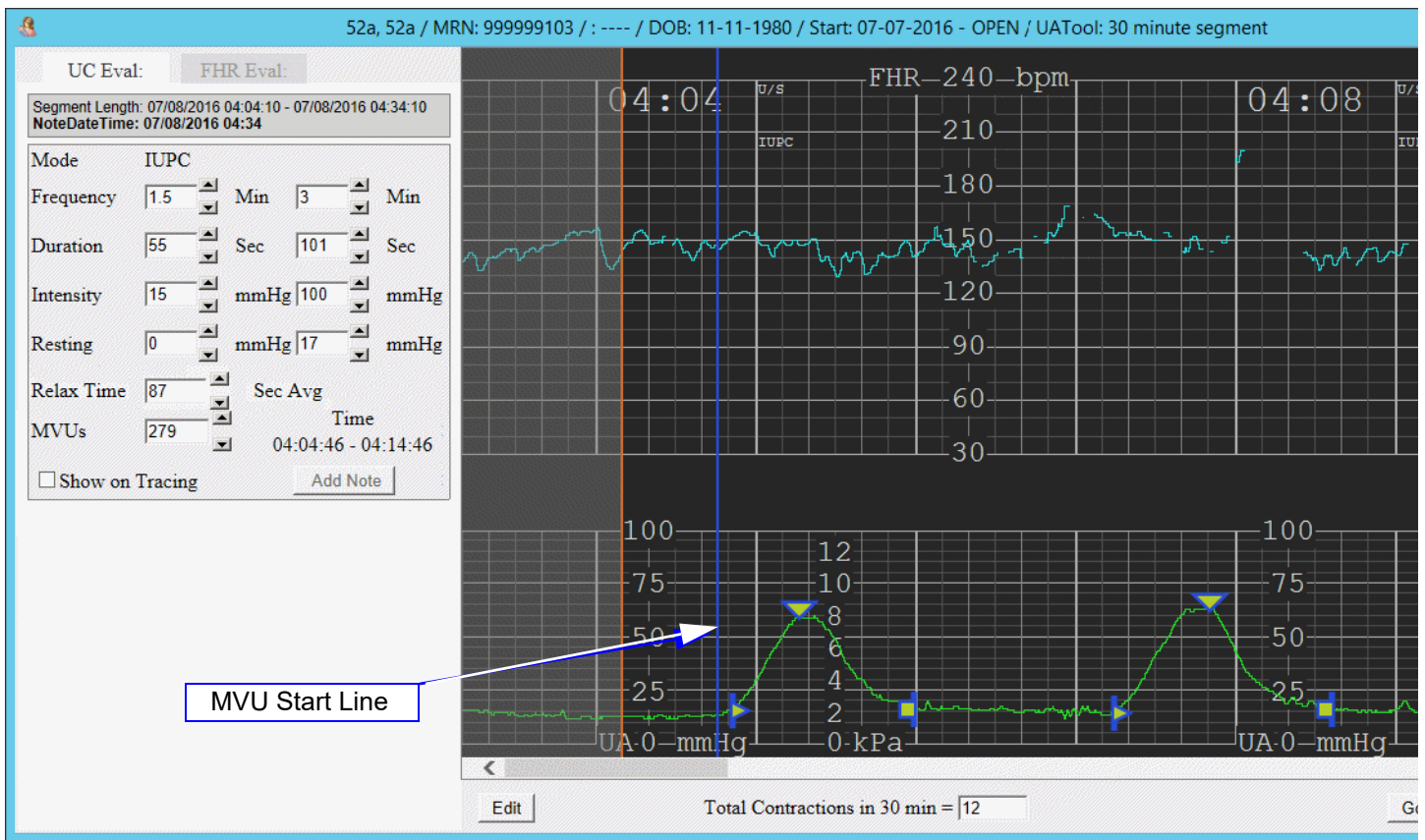
FIGURE 6-31 **UC Eval Notes Area: IUPC**

7. When the contractions are marked according to clinical judgment, click **Confirm**. The tracing area is dimmed and the **UC Eval** Notes area on the left of the uterine activity window becomes active. For IUPC tracings, contraction markers used in the MVU calculation are outlined in blue (Figure 6-31). The three most recent evaluation values, if any, appear in the historical trending area at the top of the notes area.
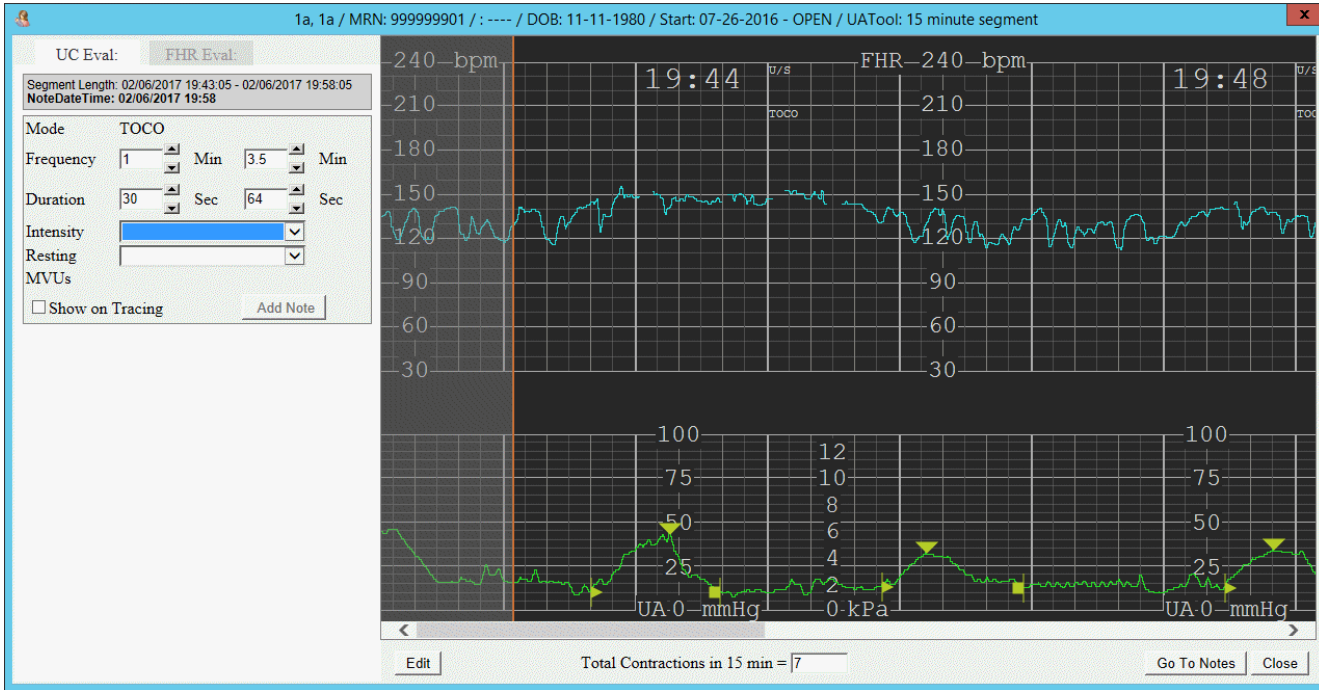
FIGURE 6-32 **UC Eval Notes Area: Toco**

8. Do one of the following depending on sensor inputs:

    - **For toco patients** (Figure 6-32)**,** select values for **Intensity** and **Resting** from the drop-down lists. **Frequency**, **Duration,** and **Relax time** (when configured) are entered automatically based on the contraction markings.

    - **For IUPC patients** (Figure 6-31)**, Intensity, Resting, Frequency, Duration,** and **Relax Time** (when configured) are entered automatically based on the contraction markings. Adjust values if necessary.

9. If you need to adjust the tracing further, click the **Edit** button to re-enable trace editing. Values in the Notes area are cleared if you resume segment marker editing.

10. Place a check mark in the **Show on Tracing** box if you want the note to appear on the tracing.Click **Add Note** when you are finished. The UA note is added.

11. Chart appropriate uterine activity information in your EHR system if needed (if Annotation Sync Interface is not installed).

12. Click the **FHR Eval** tab in the Notes area if you wish to also add a FHR note. The historical trend area at the top of the notes area shows up to three most recent historical trend values.
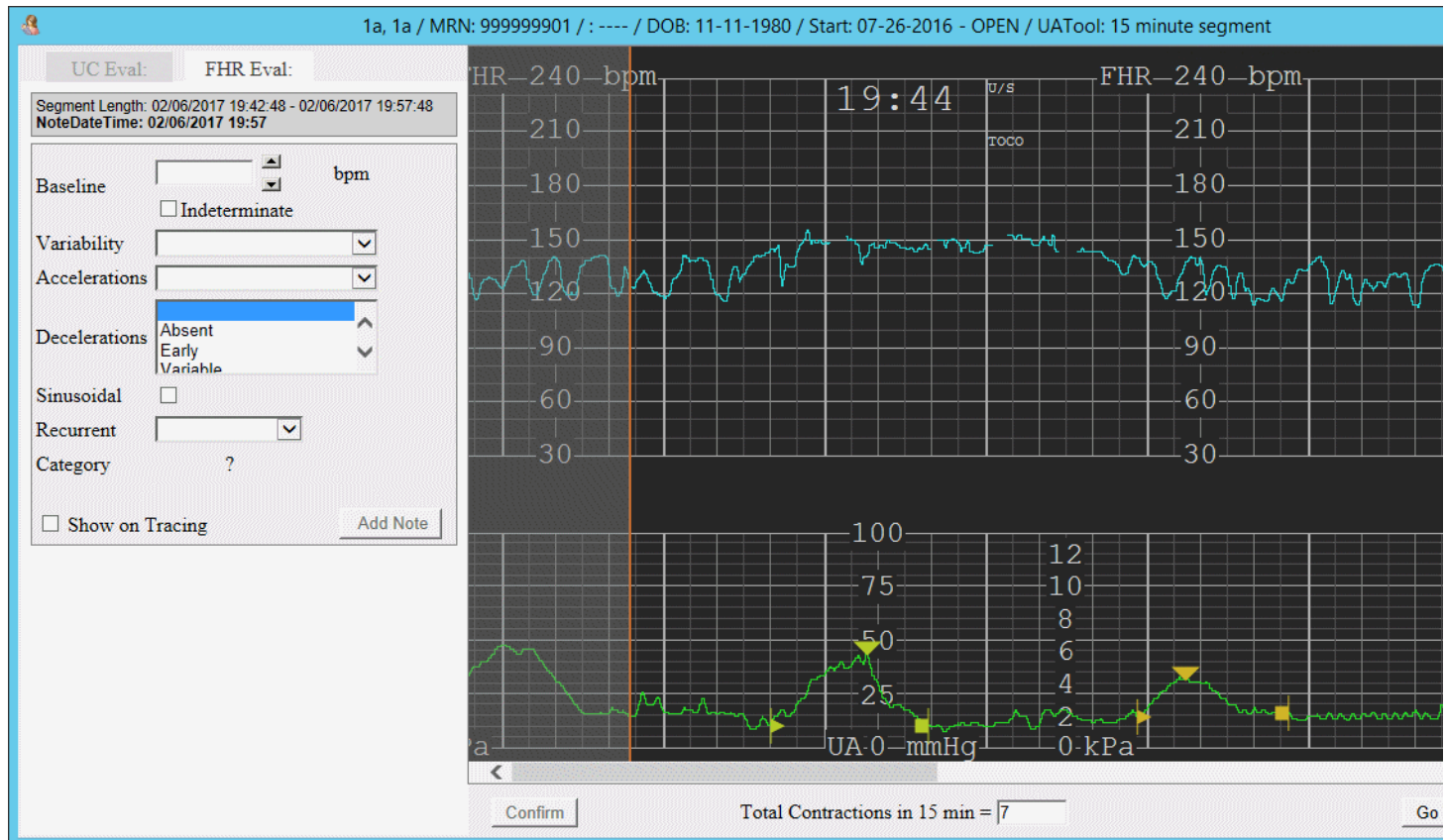
FIGURE 6-33 **FHR Eval Notes Area**

13. Click **Close** to close the UA Tool window and return to the patient's trace display. Any unsaved notes information is cleared.

6.5.4   Additional Information about UC Evaluation Tool

A message is displayed if more than 5 contractions are detected on a 10-minute segment, 8 or more contractions are detected on a 15-minute segment, more than 15 contractions are detected on a 30-minute segment, or more than 30 contractions in a 60-minute segment.

If a toco is used for part of the selected segment and an IUPC is used for another portion, all portions default to the toco (no MVUs).

Clicking the **Go To Notes** button (Figure 6-34) on the UA Tool window closes the UA Tool and opens the OBIX Notes entry window. The **Late note entry time** on the Notes screen defaults to the end of the UA Tool segment being displayed.

If the facility does not have the ASI option that allows documentation from the UC Eval window, the **Go To Notes** button is dimmed and unavailable. To document information shown in the UA Tool window, you will have to create a separate note in the EHR
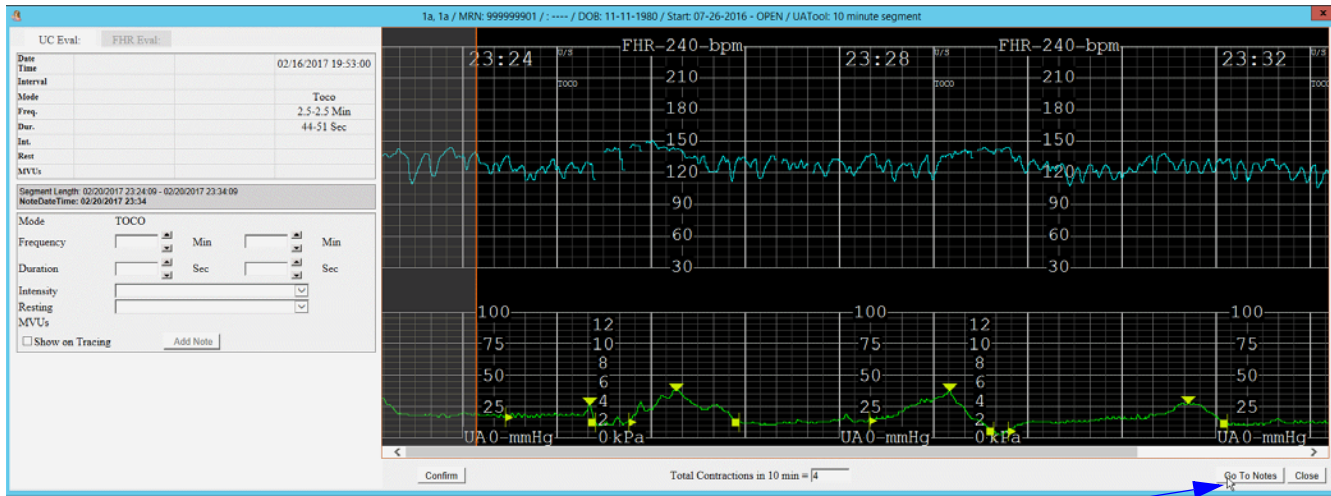
Go To Notes Button

FIGURE 6-34 **Go To Notes Button**

UA Tool Error Messages

The following messages may occur when using the UA Tool.

TABLE 6-1 **UA Tool Error Messages**

Message	Cause	Corrective Action
ERROR: Duration Valid Value is between 10 and 480.	User entered a contraction Duration value that is out of range.	Click **OK** to close the message box. Enter a Duration value of 10 to 480 seconds.
ERROR: Frequency Valid value is between 0.0 and 300.0.	User entered a numeric value into either of the uterine contraction frequency fields that is out of range.	Click **OK** to close the message box. Enter a Frequency value of 0.0 to 299.5
ERROR: Intensity Valid value is between 0 and 100.	IUPC only. User entered an intensity value that is out of range	Click **OK** to close the message box. Enter an intensity value of 1 to 99.
ERROR: Invalid value entered, only ".5" or ".0" is the valid decimal for this field.	User entered a decimal value that was not .0 or .5 into one of the two frequency fields.	Click **OK** to close the message box. If entering a Frequency value that requires partial value, only .0 or .5 are acceptable.
ERROR: MVUs Valid value is between 0 and 600.	User entered a MVU value that is out of range.	Click **OK** to close the message box. Enter a MVU value of 1 to 599.

TABLE 6-1 **UA Tool Error Messages (continued)**

Message	Cause	Corrective Action
ERROR: Resting Valid value is between 0 and 100.	User entered a resting value that is out of range.	Click **OK** to close the message box. Enter a resting value of 1 to 99.
ERROR: Relax Time Valid value is between 0 and 999.'	'User entered a relaxation time value that is out of range.	Click **OK** to close the message box. Enter a relax time of 0 to 999.
x contractions were identified within a 10 (or 15) minute segment. Please consider reviewing 30 minute or larger segment.	OBIX has detected an unusually high number of contractions.	Use the UA Tool to select a longer evaluation period and re-evaluate patient.
x contractions were identified within a 30 minute segment.	OBIX has detected an unusually high number of contractions.	Use the UA Tool to select a 60-minute evaluation period and re-evaluate patient.
x contractions were identified within a 60 minute segment.	OBIX has detected an unusually high number of contractions.	Re-evaluate the contractions shown.

This page intentionally blank.

7. Notes Menu

This chapter describes how to use the **Notes** menu (Figure 7-1) to review or print OBIX notes. When OBIX is integrated with an EHR, clinicians enter notes using the EHR or through ASI via the electronic trace. The only notes generated by OBIX are vital signs coming from the electronic fetal monitor; these notes are added to the EHR automatically.
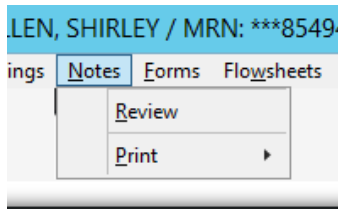
FIGURE 7-1 **Notes Menu**

7.1 Important Information about Daylight Saving Time Changes

During daylight saving time changes, you must turn the fetal monitor off (power off) and then turn the fetal monitor back on (power on) to ensure that the OBIX system and the fetal monitor are on the correct time and their times are synchronized. You must do this as soon as possible after the time change during a non-critical period of the patient's labor.

In the United States, daylight saving time begins at 2:00 AM on the second Sunday of March and ends at 2:00 AM on the first Sunday of November. To account for the time changes, and ensure that late notes appear at the correct point in the delivery and sort in the correct order when viewed in the **Notes Review** window, display the patient's tracing and select the time to chart the note by double-clicking rather than using the **Note Entry** window and entering the time manually.

In the spring when the computer's clock moves forward one hour, the time shown on tracings running during the time change appears as though the hour from 2:00 AM to 3:00 AM is skipped. In the fall, when the clock is turned back an hour, the hour from 1:00 AM to 2:00 AM is repeated on tracings running when the time change occurs. The tracing is broken into two parts at the point where the time change takes effect.To enter late notes for events that took place before the time change, you must enter them using the time the event took place. The easiest way to do this is to find and display the tracing and double-click to enter the note at that point, rather than using the **Note Entry** window and then trying to calculate the correct time.

> **NOTE**
>
> **Inserting late notes on the tracing ensures that notes appear in the correct order in the Notes Review window and Notes log. If you enter late notes using the Note Entry window accessed from the Notes menu instead of inserting the note on the tracing at the proper time, the note appears out of order in the notes log if the late note is recording an event that took place prior to the change to/from daylight saving time.**

> **NOTE**
>
> **It is recommended that you enter a comment in the Notes Log to remind readers that a change to or from daylight saving time took place.**

7.2   Reviewing Notes

To review a patient's notes:

1. On the **Notes** menu, click **Review.** The Notes Review window displays notes in Detail format (the default) for the patient's current encounter, or the previous one if there is no active encounter.

2. The Notes Review window shows the Note Count, Filters applied to the notes list, and up to 200 of the most recent notes. If there are more than 500 notes in the encounter, click **<< Prev 500** (or **Next 500 >>**) to review the previous (or next) group of notes.

3. In the **Filters** area, select check boxes to use one or more filters that limit the notes list. Enter additional filtering criteria:

    *   **Filter by Date Range – From:** mm/dd/yyyy hh:mm *To:* mm/dd/yyyy hh:mm
        You can use the calendar controls to select dates or type them in. If you want to include a time range, you must type the start and end times.

    *   **Filter by Preset Time Range** – select a range: **Last hour, Last 8 hours, Last 12 hours,** or **Last 24 hours**

    *   **Filter by User** – select an OBIX system user

    *   **Filter by Text** – type text

    *   **Filter by Vital Signs** – Select to include only vital sign notes in search results.

    *   **Include Unverified Notes** – select to include unverified notes in the review window

    *   **Show Only Unverified Notes** – select to include only unverified notes in the review window

4. Click **Search.** Notes matching the criteria you entered are listed in the **Notes Review** window.

5. In the **Display** area, choose a format from the **Select Format** list (see Table 7-2 on page 94):
    *   **Standard**
    *   **Detail**
    *   **Complete**
    *   **Complete (including Type)**

6. In the **Display** area, select check boxes to:
    • **Include System Transactions**
    • **Display Note Unformatted**

> **NOTE**
>
> **In order to view a list of vital signs captured from the fetal monitor but not yet validated in the EHR, you must place a check mark in the Include System Transactions checkbox.**

7. To clear check box selections and start a new search, click **Restore Defaults.**

8. To preview and/or print the **Notes Log**, see Printing Notes, page 94.

Users can delete their own notes only. An OBIX administrator can delete notes added by other users.

> **NOTE**
>
> **To delete multiple maternal intrapartum notes from the Review window, press and hold the Ctrl key and select multiple notes to be deleted.**

7.2.1 Note Types

Notes are categorized as shown in Table 7-1. Note type is the first acronym in the left column of a **Notes Log** viewed or printed in **Complete (including Type)** format (see Notes Log Formats, page 93).

TABLE 7-1 **Note Types**

Source	Description
MDI	Automated device, such as maternal vital signs monitor
HL7	HL7 interface
KB	Keyboard/mouse entry
TL	Transaction log

7.2.2 Notes Log Formats

The Notes Log page headers include the patient's name, date of birth, medical record number, account number, and facility. The page footers include print date and time, and page number. Available formats are **Standard**, **Detail**, **Complete**, and **Complete (including Type)**. Table 7-2 lists the information each format provides.

TABLE 7-2 **Notes Log Formats**

Information	Standard	Detail	Complete	Complete with Type
Note Date / Time	•	•	•	•
Note	•	•	•	•
Entered by		•	•	•
Entered Date / Time			•	•
Deleted Date / Time			•	•
Deleted by			•	•
Type – On Status Board – On				•

7.3   Printing Notes

DALTON, DEBRA DOB: 11/26/1990 ID: 1234567890 Acct#: Facility: Memorial Main Campus

Standard Notes Log

Note Date/Time	Note
01/08/2013 09:03	Admit: From Home
01/08/2013 09:03	Admit: Ambulatory
01/08/2013 09:03	Admit: Accompanied by Family
01/08/2013 10:25	BP: 120 /70 mmHg
01/08/2013 10:25	T: 98.6 F
01/08/2013 10:25	P: 75 bpm
01/08/2013 10:25	R: 16 /min

****End of Notes Log****
7 Notes Printed
Transaction Notes not included in printout

You can print notes from any notes window or from the **Notes** menu. Standard and Detail Notes Logs print in portrait orientation, and Complete Notes Logs print in landscape orientation.

NOTE

The limit for a Notes Log print job is 100,000 notes.

1. From the **Notes Review** screen**,** select a format and/or filters and click **Print**. Or, select the patient, then select **Print** from the **Notes** menu, then click **Notes** on the sub-menu and select a format:

    A print dialog box appears, allowing you to select a different printer if desired. .

2. Click **Print.** The notes are printed to the current printer.

3. Set the printing options appropriately, then click **Print**.

7.4   Scenario: Daylight Saving Time Changes

A patient in labor was admitted and a tracing was started at 8 PM the night of March 12, 2017 (in standard time, before the change to daylight saving time), and she delivered at 4 AM on March 13 (after the change to daylight saving time). Her tracing looks as though the hour from 2 AM to 3 AM was skipped. At 6 AM, you remember you need to enter some notes about pain assessment and medications administered at 10 PM.

View the tracing, scroll back to the 10 PM hour shown on the tracing and enter the note by double-clicking on the strip to open the **Notes** window. The note appears at the correct point on the strip and in the notes review list.

The same holds true if you must enter any late notes for events that occurred before the time change. Enter the notes directly onto the tracing to ensure that they appear at the correct point in the delivery. See "Important Information about Daylight Saving Time Changes" on page 91. for more information.

This page intentionally blank.

APPROVED FOR DISTRIBUTION TO CCSI CUSTOMERS 10-05-039D APRIL 2018

8. Help Menu

This chapter describes how to use the **Help** menu to view a copy of this manual, and how to sign up for OBIX system webinars.

8.1   Viewing a Manual

To view the OBIX User Manual:

1. Click the **Help** menu and select the manual you want to display. The manual opens in a separate viewer window.

2. Use the bookmarks in the left pane of the viewer to navigate the manual. Cross-references and table of contents entries in the right pane are links that go directly to the referenced page when clicked.

3. To print manuals, click the printer icon on the viewer toolbar. The **Print** dialog box appears.

4. Make your selections in the dialog box and click **OK** to print the manual.

5. Close the viewer when you finish viewing or printing the manual.

8.2   Registering for a Webinar

For OBIX system Webinars, click **Sign up for OBIX web-education** on the **Help** menu. The CCSI website is displayed in a separate window displaying the continuing education page of OBIX University. Follow the instructions on the site to view a list of available webinars or register for a webinar.

Or, visit **http://www.obix.com/continuing-education.html**.

8.3   Uploading Logs

This option is for use during system troubleshooting only. Select this menu option only if directed to do so by CCSI technical support staff during troubleshooting. This menu option uploads system performance logs from OBIX for retrieval by OBIX technical support personnel.

This page intentionally blank.

9. Emergency-Access Menu

The **Emergency-Access** menu enables authorized users to view patient records from other facility(ies). It is recommended that care providers and nurses be given emergency access rights. Emergency Access is only available on multi-facility OBIX systems.

> **NOTE**
>
> **You must have Emergency Access rights to use this feature. If you do not have emergency access rights, but you do have login rights at the other facility, you can still view a patient from another facility, but with a security level of 3, which means not all OBIX functionality will be available. Contact your OBIX system administrator for more information.**

To select patients from facilities other than your usual location:

1. Click the **Emergency-Access** menu and select the desired facility. One of the following messages appears, depending on your user rights:
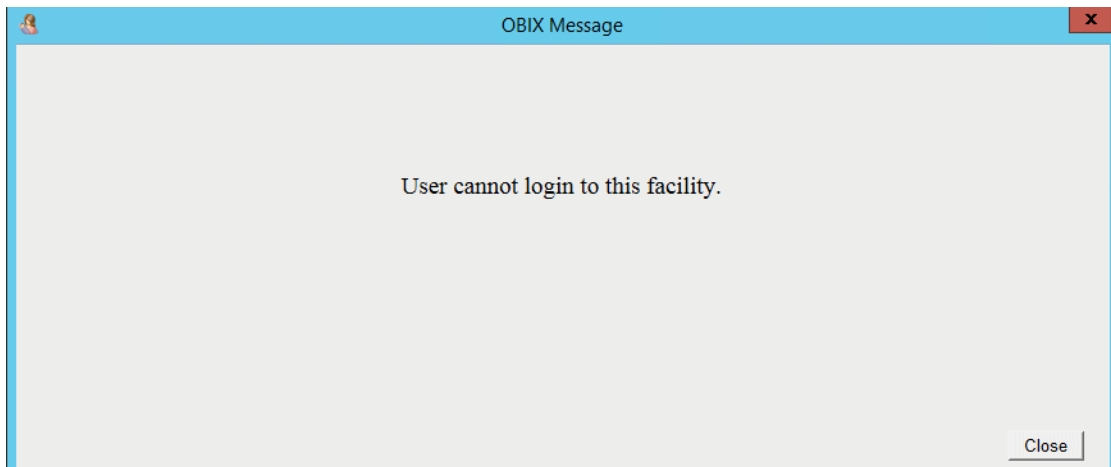
FIGURE 9-1 **Emergency Access Not Authorized Message**
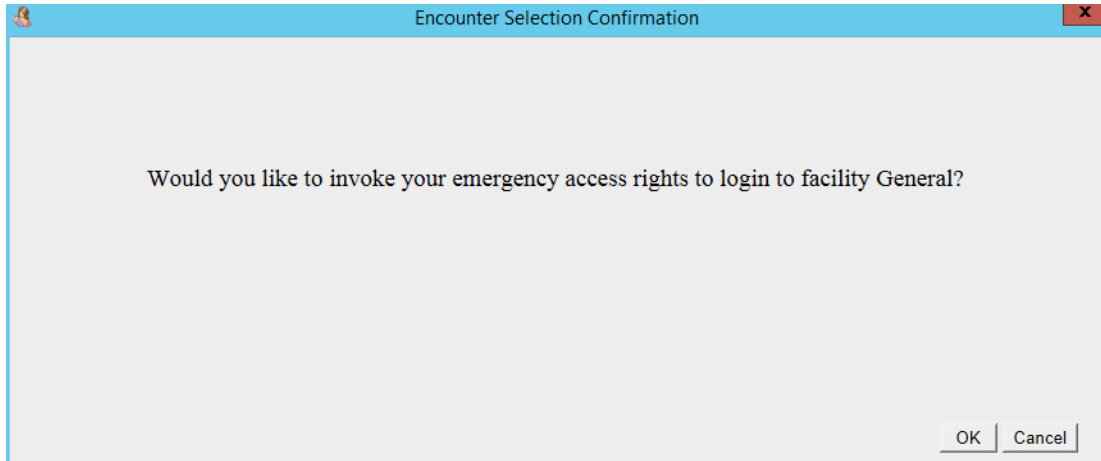
FIGURE 9-2 **Emergency Access Confirmation Message**

2. If you have emergency access rights, click **OK** on the message shown in Figure 9-2. When you invoke emergency access rights, an entry is added to the audit log.

3. The OBIX screen is displayed. The facility name is shown near the bottom of the screen.

4. Log into the other facility.

5. You now can search for and select the desired patient encounter that took place at a facility other than your own. Patients from the other facility appear in the search lists.

6. When you have finished working with the encounter from the other facility, select your usual facility from the **Emergency Access** menu.

10. Administrative Tasks

10.1   Introduction

This chapter describes administrative tasks, accessible from the **Administrative** option of the **System** menu, that can be performed by authorized users. The following topics are covered:

- OBIX University Online, page 101
- User Management, page 101
- Audit Log Search, page 107
- Meaningful Use Audit Log, page 112
- Reassigning a Trace Segment, page 115
- Unmatching a Patient, page 126
- Quality Assurance, page 128

10.2   OBIX University Online

OBIX University offers OBIX system online education for new employee onboarding or any staff seeking to enhance their knowledge of OBIX. To register, please send request to obixu@obixuniversity.com. For more information about OBIX University Online visit http://www.obix.com/about-obix-university.html.

10.3   User Management

This section describes how authorized administrative users manage OBIX users, assign security levels, and provides instructions for auditing OBIX system activity.

10.3.1 OBIX User Manager

Lightweight Directory Access Protocol (LDAP) Integrated Security integrates OBIX with third-party LDAP services. User management is handled by the directory service. User access control (OBIX system rights assignment), and user role management are handled by OBIX User Manager.

> **NOTE**
>
> **OBIX users must be added to the facility's directory service and assigned to the OBIX group before they can be assigned rights in the OBIX system.**

Opening the OBIX **User Manager** imports users into the OBIX system. Only one user synchronization instance at a time is permitted to run; if another instance is launched, a message appears (see Figure 10-1).
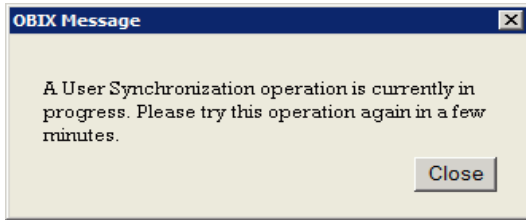
FIGURE 10-1 **User Synchronization Message**

Initially, imported users have:

- Inactive status
- no assigned facility
- no Administrative Rights
- no user Login Rights
- a Security Level of 1
- no Emergency Access Rights
- no assigned role (the Group Memberships field is blank)

An OBIX administrative user must activate users and assign Administrative Rights, Login Rights, Security Level, Emergency Access Rights, and role Group in User Manager before the user can log in to OBIX. User Manager is accessible only to users with a security level of 8 or higher, and only administrative users can change user rights.

To manage user rights:

1. On the **System** menu, click **Administrative** and select **User Management**. The **OBIX User Manager** window appears (see Figure 10-2).

FIGURE 10-2 **User Manager Window**

2. To filter the user list to show:

    *   active users, click the **Active** check box.

    *   inactive users, click the **Inactive** check box.

3. Select the user from the **Select User list**. The fields are populated from the facility's directory service, and the **Effective User Rights** area shows the user's current status.

4. **Administrative Rights** enable a user to set security levels and roles, and maintain group lists. If the user should have administrative rights, click **Yes**.

5. **Login Rights** enable the user to log into OBIX. To activate the user, click **Save**.

6. Assign group membership(s) to the user by selecting one or more groups from the **Available Groups** list, then clicking the right arrow to move the selected group(s) to the user's **Group Memberships** list on the right. You can use the Shift or Ctrl keys to select multiple groups at once, and also double-click a group to quickly move it to the Group Memberships list.

7. **Emergency Access Rights** give the user emergency access to patients at a facility other than the user's usual facility. If the user should have emergency access rights, click **Yes**.

8. **Security** determines which Patient Manager menu items are available to the user. Select security level from the list. See Security Levels, page 104 for more information about security levels.

9. Click **Sync Users** to synchronize the facility directory service and OBIX system users.

10. Click **Save** to save changes.

10.3.2 User Name Guidelines

The OBIX system enforces these rules when it imports users from the facility's directory service:

- A User logon name cannot exceed 20 characters in length.

- If the total length of a user's **Last Name**, **First Name**, and **Middle** name fields exceeds 50 characters, the fields are truncated, starting with the Middle name and followed by the First Name, until the total length is 50 characters. Truncated fields contain at least one character after truncation.

> **NOTE**
>
> **Although OBIX allows unicode characters to be used in patient names and OBIX user names, the OBIX windows listed below incorrectly display the characters beyond the 256 ASCII characters as question marks. Note windows correctly display unicode characters, such as accented letters.**
>
> - **Patient Manager Title Bar**
> - **Trace Display Title Bar and tracing printouts**
> - **Status Board and status board printouts**

10.3.3 Security Levels

The OBIX system has 10 security levels, summarized in the following table. Level 10 is reserved for system troubleshooting by CCSI technical service personnel and is not available to OBIX system users.

Examples of roles, typical security levels, and emergency access rights are:

- Administrative User, Nurse Manager – security level 9, emergency access*

- Super Users – Nurse – security level 8, emergency access*

- Staff Nurse – security levels 5 through 7, Cancel Discharge capability, emergency access*

- Care Provider – security level 4, emergency access (see note below)

- Unit Secretary – security level 3

*It is recommend that care providers be given emergency access.

> **NOTE**
>
> **The Emergency Access option is available for multi-facility systems. Emergency Access allows users from one facility to log into OBIX at another facility so they can view patient encounters that took place at the other facility. It is recommend that care providers be given emergency access. Emergency access is controlled by a checkbox on the User Management window and is independent of the user's security level setting.**

TABLE 10-1 **Example Default Security Levels for OBIX System Version 8 (Sheet 1 of 2)**

Security Level	10	9	8	7	6	5	4	3	2	1
Log In	Accessible by users of all security levels									
About CCSI	Can be viewed from login screen without logging on									
System Menu										
About	Accessible by users of all security levels									
Setup > Color	•	•	•	•	•	•	•	•	•	
Close OBIX	Accessible by users of all security levels									
Log Off	Accessible by users of all security levels									
Administrative										
User Management	•	•	•							
Audit Log Search	•	•	•							
Meaningful Use Audit Log	•	•	•							
Notes Medication Administration	•	•	•							
Reassign Trace Segment	•	•	•							
Session Name	Accessible by users of all security levels									
Patients Menu										
In Unit	•	•	•	•	•	•	•	•	•	
Pending Discharge	•	•	•	•	•	•	•	•	•	
Search	•	•	•	•	•	•	•	•	•	
Assessment	•	•	•	•	•	•	•	•	•	
Display Name As	•	•	•	•	•	•	•	•	•	
Match to EHR	•	•	•	•	•	•	•	•		
Unmatch from EHR	•	•	•							
Edit Identity	•	•	•	•	•	•	•	•		
Account Number	•	•	•	•	•	•	•	•		
Change Encounter	•	•	•	•	•	•	•	•	•	
ADT Menu										
Assign Bed	•	•	•	•	•	•	•	•	•	
Pend Discharge	•	•	•	•	•	•	•	•		
Discharge	•	•	•	•	•	•	•	•		
Transfer	•	•	•	•	•	•	•	•		
Cancel Discharge	•	•	•	•	•	•				

TABLE 10-1 **Example Default Security Levels for OBIX System Version 8 (Sheet 2 of 2)**

Security Level	10	9	8	7	6	5	4	3	2	1
Mobile	•	•	•	•	•	•	•	•		
Alerts Menu										
Acknowledge	•	•	•	•	•	•				
Set Alerts	•	•	•	•	•	•				
Tracings Menu										
Display	•	•	•	•	•	•	•	•	•	
Print	•	•	•	•	•	•	•	•		
Notes Menu										
Maternal	•	•	•	•	•	•	•			
Other	•	•	•	•	•	•	•			
Review	•	•	•	•	•	•	•	•	•	
Print	•	•	•	•	•	•	•	•		
Help Menu										
All options	•	•	•	•	•	•	•	•	•	•
Emergency Access Menu (multi-facility systems only)										
Access is controlled per user by a checkbox on User Management window, not by security level.										
Tracing Context Menu										
Insert Note	•	•	•	•	•	•	•			
Print Tracing	•	•	•	•	•	•	•	•	•	
Tracing Date and Time	•	•	•	•	•	•	•	•	•	
Auto Scroll	•	•	•	•	•	•	•	•	•	
Set Print Area Start	•	•	•	•	•	•	•	•	•	
Set Print Area End	•	•	•	•	•	•	•	•	•	
Clear Print Area	•	•	•	•	•	•	•	•	•	
Emphasize Tracing	•	•	•	•	•	•	•	•	•	
Tracing Display Options	•	•	•	•	•	•	•	•	•	
E-Tools (FHR)	•	•	•	•	•	•	•	•	•	
E-Tools (UA) View Only	•	•	•	•	•	•	•	•	•	
E-Tools (UA) Use and Charting	•	•	•	•	•	•				

10.4   Audit Log Search

> **NOTE**
>
> **Audit Logs are available only to users with security level 8 or higher.**

The OBIX Audit Log captures actions performed within the OBIX system and permanently stores the record of the actions in the OBIX database.There is no way to disable the capture of OBIX audit log information. The OBIX database cannot be viewed by user/administrators, protecting the audit logs from purging and alteration.

The Audit Log menu options offer a fast, convenient way for administrative users to specify log filtering criteria to view specific OBIX system activity by task, by user, or in various combinations.

To view the audit log:

1.   On the **System** menu, click **Administrative** and select Audit Log.(Figure 10-7),

2.   Enter filtering and sorting criteria for the audit log information to be displayed, then click **Search**. The window displays the requested audit log information (Figure 10-3).
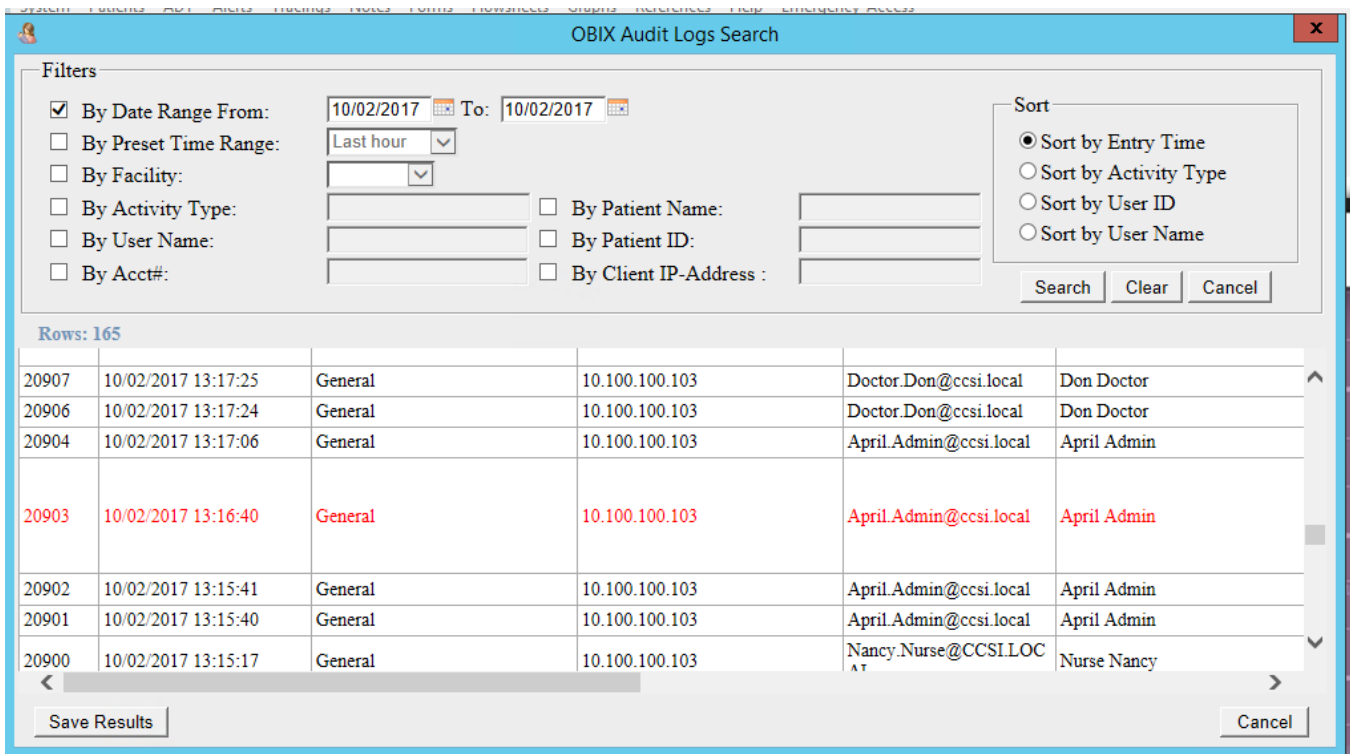

FIGURE 10-3 **OBIX Audit Log Screen with Search Results Example**

> **NOTE**
>
> **If someone attempts to alter the Audit Log by tampering with files outside of OBIX, rows that were tampered with are displayed in red as shown in Figure 10-3. Alert your IT department if tampering is suspected.**

NOTE

The Activity types selection list can be filtered by typing a few characters to limit the selections displayed. For example, to view and select from all activities associated with launching, type LAUNCH into the Activity Type field.

3. Click **Filter by Activity Type** check box if filtering is desired. The **By Activity Type** list field becomes active. The list displays activity types in alphabetical order. You can search by any of the activity types described in Table 10-2.

TABLE 10-2 **Activity Types Available for Audit Log Search**

Activity Type	Description
ACK ALERT	Lists all alert acknowledgments.
ADMIT	Lists all ADT patient admissions.
ALERT_ACTIVATIONS	Lists all activation and deactivation of alerts.
CANCEL_DISCHARGE	Lists all user-initiated cancel discharges of patients
CANCEL_PEND_DISCHARGE	Lists all user-initiated cancellation of pend-discharge patients - user resumed encounters for a pend-discharge patients
CONTEXT_UPDATE	Lists each time a user selects a patient or changes an encounter.
DELETE_NOTES	Lists all instances of deleted notes.
DISCHARGE	Lists all manual patient discharges
Discharge Patient	Lists patient discharges (user-initiated and automatic discharges)
EMERGENCY_ACCESS	Lists all instances when a user invoked their emergency access rights to a patient record from another facility,
Flowsheets	Lists the launch of any flowsheet.
GET_ASSIGNED_PATIENTS	Lists each time the In Unit patient list was opened
GET_NOTES	Lists each time the Notes review window was opened.
GET_PATIENT_NUMBER	Lists each time the patient ID number window was opened.
GET_PEND_DISCHARGED_PATIENTS	Lists each time the pend discharge patient list was opened.

TABLE 10-2 **Activity Types Available for Audit Log Search (continued)**

Activity Type	Description
GET_TRACE	Lists each time the trace review window was opened.
Graphs	Lists each time the Graphs were opened.
INSERT_NOTES	Lists each time the Notes Entry window was opened.
LOGIN_FAILURE	Lists unsuccessful login attempts by user within the specified time period.
LOGIN_SUCCESS	Lists all successful logins by user within the specified time period.
LOGOUT	Lists all successful logouts by user within the specified time period. Includes automatic logouts due to inactivity.
MOBILE_CART_ASSIGNMENT	Lists each assignment of patient to a mobile OBIX cart.
MU_AUDITS_REQUEST	Lists all Meaningful Use audit log requests.
PATIENT_UNMATCH_REQUEST	Lists all requests to unmatch a patient.
PATIENT_DISPLAY_NAME_UPDATE	Lists all changes to patients' display names.
PATIENT_MATCH	Lists all requests to match an OBIX patient to their record in the EHR.
PATIENT_MERGE	Lists all requests to merge one patient's record with those of another patient, such as one patient with encounters entered under two different names.
PATIENT_REGISTER	Lists all patients manually registered in OBIX by using a quick admit.
PATIENT_UNMATCH	Lists all requests to unmatch an OBIX patient from their record in the EHR.
PATIENT_UPDATE	Lists each occurrence of a user editing a patient's name.
PEND_DISCHARGE	Lists all instances of a user manually placing a patient into Pend Discharge status.
PRINT_NOTES	Lists all notes print requests.
PRINT_TRACE	Lists trace print requests.

TABLE 10-2 **Activity Types Available for Audit Log Search (continued)**

Activity Type	Description
PrintAllEncounterTraces	Lists requests to print the complete encounter trace.
PrintUnitStatus	Lists requests to print the status board.
Run_NotesEntryLookupMaintenance	Lists changes to Medication values in the Notes, made using the Medication Administration window.
SEARCH_AUDITS_REQUEST	Lists audit log searches and search criteria (input parameters)
SEARCH_REQUEST	Lists patient search requests.
SET_ALERT	Lists changes made to alert parameters.
SignOn	Lists successful login requests by user. Includes time and date.
TRANSFER	Lists patient transfers performed within OBIX.
TransferPatient	Lists patient transfers performed within OBIX.
UNDELETE_NOTES	Lists all instances of user undeleting notes.
UPDATE_USER	Lists changes to OBIX user information made in User Management.
UPDATE_GROUP	Lists changes to OBIX user group information made in User Management.

4. Use the **Sort** buttons to select different sort order for the log.

5. To save the logfile, click **Save Results**. A dialog asks if you want to open or save the file (Figure 10-4). Do one of the following:

    •   Click **Save** to save the XML file locally, then enter a location for saving the file when prompted.

    •   Click **Cancel** to cancel the save and return to the OBIX Audit Logs Search window.

    •   Click **Open** to view the file if desired. A window displaying the logfile in xml format is displayed (see Figure 10-5 for an example). From this window, right-click and select **Save Target As...**" from the pop-up menu to save the file in xml format. Specify a location for the saved file when prompted.
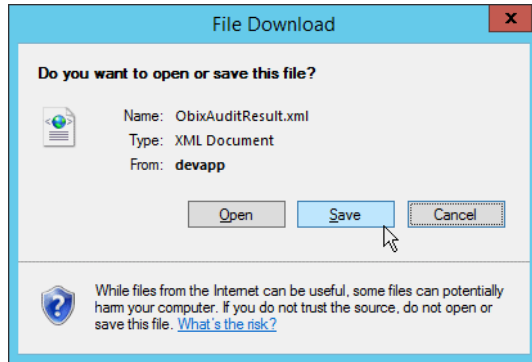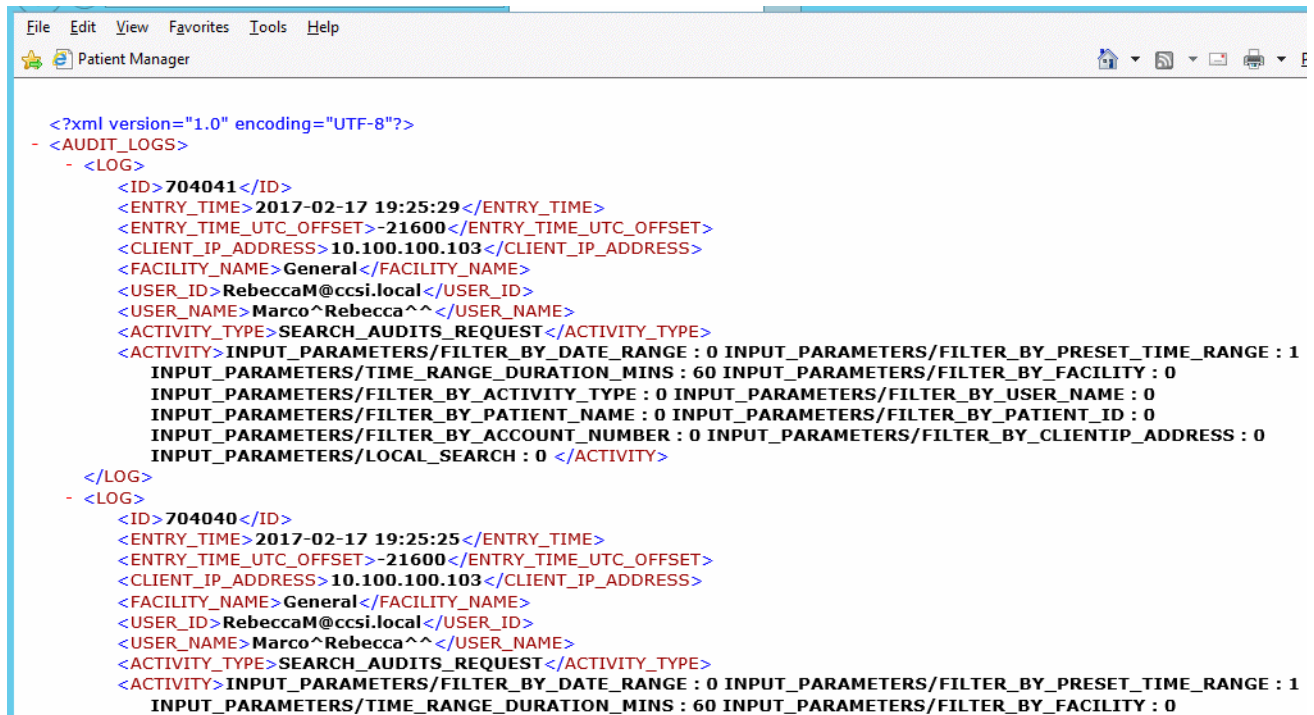
FIGURE 10-4 **Save Audit Log Dialog**

FIGURE 10-5 **Audit Log File Example (XML File)**

6. Close the browser window displaying the XML file when finished.

7. Click **Cancel** to close the Audit Log Search window when finished.

8. The saved XML file may be imported into any tool that has the ability to import XML data, such as Microsoft Excel To import the XML file into Excel, open Excel and create a new (blank) workbook.

9. Select the **Data** tab, then select **From Other Sources**, and choose **From XML Data Import** from the lit of options s shown in Figure 10-6.
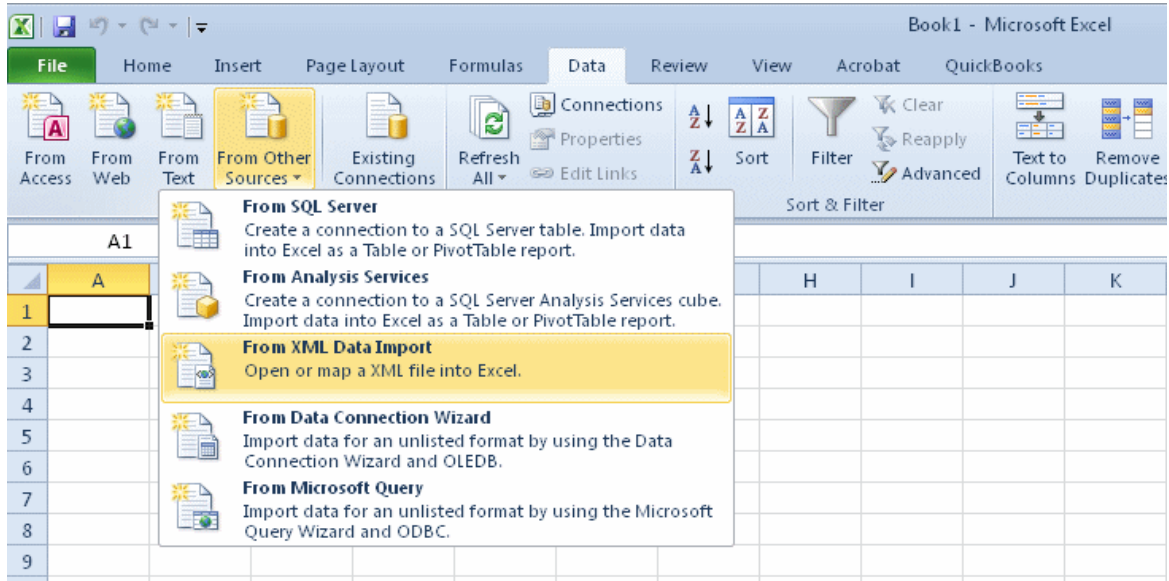
FIGURE 10-6 **Importing XML Files into Excel**

10.5   Meaningful Use Audit Log

The OBIX Meaningful Use Audit Log displays actions captured in the Audit Log in a format compliant with Meaningful Use requirements. Because the OBIX audit logs are recorded in the OBIX database and user/administrators do not have access to the database, the audit log entries are protected from purging and alteration. The OBIX system offers a fast, convenient way for administrative users to view OBIX system activity by selecting Meaningful Use criteria.

> **NOTE**
>
> **Audit Logs are available only to users with security level 8 or higher.**

> **NOTE**
>
> **If someone attempts to alter the Audit Log by tampering with files outside of OBIX, rows that were tampered with are displayed in red as shown in Figure 3-1. Alert your IT department if tampering is suspected.**

To view audit log information formatted in compliance with Meaningful Use:

1. On the **System** menu, click **Administrative** and select **Meaningful Use Audit Log** to view the OBIX Meaningful Use Audit Logs screen (Figure 10-7).

2. Select a date range using the fields at the top of the window and then one of the six tabs at the top of the window to sort the information appropriately. You can sort by Time, Action and Time, User and Time, Patient and Time, by Data ID and Time and by User Updates and Time in accordance with Meaningful Use requirements.

3. Use the scroll bars at top and side to see all of the information.

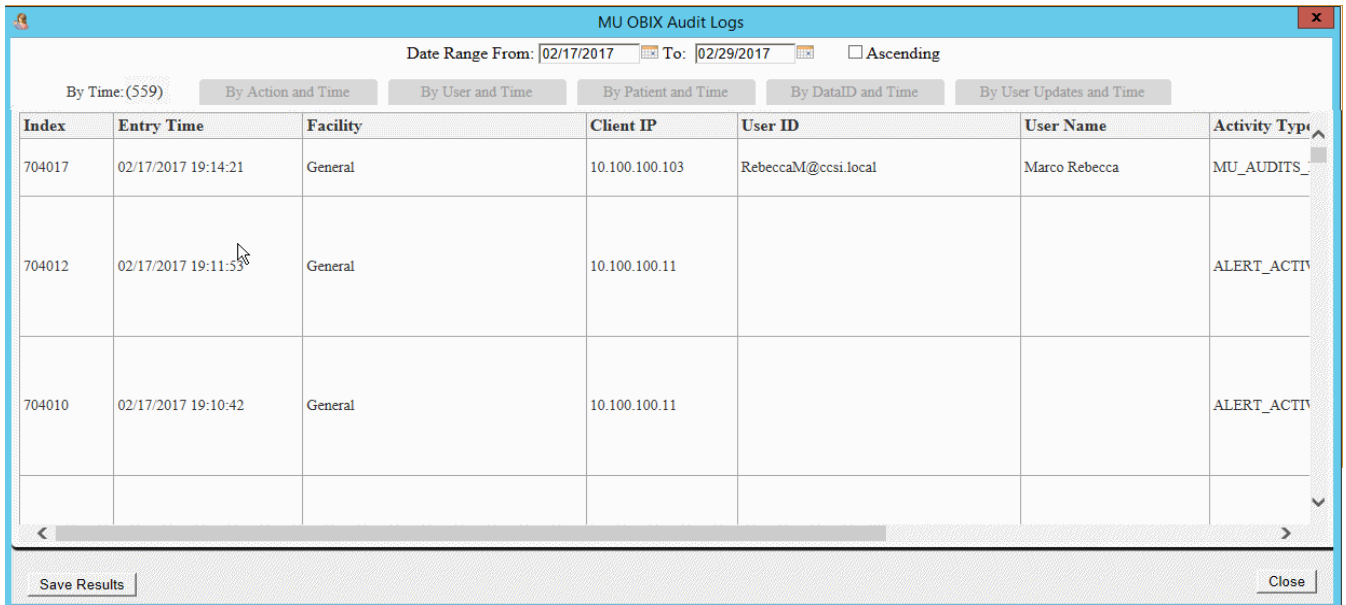4. Click **Close** when finished viewing.

FIGURE 10-7 **OBIX Meaningful Use Audit Log Window, By Time Example**

5. To save the logfile, click **Save Results**. A dialog asks if you want to open or save the file (Figure 10-4). Do one of the following:

   • Click **Save** to save the XML file locally, then enter a location for saving the file when prompted.

   • Click **Cancel** to cancel the save and return to the OBIX Audit Logs Search window.

   • Click **Open** to view the file if desired. A window displaying the logfile in xml format is displayed (see Figure 10-5 for an example). From this window, right-click and select **Save Target As...**" from the pop-up menu to save the file in xml format. Specify a location for the saved file when prompted.
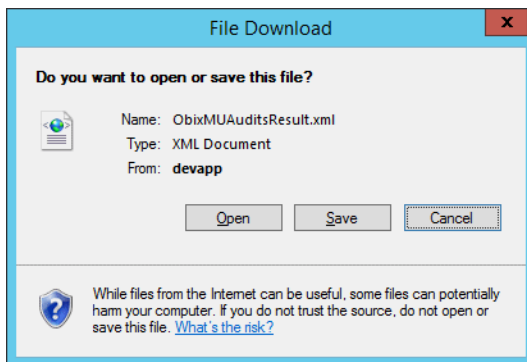

FIGURE 10-8 **Save Meaningful Use Audit Log Dialog**

FIGURE 10-9 **Meaningful Use Audit Log XML File Example**

6. Close the browser window displaying the XML file when finished.

7. Click **Cancel** to close the Audit Log Search window when finished.

8. The saved XML file may be imported into any tool that has the ability to import XML data, such as Microsoft Excel To import the XML file into Excel, open Excel and create a new (blank) workbook.

9. Select the **Data** tab, then select **From Other Sources**, and choose **From XML Data Import** from the lit of options s shown in Figure 10-6.
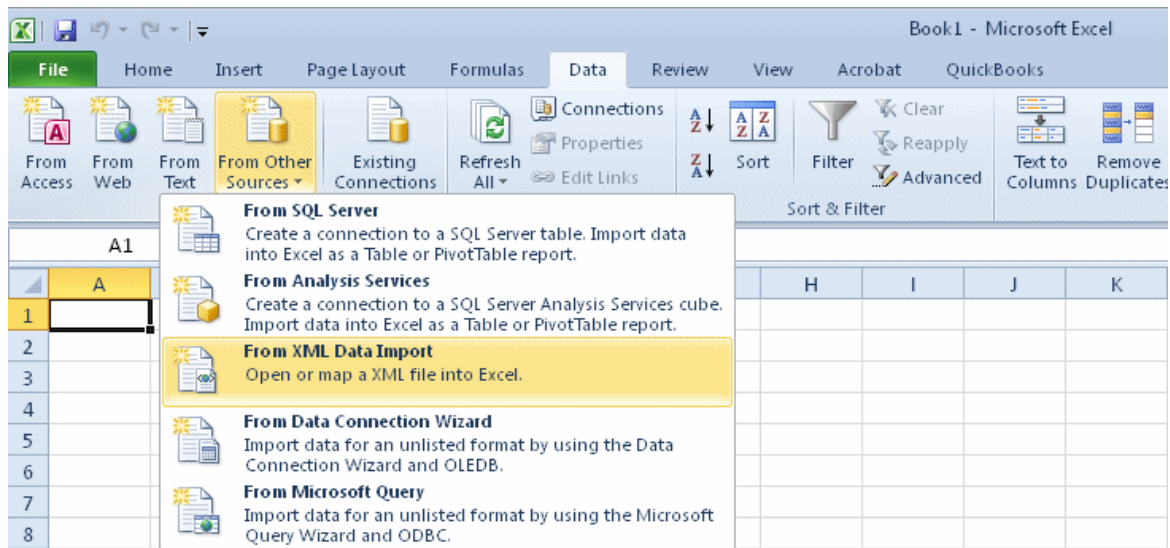
FIGURE 10-10 **Importing XML Files into Excel**

10.6 Reassigning a Trace Segment

Authorized administrative users with security level of 8 or higher can reassign a trace segment from one patient's record to another. This capability is for use only if one patient's tracing is inadvertently recorded on a different patient's record.

Scenarios where this might occur are the following:

The OBIX user forgets to discharge a patient in OBIX, and a new patient is placed into the same bed. The new patient's tracings will be recorded under the previous patient's records because the first patient was not discharged from OBIX.

If the EHR system is unavailable and patients are manually admitted into OBIX, those patients are not matched and may not have an account number when the EHR system is available. HL7 messages from the hospital-wide system do not work until the patient is matched and assigned an account number. This may result in patients not being discharged from OBIX when they leave the unit, causing tracings to be linked to the wrong patient.

WARNING

To maintain the integrity of the patient records, ensure that the correct segment is selected for transferring and that the correct patient record receives the transferred segment. Always verify that the segment(s) being transferred truly need to be moved to the selected patient. The audit log records all instances of segment transfer.

The Reassign Trace Segment capability allows authorized users to see all tracing segments assigned to a source patient, select a segment, and transfer it to a different (destination) patient's record. The following restrictions apply:

- Source and destination patient records must both be at the same facility. Segments cannot be assigned from or to facilities other than the one where the user is currently logged in.

- Source patient must be in the Assessment or Pend-Discharge state.

- Users may reassign only one full segment at a time.

- Trace segments may be reassigned only to a destination patient who has an open encounter.

- Undoing a trace reassignment that was made in error requires the user to repeat the reassignment process, reversing the Source and Destination patients.

To reassign a segment:

1. Select **Reassign Trace Segment** from the **Administrative** option on the **System** menu.
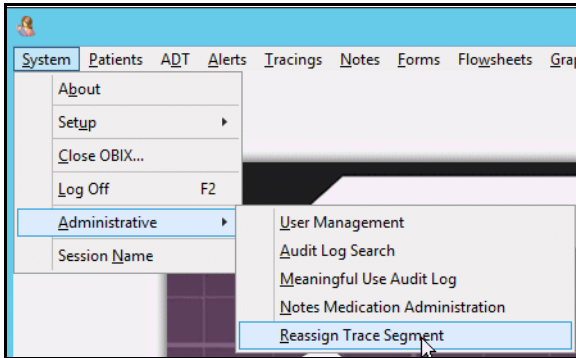
FIGURE 10-11 **Reassign Trace Segment Menu Selection**

2. The Select Source Encounter patient window is displayed (Figure 10-12). Select the source patient (the patient from which you wish to remove a segment) and click **Continue**.
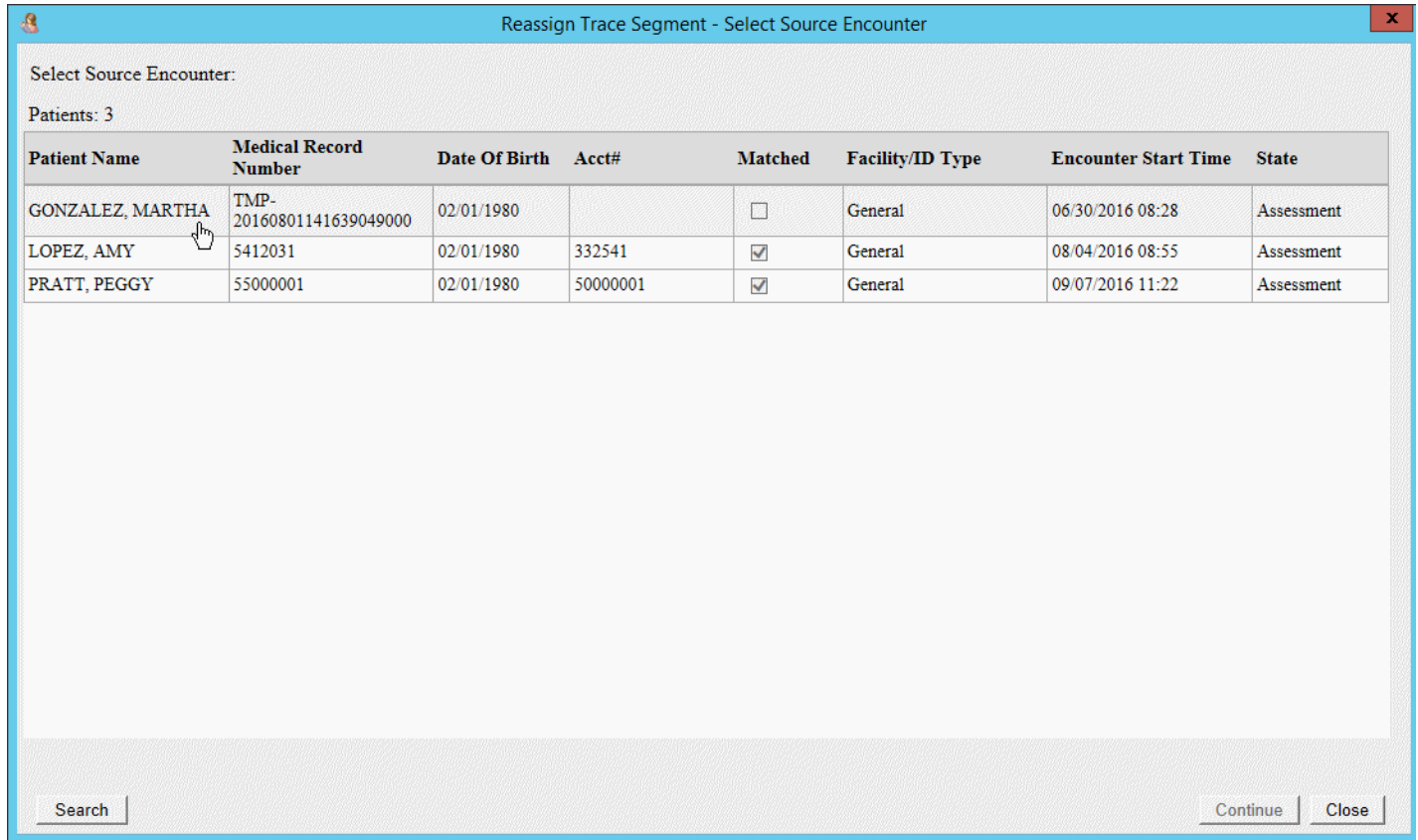
FIGURE 10-12 **Reassign Trace Segment—Select Source Encounter**

3. A list of trace segments for the selected encounter is displayed (Figure 10-13). Select the desired tracing segment (strip) to be reassigned to the destination patient.

FIGURE 10-13 **Reassign Trace Segment—Select Source Trace Segment Window**

4.   Click **Continue**. A list of patients with open encounters is displayed (Figure 10-14). Select the destination patient from the list.
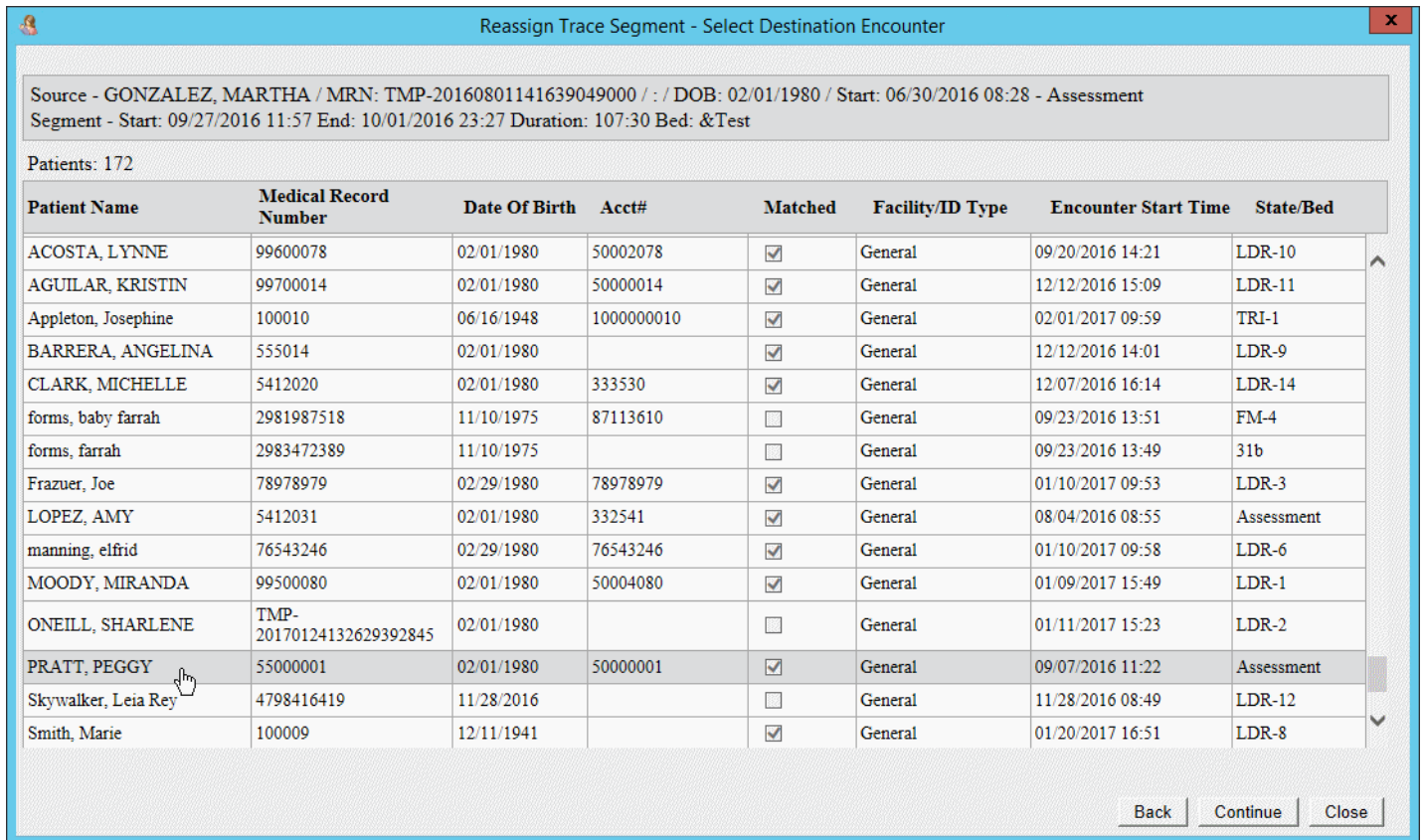
FIGURE 10-14 **Reassign Trace Segment—Select Destination Encounter Window**

5.   Click **Continue**. A confirmation message similar to the following example is displayed (Figure 10-15). Check the message to review that the source patient and segment are correct. Then check to ensure that the destination patient is correct.

FIGURE 10-15 **Tracing Reassignment Confirmation Message Example**

6. After ensuring that you have selected the correct source patient, segment, and destination patient, click the **I Agree** check box to confirm that you wish to reassign the segment (Figure 10-15). Do one of the following:

    •   Click **Continue** to proceed with trace reassignment. The trace segment is reassigned to the destination patient at this point.

    •   To stop the tracing reassignment process without reassigning, click **Close**.

    � **CAUTION**

    The notes do not transfer to the destination patient. You must delete notes no longer applicable to the source patient and re-enter applicable notes on the destination patient's encounter after reassigning the trace segment. Print the notes so you can re-enter them on the destination patient's encounter.

7. All of the notes associated with the reassigned segment time are listed. Review the source patient's notes. (See Figure 10-16 for an example.)

8. Select the notes to be deleted from the source patient's record.

9. Click **Delete**. The screen automatically changes to "Show only deleted Notes."

10. Uncheck **Show only deleted notes** and delete more notes if appropriate.

FIGURE 10-16 **Tracing Reassignment Notes Deletion Example: Notes Selected for Deletion**

11. Click the **Delete** button to delete the notes from the source patient's record. The screen shows the notes you deleted from the source patient's record. (See Figure 10-17 for an example.)

FIGURE 10-17 **Tracing Reassignment Notes Deletion Example: Deleted Notes**

12. Click **Print** to print a copy of the deleted notes (those applicable to the patient you reassigned the segment to).

13. Use the notes printout to re-enter the notes you deleted from the source patient's record into the destination patient's encounter. The printout is for use as a guide in re-entering the notes on the correct patient, and is watermarked to indicate that it is not itself a usable medical record for the patient. (See Figure 10-18 for an example.)

NOTE

If you Close the Note Selection screen shown in Figure 10-17, you cannot reopen it, but you can go to the patient's Notes Review and delete unneeded notes from there.

NOTE

Remember to use Late Note Entry so the notes appear at the correct time on the reassigned segment.

Reassign Trace Segment Notes - For Admin Use Only – Not a Medical Record

Reassign Trace Notes Log

Source - CLARK, MICHELLE / MRN: ***854942 / : 333530 / DOB: 02/01/1980 / Start: 12/07/2016 16:14 - Pend-Discharge

Segment - Start: 02/21/2017 14:51 End: 02/21/2017 16:04 Duration: 01:13 Bed: LDR-14

Destination - WARNER, MARYANN / MRN: ***12600045 / : 50000045 / DOB: 02/01/1980 / Start: 11/29/2016 09:35 - In Unit

Note Date/Time	Entered Date/Time	Entered By	Deleted Date/Time	Deleted By	Note
02/21/2017 16:04:00	02/21/2017 16:08:00	OBIX	02/21/2017 16:16:35	OBIX	BP: 120 /70 mmHg
02/21/2017 16:04:00	02/21/2017 16:08:00	OBIX	02/21/2017 16:16:35	OBIX	T: 98.6 F
02/21/2017 16:04:00	02/21/2017 16:08:00	OBIX	02/21/2017 16:16:35	OBIX	P: 75 bpm
02/21/2017 16:04:00	02/21/2017 16:08:00	OBIX	02/21/2017 16:16:35	OBIX	R: 16 /min
02/21/2017 16:04:00	02/21/2017 16:08:00	OBIX	02/21/2017 16:16:35	OBIX	Comment: vitals comment
02/21/2017 16:04:00	02/21/2017 16:08:00	OBIX	02/21/2017 16:16:35	OBIX	Temp Method: Oral

****End of Notes Log****
6 Notes Printed
Transaction Notes not included in printout

FIGURE 10-18 **Example of Reassign Trace Notes Log**

10.6.1 Reassign Trace: Other Messages

The following messages may be displayed when reassigning segments:

- **Trace Segment Overlap:** If the timespan of the tracing segment you are attempting to reassign overlaps the timespan of a tracing already recorded for the destination patient, a message similar to Figure 10-19 is displayed. Do one of the following:
  - Click **Back** to select a different segment for reassignment.
  - Click **Continue** if you wish to reassign the selected segment anyway.
  - Click **Close** to stop the trace reassignment process.
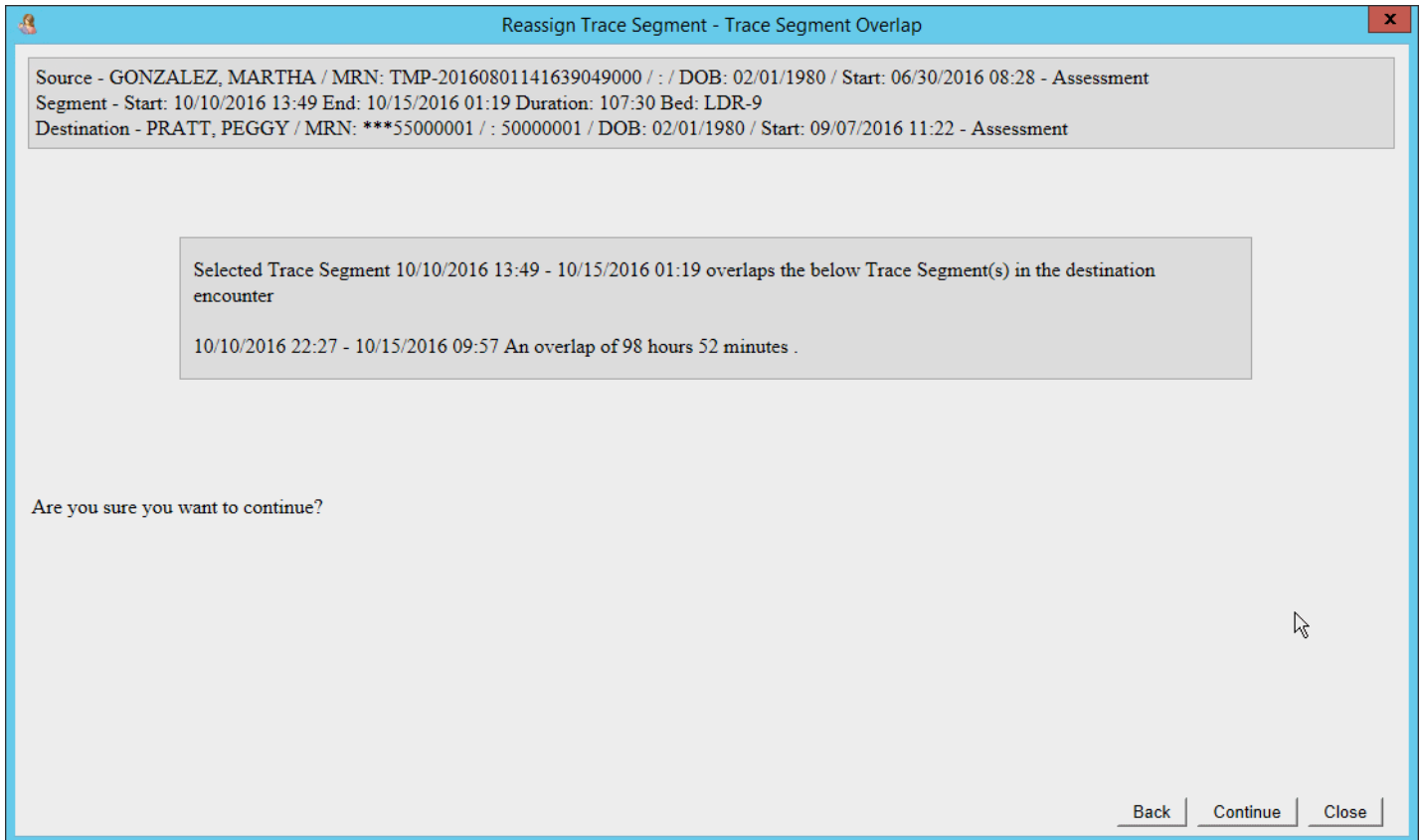
FIGURE 10-19 **Tracing Reassignment Time Overlap Message Example**

- **Trace Segment Overlaps Active Trace:** If the timespan of the tracing segment you are attempting to reassign overlaps the timespan of the destination patient's currently active tracing, a message similar to Figure 10-20 is displayed, indicating that the patient has an active trace running. Do one of the following:

  - Click **Back** to select a different segment for reassignment.

  - Click **Continue** if you wish to reassign the selected segment anyway.

  - Click **Close** to stop the trace reassignment process.
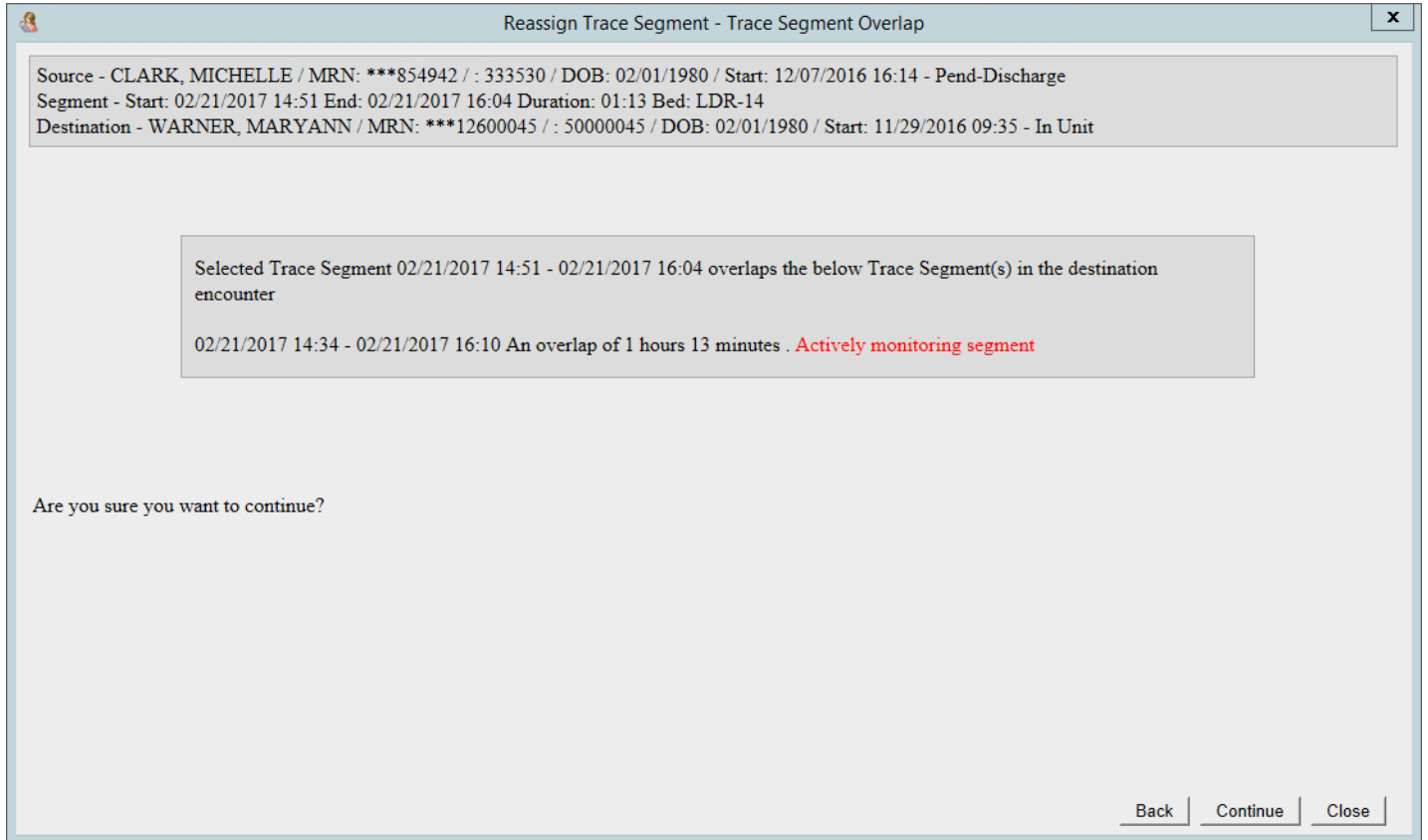
FIGURE 10-20 **Tracing Reassignment, Active Trace Overlap Message Example**

- **Ended Before Destination start time:** If the segment being reassigned ended before the start time of the destination patient's open encounter, a message similar to the following example is displayed. Do one of the following:

  - Click **Back** to select a different segment for reassignment.

  - Click **Continue** if you wish to reassign the selected segment anyway.

  - Click **Close** to stop the trace reassignment process.
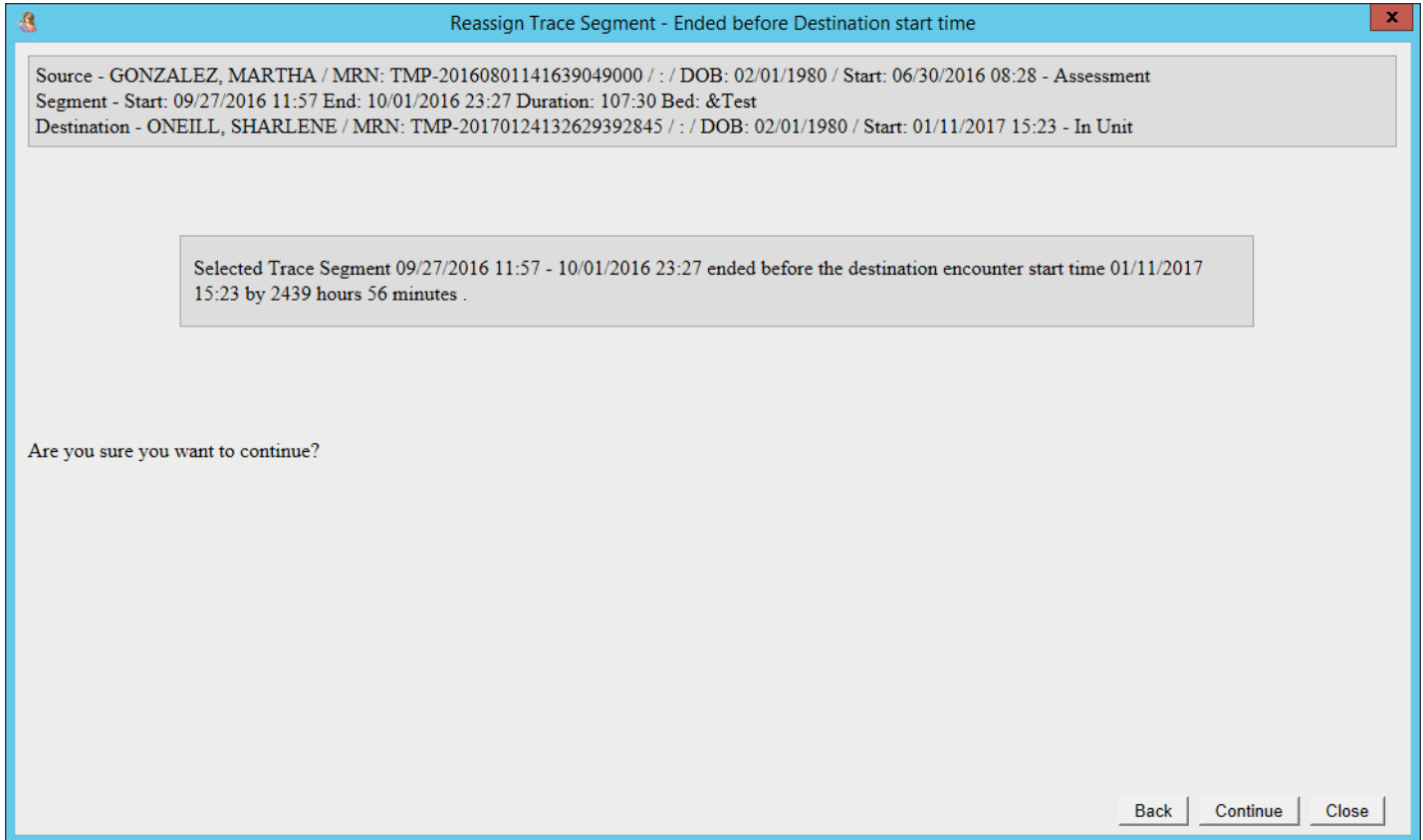
FIGURE 10-21 **Tracing Segment Ended Before Destination Encounter Start Time Message Example**

10.7 Unmatching a Patient

> **NOTE**
>
> **Unmatch from EHR is available only to admin users with security level 8 or higher.**

Unmatching a patient breaks the link between the patient in OBIX and the same patient in the electronic health record (EHR). The patient must have an open encounter (using cancel discharge if necessary) in order to unmatch. When you unmatch an OBIX system patient:

- identification information from the EHR is removed

- other names used by the patient are removed

- the patient is put in an unmatched state

- re-matching is done manually

To unmatch an OBIX patient:

1. Select the patient to put her in focus.

2. Choose the encounter you want to unmatch.

3. Cancel the discharge if necessary.

4. On the **Patients** menu, click **Unmatch from EHR**. The **Unmatch Patient Confirmation** message appears (see Figure 10-22).
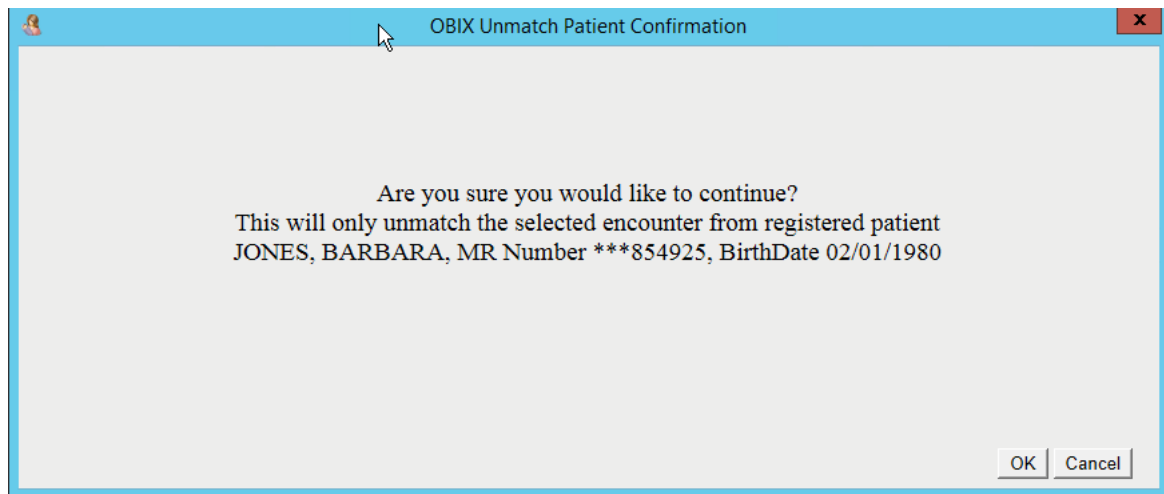
FIGURE 10-22 **Unmatch Patient Confirmation Message**

5. Click **OK** to unmatch the patient and close the message window. A temporary MRN is assigned to the unmatched patient encounter.

6. Edit Identity or Match to EHR to correct the patient's information

7. Discharge the patient to remove from Pend Discharge list.

8. If the patient has several encounters, you must unmatch each one individually. Repeat steps 1 through 7 until you have unmatched all of the patient's encounters.

10.7.1 Unmatch Patient Scenario: Patients Matched in Error

Janet Jones is brought to the Labor Unit for an emergency cesarean section. To get her into the operating room quickly, she is admitted as an unmatched patient. After Janet is moved to Recovery, the nurse supervisor searches for **Janet**'s medical record so it can be matched with her emergency surgery encounter. Two patients whose last name is **Jones** are listed—**Jane** and **Janet**—and the nurse supervisor accidentally matches **Janet**'s encounter with **Jane**'s medical record. To correct her error, she clicks the **Patients** menu and selects **Unmatch from EHR** to break the link, and then matches **Janet**'s encounter with the correct medical record.

10.8   Quality Assurance

This chapter provides guidelines for developing a long-term quality assurance plan for the OBIX system.

> **NOTE**
>
> **When an electronic fetal monitor surveillance system is used, the paper fetal monitor strip is intended for patient management and backup, if interruptions occur during the recording of the electronic tracings. The facility may choose to use the electronic fetal monitor trace as the legal, long-term medical record if they determine that storage of the electronic fetal monitor trace is superior to paper storage. However, each electronic fetal monitor tracing must be verified for completeness before relying on it as the permanent medical record. When the electronic fetal monitor tracing is verified as complete, the facility may decide to destroy the paper record.**

> **NOTE**
>
> **A long-term quality assurance plan should be developed for patient naming and tracing quality compliance. Many facilities elect to perform a random audit of charts on a quarterly basis, the results of which are shared with the staff to help maintain excellence.**

10.8.1   Electronic Archiving: Quality Assurance Checkpoints

1. **QA search for unmatched patients:** unmatched patients create two separate sets of medical records for the same patient.

    1.1. Frequency of QA checks should progress from daily, to weekly and then monthly.

    1.2. Use the **Search** window to review unmatched patient names for a recent time period such as the past two weeks. Place a check mark in the **Display Unmatched Patients Only** check box to limit the search to patients unmatched to the EHR.

    1.3. Filter by facility using the **Facility** drop-down list.

    1.4. Check how many of the unmatched patients are due to misspelled names or incorrect medical record numbers.

> **NOTE**
>
> **This search returns a maximum of 500 results.**

    1.5. Perform Matching a Patient, page 30 to match unmatched patients to the EHR, or **Cancel Discharge** and/or edit to correct patient names.

NOTE

Records cannot be merged if there is an active encounter. Wait until Discharge then merge the records using Cancel Discharge/edit.
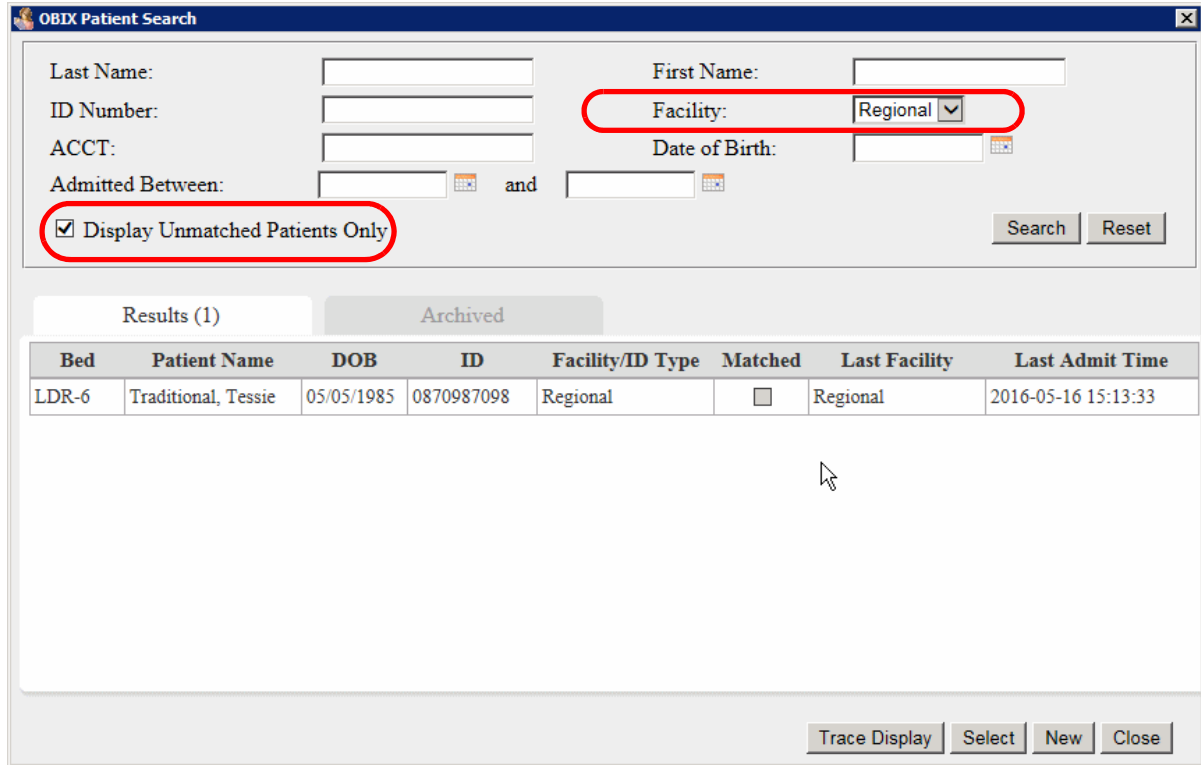
FIGURE 10-23 **Patient Search Window – Unmatched Patient**

10.8.2 Assessment List Quality Assurance

The assessment list includes patients that:

- are transferred out of the OBIX system into other hospital beds but are not discharged.

- were moved out of their bed by the EHR because a new patient was assigned to the same bed.

In the OBIX system, the inbound ADT interface automatically admits, transfers and discharges according to the HL7 messages sent by the EHR as long as the patient in OBIX is matched to the EHR and has the correct account number assigned.

If the patient is not matched or has missing/incorrect account number assigned, patients who were moved to the assessment list because of the ADT override feature will remain in the assessment list until the following occurs:

- User addresses unmatched patients/missing account numbers as soon as possible, so that when the EHR sends an HL7 message, the proper action is completed (admit, transfer, or discharge).

- User manually discharges patient after x amount of days. This requires the user to verify that the patient has been discharged from the hospital first.

NOTE

A quality assurance plan should be developed to review the assessment list to ensure patients do not remain in the list for long periods of time. Manual processes will be required of the user to address the issue.

NOTE

When a patient remains in the assessment list indefinitely, it is critical that the user review the history in the EHR.

10.8.3 Fetal Heart Rate Electronic Tracing Quality

Regular auditing of traces is recommended to ensure proper ADT procedures are being followed.

1. When patient is selected from the **Search** list, choose **Tracings** menu and **Display**, choose a tracing segment for review and click **Trace Display** (sort segments by archived list date).
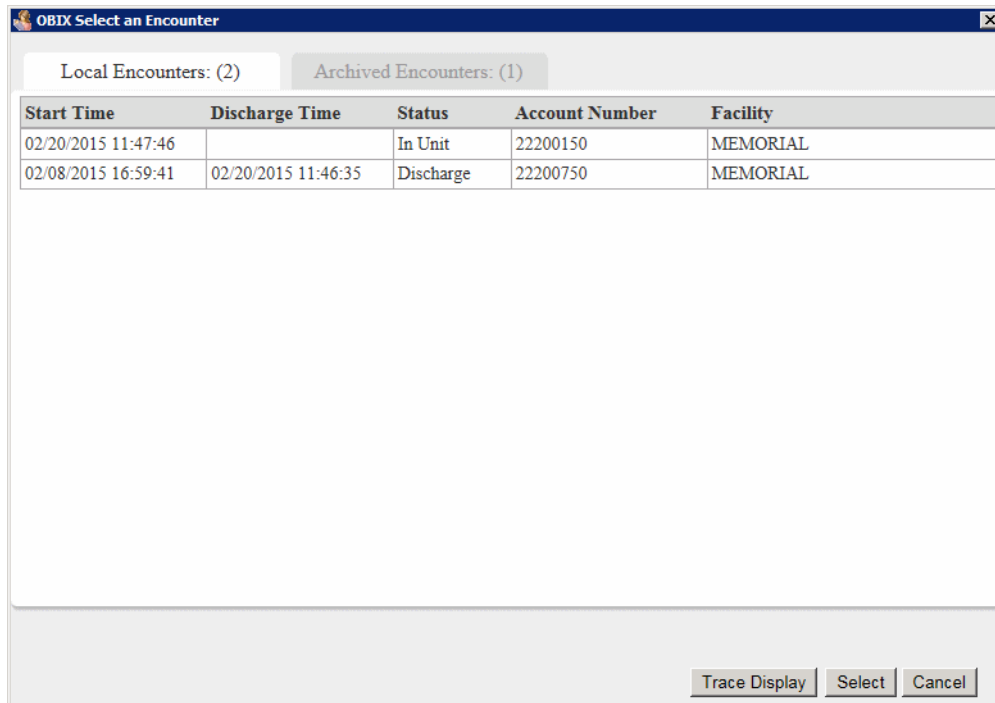
FIGURE 10-24 **Select an Encounter Window**

2. Check the beginning and the end of each tracing which may include multiple segments.

3. Check for the heading information at the left of the EFM tracing at the beginning of the segment, indicating tracing start time (Figure 10-25).
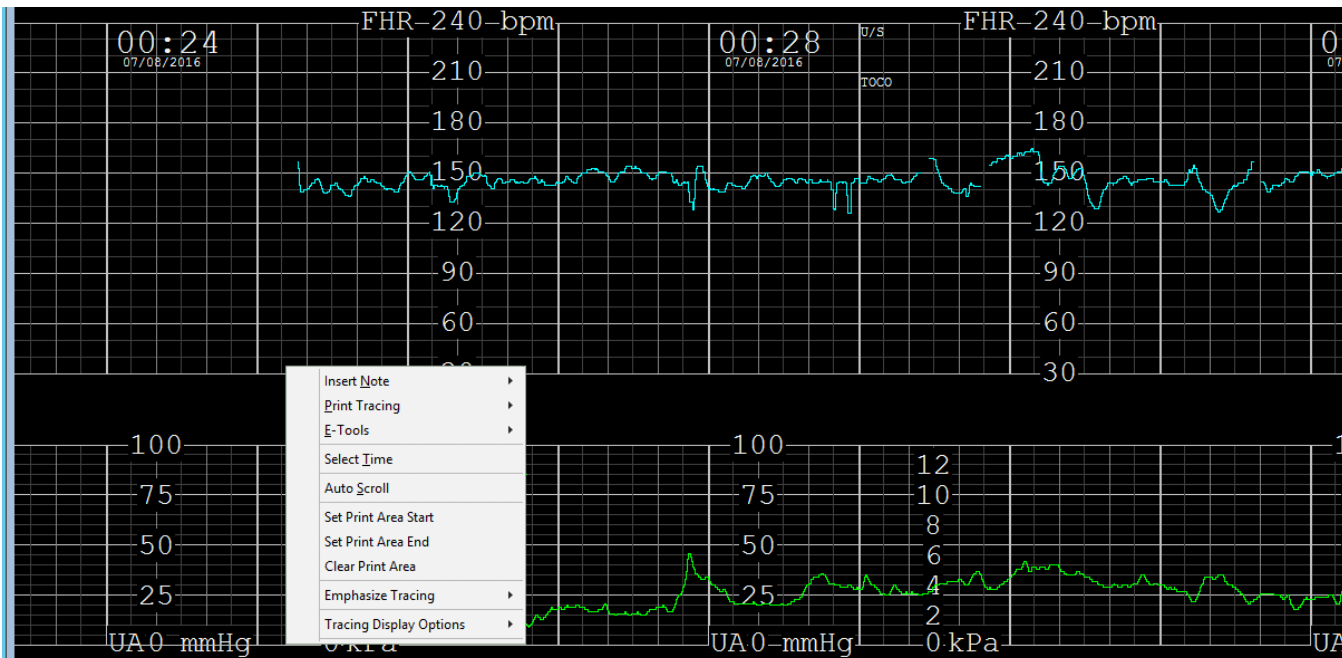
FIGURE 10-25 **Start of Tracing Segment, with Context Menu Showing**

4. Press the **END** key and check for the blank portion of EFM tracing at the end of the tracing segment and the heading information indicating the end of the tracing segment (Figure 10-26).
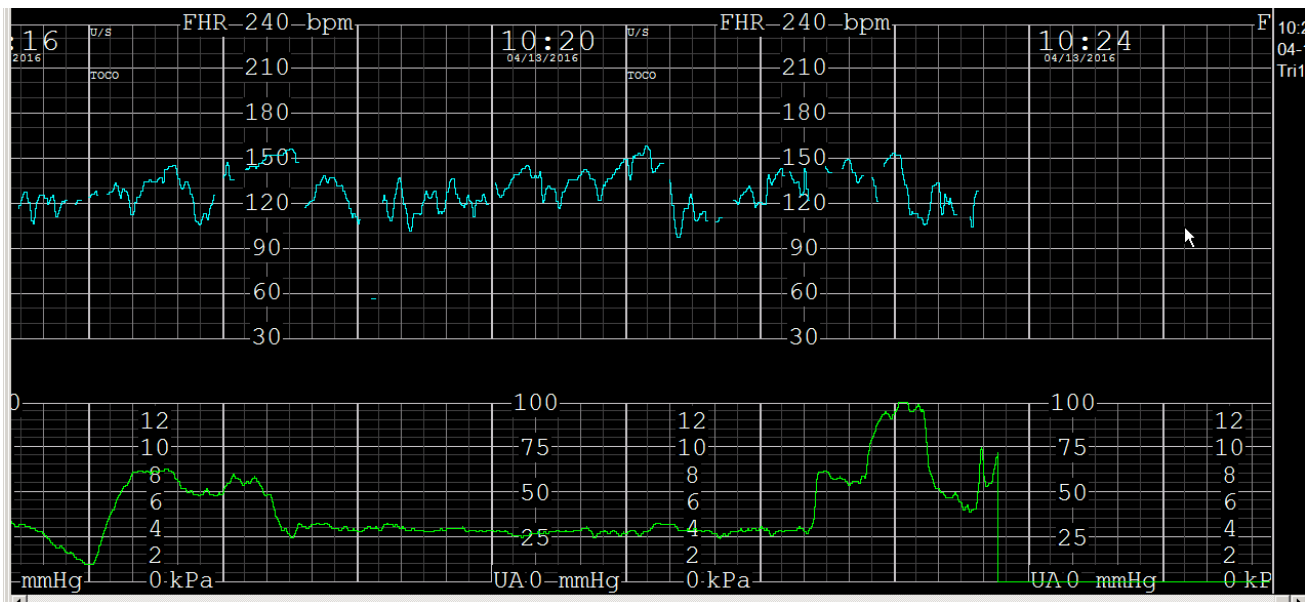
FIGURE 10-26 **Segment Tail**

5. Repeat this process for each tracing segment you are reviewing for the patient's entire encounter.

6. To review other encounters, navigate to the **Patients** menu and choose **Change Encounter**.

7. Pay particular attention to the middle tracing segments to ensure proper procedures were followed during patient transfers ("OBIX first/OBIX last").

10.8.4 Sample OBIX System Downtime Policy and Procedure

OBIX® Perinatal Data System Downtime Policy and Procedure			
Doc No.: XX-XX-XXX	Owner: Patient Care Division, Labor and Delivery Department	Version A	Page 1 of 2

Policy

The nursing staff must initiate paper documentation and this downtime procedure when the OBIX Perinatal Data System (Clinical Computer Systems, Incorporated's fetal monitoring system) is not available.

Scope of Practice

This document applies to all registered nurses and hospital personnel who access and use the OBIX system.

Purpose

The purpose of this procedure is to maintain the accuracy and integrity of patient medical records in the event that part or all of the electronic system is not available.

Definitions

Downtime – the period of time when the OBIX clinical information system is not available for use. This includes scheduled downtime for system maintenance and upgrades, as well as unscheduled downtime due to an application or infrastructure incident.

ADT Downtime – the period of time when the Admission / Discharge / Transfer (ADT) interface is not available and newly registered patients are not automatically registered in OBIX; however, the OBIX system remains operational.

System Administration Responsibility

Downtime procedure administration responsibility resides with the OBIX system administrator (as assigned). Back up responsibility is assigned to [*specify personnel or department*].

System administration responsibility includes maintenance of these downtime procedures, which specify the alternate processes that must be activated to ensure continuity of clinical and other services during downtime. These procedures must be reviewed and tested, at minimum, on a yearly basis.

Downtime Guidelines

- All OBIX system users must be notified in advance of any planned downtime.
- OB staff members must notify the Help Desk of any problem with the system that could result in unscheduled downtime.
- OBIX Technical Support must be notified: 888-871-0963.
- All OBIX system users must implement the use of paper documentation as soon as a problem is identified on the unit.

OBIX® Perinatal Data System Downtime Policy and Procedure			
Doc No.: XX-XX-XXX	Owner: Patient Care Division, Labor and Delivery Department	Version A	Page 2 of 2

Procedure A: System Downtime of Two Hours or Less

1. Paper documentation of biophysiological data occurs at ordered timeframes.

2. When the system is operational again, the RN assigned to the individual patient is responsible for entering all the related patient documentation from the previous two hours into the OBIX system.

3. The RN assigned to each patient enters an annotation stating:
OBIX downtime started at _____ am/pm. OBIX on line at _____ am/pm.

4. When the system is operational again, the RN assigned to each patient ensures that surveillance of all appropriate patients is resumed. Any issues must be communicated to the [*as designated by hospital*].

Procedure B: System Downtime of More Than Two Hours

1. All OBIX users must be notified in advance of any planned OBIX system downtime.

2. OB staff members must notify [*designated by hospital*] of any unscheduled downtime.

3. All OBIX users must implement use of paper documentation according to department policy and procedures during downtime.

4. All paper documentation becomes a permanent part of the patient's medical record. All pages must contain the patient's pertinent identifying information.

5. Paper fetal tracings must be identified with the RN's name and the patient's name, date of birth (if applicable), medical record number, and current date. Use patient stickers if they are available.

6. Paper fetal monitor strips become a permanent part of the patient's medical record.

7. If applicable, when the system is operational again, the RN assigned to each patient enters an annotation stating:
OBIX downtime started at _____ am/pm. OBIX on line at _____ am/pm. Paper documentation completed during downtime.

8. When the system is operational again, the RN assigned to each patient ensures that surveillance of all appropriate patients. Any issues must be communicated to the [*as designated by hospital*].

Procedure C: OBIX HL7 Interface Downtime

1. When notified that the HL7 interface is not available, the nursing staff must follow manual downtime procedures.

2. If the HL7 feed is not available to the OBIX system, admit the patient to the OBIX system manually: on the Patients menu, select Search. Enter search parameters and choose the patient from the list. If the patient is not on the list, click New and manually enter patient's Last Name, First Name, and DOB.

11. Troubleshooting

This troubleshooting information may be helpful if you encounter a problem as you use the OBIX system. This appendix also provides information specific to OBIX systems integrated with the hospital's EHR system.

TABLE 11-1 **Troubleshooting Information**

Problem	Cause	Corrective Action
Keyboard shortcuts do not work in Patient Manager .	The focus is not on Patient Manager.	Return focus to Patient Manager by pressing **ALT+TAB** until you highlight the Patient Manager icon.
You cannot log into a workstation, or the surveillance screens are black.	The workstation is not communicating with the OBIX Server.	Try logging in to a different workstation. If you can log in at a different workstation, confirm that the network cable of the first workstation is securely connected to the wall jack and to the workstation. Reboot the workstation. If the problem recurs, call CCSI Technical Support.
You can log into the workstation, but the tracing is not displayed on the surveillance screen after 30 seconds.	The fetal monitor cable is loose or disconnected.	• Disconnect and reconnect the cable from the fetal monitor to the wall jack. Restart the workstation. • Check patient's bed location in the OBIX In-Unit list. • If problem persists, call the IT help desk.
Display is Updating message appears on surveillance screens for 30 seconds or more.	Network is unusually busy or there is a communication problem.	• Turn fetal monitor **off** then **on**. • Note the bed location and call the support desk if problem persists.
The care provider is not appearing as a selection when the patient is assigned to a bed.	The care provider is not in the security table.	Ensure that the care provider is in the Active security table and is assigned a security level. The IT department generally adds users to OBIX; they appear in the Inactive list until an OBIX administrative user activates the new care provider and assigns them to a security level.
A tracing is associated with the wrong patient	A caregiver associated a patient with the wrong bed, and the tracing was recorded from one patient, but associated to another patient in OBIX	An authorized administrative user can move the tracing from one patient's record to the correct patient record. See "Audit Log Search" on page 107 for instructions.
Encounters exist under two different identities for the same patient.	Patient was admitted manually	Perform "Matching a Patient" on page 30 to merge the patient records.

TABLE 11-1 **Troubleshooting Information (continued)**

Problem	Cause	Corrective Action
The trace review strip looks like it is either missing data or has black spaces when scrolling.	Network communication problem	Relaunch OBIX. If problem continues, call Support for assistance.
Patient not created in this facility message appears when a matched patient is selected from the Search field for admission to an OBIX bed.	• Patient may already have an open encounter. • Patient may have been selected from the wrong facility.	1. Check the In Unit and Assessment lists to verify that the patient does not already have an open encounter. If there is an open encounter that is incorrect, first discharge the patient, then assign her to a bed. To resume her tracing if desired, the trace held by the patient with the Temp MR# must be reassigned to the correct patient by an OBIX system administrator. Use Reassign Trace to assign the orphaned trace from the Assessment list to the patient's new active encounter. See "Reassigning a Trace Segment" on page 115. • Select the patient from the facility where she is actually being admitted.
Troubleshooting with EHR Integration		
Hospital EHR goes down while there are patients in OBIX	EHR problem	Patients that are assigned to OBIX beds, are matched to the EHR, and have account numbers must be manually transferred, discharged, and managed using OBIX until the EHR comes back on line. When EHR is available, confirm that ADT actions are managing patients correctly in OBIX by checking the In Unit list.
The hospital EHR is down, and new patients must be admitted.	EHR problem	1. Log into OBIX using the desktop icon. 2. Under the **Patients** menu, use the **Search** function to find the patient. Select the matched patient from the search results list. 3. Under the **ADT** menu, select **Assign Bed**, and assign the patient to an available OBIX bed. Patients admitted this way must be manually Transferred, Discharged, and managed in OBIX until the EHR comes back on line. (It is possible to discharge a patient without an Account Number.) 4. When EHR is available, select patient from the **In Unit** list, select **Account Number** from Patient menu, then select the account number that matches patient's account number in the EHR. The EHR will take over the ADT actions on the OBIX patient; check the In Unit list to confirm.

TABLE 11-1 **Troubleshooting Information (continued)**

Problem	Cause	Corrective Action
The EHR is down and a new patient must be admitted, but she cannot be found using OBIX **Search**.	Patient may not have a previous encounter in the system.	1. Register patient manually. Select **Search** from the OBIX **Patients** menu, then select **New** button on OBIX Search window to open the Patient Registration window. 2. Complete the fields for **Last Name, First Name, Middle, MR Number**, and **Date of Birth**. The patient will automatically match to their record in the EHR when the EHR comes back on line. 3. After the EHR is back online and the patient is matched, select the patient, select **Account Number** under **Patients** menu, and select the correct Account Number for the patient. The EHR will then take over ADT actions. Check the OBIX In Unit list to confirm correct placement of all patients.
New patient admitted using OBIX does not auto match when EHR comes back up.	Name, DOB or MRN did not match the message from the EHR, or OBIX has not received a message from the EHR. User must match the patient before attempting to assign an account number.	Patients admitted manually get a Temp MR# and may not auto-match. They are moved to the Assessment list when the EHR assigns the patient to an OBIX bed. Patients admitted and bedded by the EHR appear in the In Unit list. EHR bedded patients appear in the In Unit list and will show the trace from the time the patient was admitted by the EHR. The EHR admitted patient has the correct Account number and the EHR will then take over the ADT actions. 1. The patient with the Temp MR# is placed into the Assessment List without an account number until corrected. Review the trace before reassigning if appropriate. 2. The trace held by the patient with the Temp MR# must be reassigned to the correct patient by an OBIX system administrator. Use Reassign Trace to assign the orphaned trace from the Assessment list to the patient's new active encounter within the EHR. See "Reassigning a Trace Segment" on page 115. 3. For facilities with ASI: follow hospital policy for downtime documentation.
While EHR is down, a matched patient is selected from OBIX Search and admitted to Triage Bed 1. EHR comes back up and the staff places the patient in Triage Bed 2 by mistake. Vitals will not interface to the chart.	OBIX ignores the "admit" message from the EHR because one matched patient cannot have two open encounters.	Use the EHR to transfer the patient to the correct bed.

TABLE 11-1 **Troubleshooting Information (continued)**

Problem	Cause	Corrective Action
When launching OBIX from EHR, menu bar does not expand and strip does not launch.	User is in OBIX security table, but is not activated.	An administrative user, generally hospital IT, must activate the user. See 10.3.1, "OBIX User Manager," on page 101 for instructions.
Invalid User message appears when user attempts to launch OBIX from the EHR.	User is not in the OBIX security table.	Hospital IT must add user to OBIX user group. Follow hospital procedure for entering the user into the OBIX active directory. After user is added to OBIX user group, see 10.3.3, "Security Levels," on page 104 for instructions on assigning the user's OBIX security level.
You can't launch OBIX with department id:xxxx message appears when Launch OBIX button is clicked.	User is not logged into the correct OB department.	User must be logged into the correct EHR configured department ID. If not logged in to correct department (such as L&D In-patient), OBIX launch SSOPC will not launch. Check with hospital IT for correct dept. ID. Contact OBIX if issue cannot be resolved.

Other EHR Tips

- Check the OBIX In Unit list frequently during and after EHR downtime to make sure patients in the list are bedded correctly, matched, and have an Account Number assigned. Patients that do not have an account number are shown in red.

- If a patient does not have an Account Number, always select the Encounter ID that matches the EHR. This is necessary in order for the patient's data to flow properly between OBIX and the EHR.

- If a patient is transferred from LDR to postpartum during EHR downtime, select the patient in OBIX, then manually discharge her from OBIX by selecting **Discharge** from the OBIX **ADT** menu.

After patient corrections are made within the In Unit list, check the Assessment list for patients that should be assigned a bed or that have a temp MR#. Select the patient, then select **ADT > Transfer** to the appropriate bed in OBIX, or correct In Unit patient when an auto-match does not occur.

12. Mobile OBIX Fetal Monitor Carts

The mobile OBIX Fetal Monitor Cart should be used for pregnant patients requiring periodic fetal monitoring who are located outside of the Obstetrical Department. Some scenarios appropriate for use of the OBIX Fetal Monitor Cart are listed below.

Scenario 1: The pregnant patient is admitted to another unit/department (i.e. ICU, med/surg, psychiatry) with a primary medical/surgical problem.

Scenario 2: The patient presents to the ED with imminent delivery and/or traumatic injury where transfer to the OB unit is not possible.

Scenario 3: The patient requires an operative procedure and/or delivery in the main operating rooms and fetal monitoring is required.

Scenario 4: A triplet pregnancy patient is admitted into a room that does not have a triplet-capable fetal monitor and is wired for one fetal monitor. The mobile cart can be moved into the room to monitor the third fetus.

> **NOTE**
>
> **These are general guidelines that may have to be revised to suit your facility's use of Mobile OBIX Fetal Monitor Carts.**

12.1 Establishing Mobile Cart

1. When the Mobile OBIX Fetal Monitor Cart has been moved to the patient's location, and plugged into the power source, do the following:

   • If the device does not automatically power up, turn on the power button for the cart, computer and Fetal Monitor.

   • Connect to the network either through a wireless connection or by plugging a network cable from the cart into a data port.

2. Log into your EHR and open the patient's chart.

3. Launch OBIX (see Note below), then follow these steps:

   • Ensure the patient name is in focus in the Patient Manager window.

   • Select **Assign Bed** from the **ADT** menu.

   • Select mobile cart from the OBIX bed list and click **OK**.

   • In the EHR, associate the device if vitals are required to transfer to the EHR.

12.2   Disconnecting Mobile Cart

3.1. To discontinue monitoring and remove the mobile cart, do the following: Return to the EHR and disassociate the device.

3.2. Go into OBIX and discharge the patient as described in "Discharging a Patient" on page 42.

4. If the mobile cart will remain in the patient's room for future monitoring, use the following steps:

4.1. Leave the device associated in your EHR.

4.2. To start monitoring again, log into your EHR and open the patient's chart.

4.3. Launch OBIX. The patient name should be in focus in the window.

> **NOTE**
>
> **If the mobile cart is needed for a different patient, discharge the original patient from OBIX, but not the housewide system. Assign the second patient to the Mobile Cart. (See "Establishing Mobile Cart" on page 139.)**
>
> **If you need to resume monitoring the first patient using the cart again, you must first remove the second patient from the OBIX mobile cart by transferring her to a bed or discharging her from OBIX. Move the mobile cart back to the first patient. Search in OBIX for the first patient, and then use the "Cancel Discharge" feature to reopen her encounter, assign her back to the Mobile Cart and resume her tracing. This workflow will zipper the patient's tracings together for the entire encounter.**

> **NOTE**
>
> **If there is no Launch OBIX icon available in another department when in the patient chart, log directly into OBIX to assign the patient to the mobile cart.**