NSW GOVERNMENT | eHealth

electronic Record for Intensive Care (eRIC)

User Guide

April 2017

Version 2.0

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eRIC User Guide

Module 1: Introduction

Introduction

1. Overview

1.1 What is eRIC?

A unique clinical system created by ICU clinicians for critically ill patients.

Based on iMDsoft's MetaVision 6, eRIC is a system that integrates clinical data every minute from bedside monitors, ventilators and other specialised equipment in one configuration for Adult, Paediatric and Neonatal ICUs using evidence-based clinical practice.

Once deployed across the 43 ICUs of NSW, eRIC will be one of the largest enterprise-wide ICU clinical information systems in the world.

1.2 Why is it necessary?

ICUs are highly complex environments and the most data-intensive part of any hospital. Compared to regular wards, in an ICU thousands more data points are recorded daily. A specialised electronic solution is required to provide the complex, minute-by-minute patient monitoring and analysis necessary to safely manage the critically ill.

1.3 What are the benefits?

For patients

With a focus on clinical safety and evidence based practice; eRIC is expected to contribute to a reduction in mortality rates across the state.

For clinicians

Purpose-built by NSW clinicians, for NSW clinicians, eRIC is a holistic system that supports clinicians in caring for critically ill patients by reducing the risk of clinical error.

For the hospitals of NSW

Improved efficiencies in patient flows and work practices with the ability to benchmark across the state.

1.4 Intended Audience

This User Guide is intended primarily to be used by ICU Clinicians who will be using eRIC on a daily basis. This group will include:

- ICU Management Staff
- ICU CIS Manager
- ICU Nursing Staff (Super Users and End Users)
- ICU Medical Staff (Super Users and End Users)
- ICU Administrative Staff
- ICU Data Manager
- ICU Allied Health Staff
- ICU Pharmacists

It may also be accessed and used by Non-ICU Ad hoc and Non-ICU Read Only Staff

1.5 Purpose

This User Guide is intended to provide the requiste information that will enable you to:

- Develop a high level understanding of eRIC
- Manage to effectively use the common parts of eRIC's screen
- Navigate effectively around eRIC tabs, views and forms
- Create an electronic admission for a patient admitted to ICU using eRIC
- Develop a high level understanding of the menus, tabs and views that will be used to plan the ICU daily routine in eRIC
- Effectively use the relevant forms in eRIC to document assessment, management plans, completion of tasks and clinical events
- Prescribe and validate doses, tasks and actions in eRIC
- Understand medication terminology specific to eRIC
- Undertake the prescription and validation of medications, including fluid therapy, enteral feeds and parenteral feeds, blood and blood products prescription and administration in eRIC
- Understand speciliased medication prescription and administration processes in eRIC
- Discontinue medications in eRIC
- Understand discharge and transfer terminology specific to eRIC
- Comprehend the procedures in eRIC involved in discharging / transferring / transporting a patient from ICU.

1.6 Scope of this User Guide

This version of the User Guide is for version 6.4 of Metavision. It provides information on currently available functionality and specialised workflow process. This will continue to evolve and information will be supplemented accordingly with addendums.

Updates will be provided to the ICU CIS Manager and they will be responsible for updating material accordingly into the User Guide.

1.7 Structure of the User Guide

The User Guide comprises of five modules.

- Module 1: Introduction
- Module 2: Admission
- Module 3: Daily Routine
- Module 4: Medication
- Module 5: Discharge and Transfer

The User Guide can be used for the following:

- As a reference document for face-to-face training (Slide Notes in the training slides refer back to the user guide for more detailed information)
- It **should** be used as a reference manual post training.

There are also a number of other tools that can be used to help you for self-directed learning. The hard copies will be located in the eRIC Resource Folder.
Soft copies can be accessed on the ACI eRIC Intranet webpage.
Intranet Link: eRIC section on the ACI intranet
The eLeaning will be available on HETI / My Health Learning.
http://hetionline.health.nsw.gov.au

Learning Material includes:

- PowerPoint training slides
- eLearning modules (Videos and Simulations)
- Quick Reference Guides (QRGs)
- Activity sheets
- Training Case Study

When working through the activities in the slide packs you can refer to the User Guide. Ideally you will have access to a simulation 'eRIC training environment' allowing you to log-in and to complete the activities.

1.8 Important Information

NOTE: This is used to annotate an important piece of information that needs attention.

1.9 Disclaimer

This User Guide is provided to assist you with understanding how to use eRIC effectively. In recognising that different structures, procedures and protocols exist in current ICU environments, it cannot and does not provide guidance specific to your practice.

This guide is not an exhaustive list of all actions your ICU may need to undertake and should be used in conjunction with the other provided resources.

In addition, requirements, processes, forms and other information in the User Guide is subject to change, so you will need to check the currency and accuracy of information with your local ICU CIS Manager.

2 Introduction Module

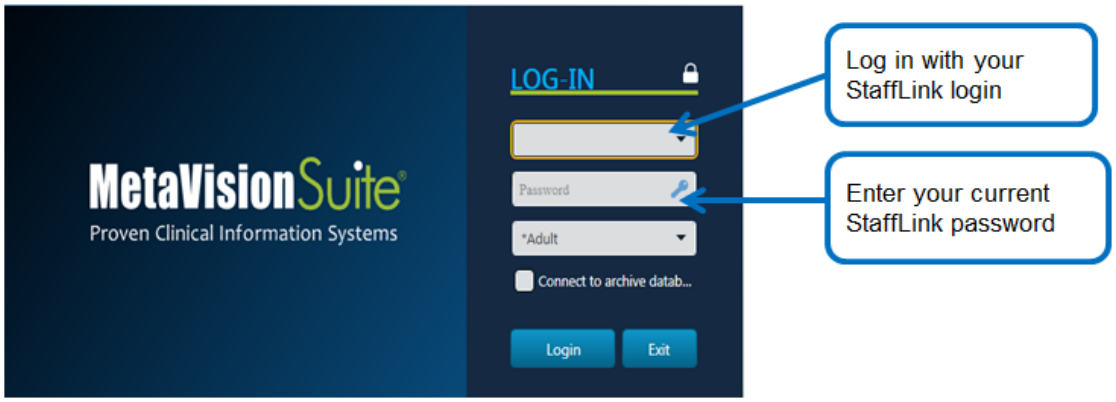
This module will introduce you to 'Getting started' with eRIC. It will provide you with an understanding of the screens, tabs, views and forms whilst enabling you to acquire the skills required for navigating eRIC.

2.1 What is a Clinical Information System?

A Clinical Information System (CIS) is an information system designed to be used specifically in the critical care environment. It integrates the many computer systems found in a modern hospital, such as pathology and radiology, with an electronic patient record. This provides easy bedside access for clinicians.

With a CIS, patient information that was formerly recorded by staff caring for the patient on paper charts is collected and entered into a computer located at each bedspace. Observations, including blood pressure, heart rate, oxygen levels and temperature along with medications and fluids are all recorded in this clinical information system. As necessary, staff will also enter notes. Once the patient is discharged from the Intensive Care Unit, the relevant information is printed and placed in the patient's medical record. An electronic Handover of Care document (eHOC) is also generated and published to eMR.
eRIC is the CIS that will be used across NSW Health for Intensive Care Units.

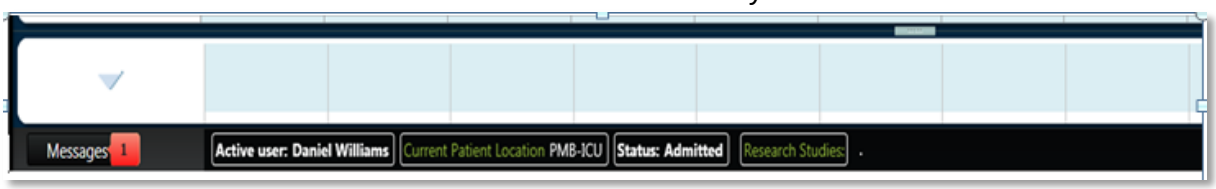
2.2 Getting Started



- In order to use eRIC you will have to login with your personalised StaffLink username and password

NOTE: It is important to realise that anything done within eRIC will be attributed to the person logged in.

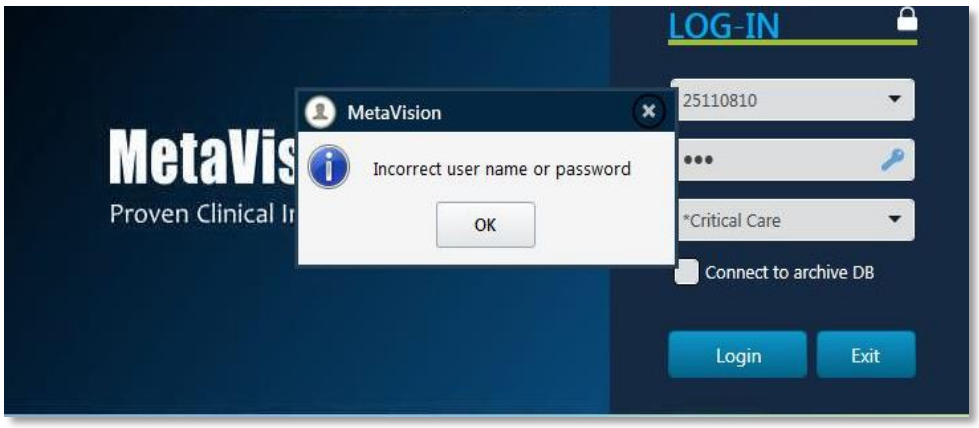
Before entering anything into eRIC make sure you are logged in. This is easy to check and can be seen in the Status Bar. This is at the bottom left of your screen.



Make sure that when you are finished updating eRIC you log off.
The system is currently set to auto log out in **5 minutes** without any mouse and keyboard activity.

2.3 Troubleshooting inability to Log-In to eRIC

eRIC Login Screen message 'Incorrect user name or password' (you may have forgotten your username and/or password)



Step 1: Ensure your StaffLink ID and password are entered as per your computer credentials.

Step 2: If you still get the above error message, call State Wide Service Desk 1300 28 55 33 to reset your StaffLink password. You will be issued a temporary password and will need to login to StaffLink and reset your password before logging in to eRIC.

Step 3: You can now login using your health ID and new password.

Step 4: If you still get the above error message, contact your local CIS Manager.

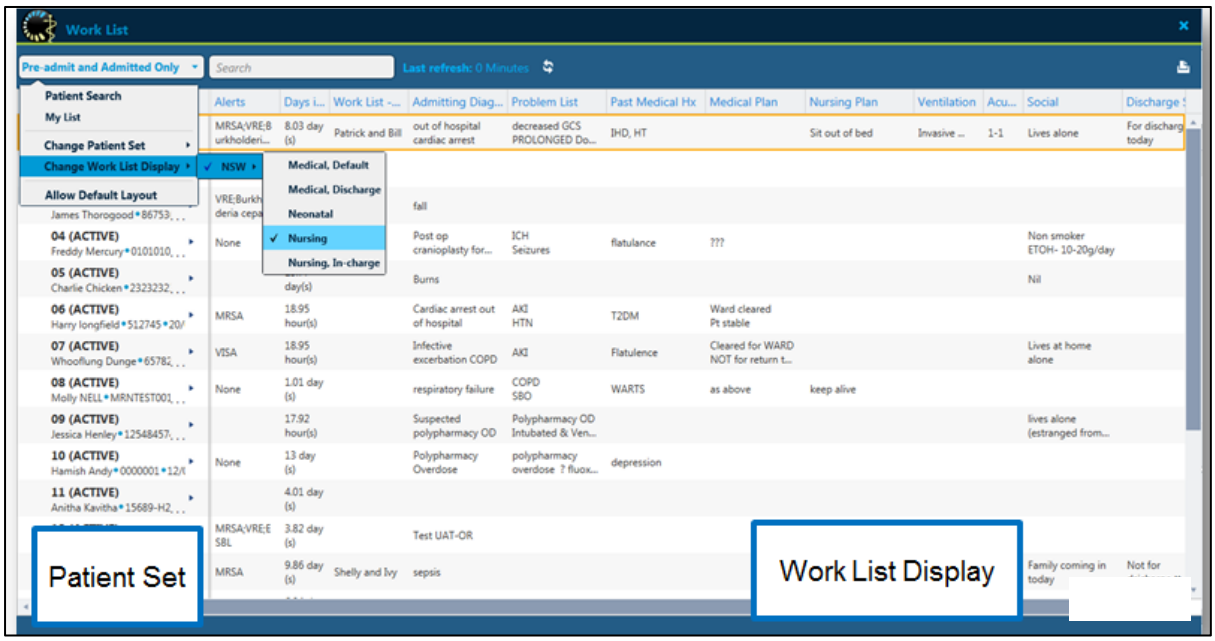
2.4 Terminology

There is some important terminology that every eRIC user must know. This is outlined in the table below:

Term	Description
Login	Log in to eRIC using your user name and password.
Logout	Log out of eRIC. This is a simple action that brings you back to the login screen and allows a different user to use eRIC.
On-the-fly	Changing things temporarily without customising. You can modify eRIC's appearance and most functionality at any time, but your changes will not be saved.
Parameter	Parameters are the building blocks of eRIC. A parameter can be a physiological measurement, a lab result, or any other data describing the patient's condition.
Validate	Confirm/verify parameter value, condition, or action. Validate that a medication has been administered to a patient. **NOTE:** This action is taken to confirm the data entered is correct. When you manually enter data it is automatically validated. Data coming in from machines and other interfaced objects needs to be validated, to ensure that it is correct. Lab results will come into eRIC as validated parameters.
Data Point	A data point is usually derived from a measurement and can be represented numerically and/or graphically. It consists of clinical data or parameters that are captured or recorded in the system.

2.5 Work List

Work List Full Screen Mode



This is the first screen the user will see on 'Logging In'.
Select a patient from the work list to take you into the Patient Clinical Overview tab.
To return to the Work List, it can be accessed via several methods; Menu Button → select a Patient for the Full Work List OR the Green Census tab to the right of the screen for the Census Work List.

The Work List displays a list of patients and their data.

- It clearly identifies which is the currently selected patient, and enables the user to view patient details, to navigate rapidly between patients, and to open the required patient record/documentation, or to perform other actions on the selected patient record (for example: opening the Patient File).
- It enables the creation and use of a personalised Patient Set, called **My List**, which assists the user in managing and maintaining their own list of patients.
- It enables system parameters, customised parameters, forms and notifications to be displayed to the user, for multiple patients simultaneously. For example: Alerts, Ventilation Mode, Research Studies

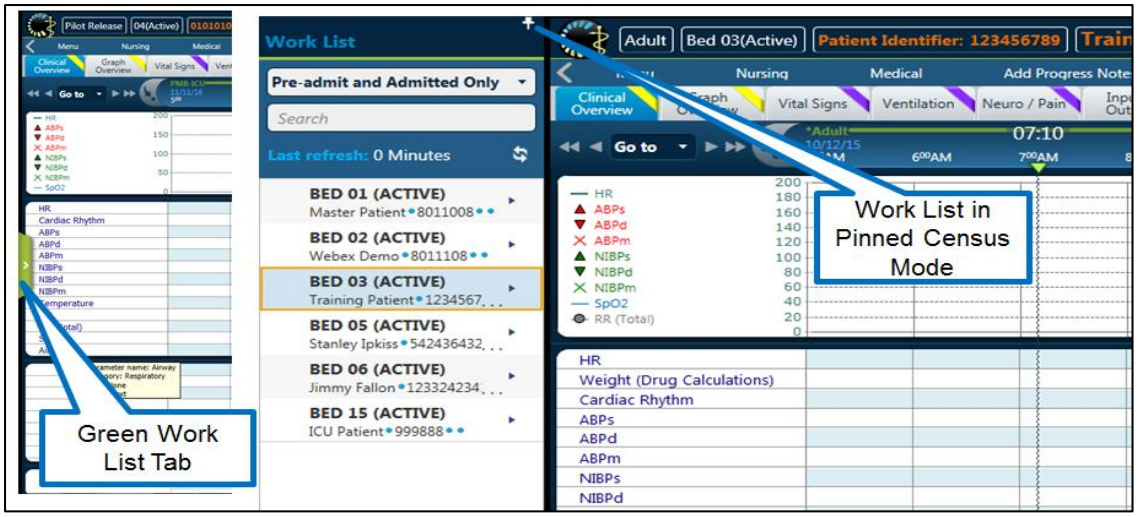
There are two ways to view the work list, as a full work list or as a Census work list.
The work list is generated as a combination of a Patient Set and a Work List Display, which are independent of each other and which can be changed independently.

- **A Patient Set** is a set of patients which match specific criteria, as defined by a customizable search query – e.g. 'Pre-admit and Admitted Only' Patient Set.
- **A Work List Display** is a customised layout for the Work List that defines the data that is presented in the Work List, for the patients included in the selected Patient Set**.** This display will be different for Doctor, Nurse, and Nurse-In Charge.

Depending on the customisation settings, there may be multiple Work List Displays and multiple predefined Patient Sets available to you for selection

Work List in Sliding Patient Census Mode

The green work list tab, displayed on the left edge of the screen when you are on the patient 'Flow sheet' allows you to open and close the sliding patient census mode work list



In Sliding Patient Census mode the work list is presented as a vertical bar on the left edge of the screen, displaying only the patient column element of the work list. The work list can be pinned in place and you can then switch between patients and search for patients easily.

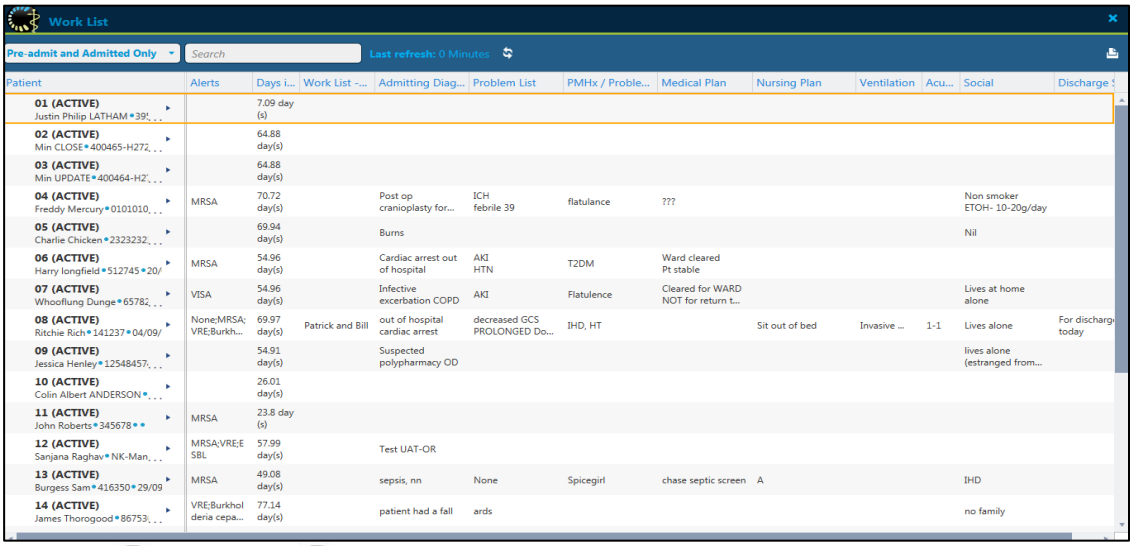
NOTE: The tab view that was last selected remains when switching between patients. Once a particular patient is selected the tab views can be changed – this is useful to use during clinical handover of several patients.

Patient Sets

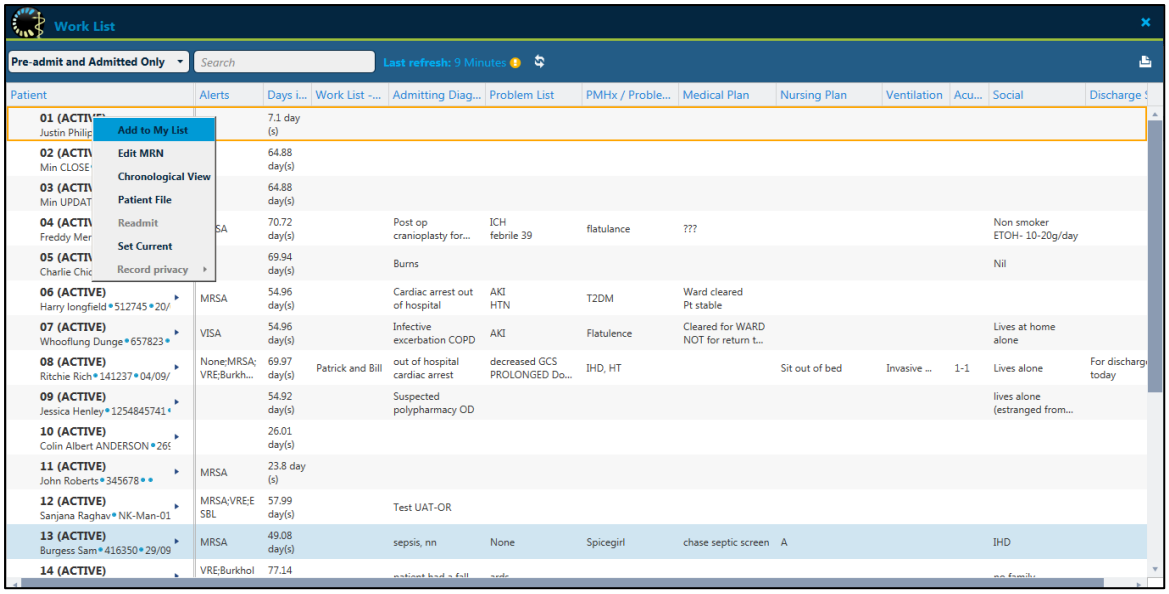
Patient Sets are specific sets of patients. There are two types of Patient Sets:

1. Predefined Patient Sets
2. My List Patient Sets

Predefined Patient Sets – these are created via the Customisation Tool only (these are pre-defined). They can be viewed and used by all users, but cannot be modified.
By selecting a particular Patient Set, you can quickly and efficiently display a list of patients in the Work List. The selected Patient Set is compiled by means of the system searching the eRIC production database for patient records that correspond to the predefined search query criteria. e.g. 'Pre-admitted and Admitted Only Patient Set'

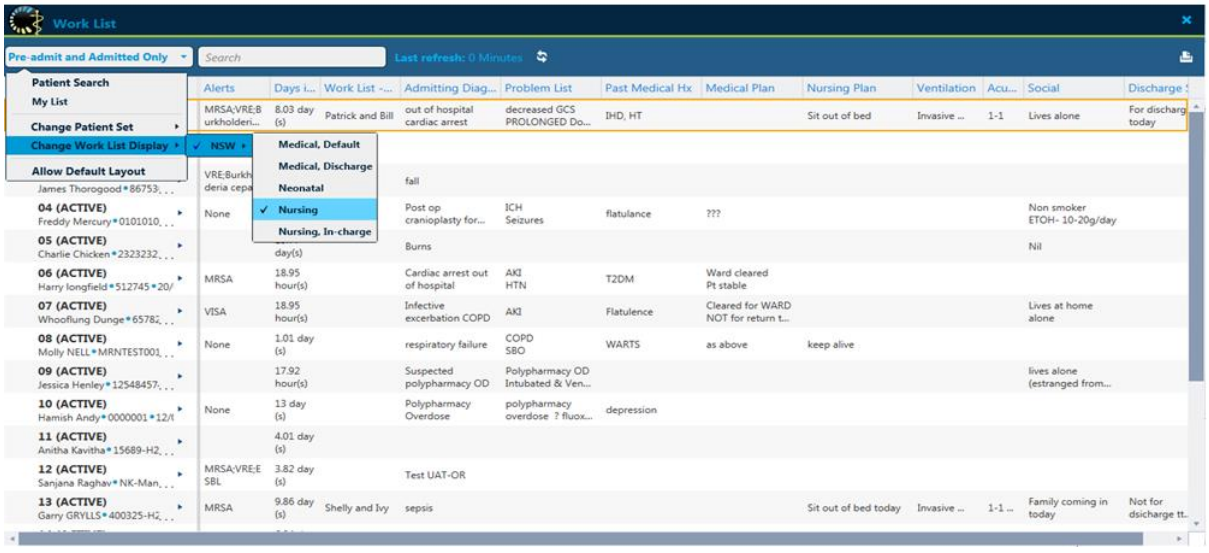


My List Patient Set – this is a personalised set of patients that you manage by adding and removing patients to and from the My List set.
To add a patient to 'My List' right click on the patient and select 'Add to My List'



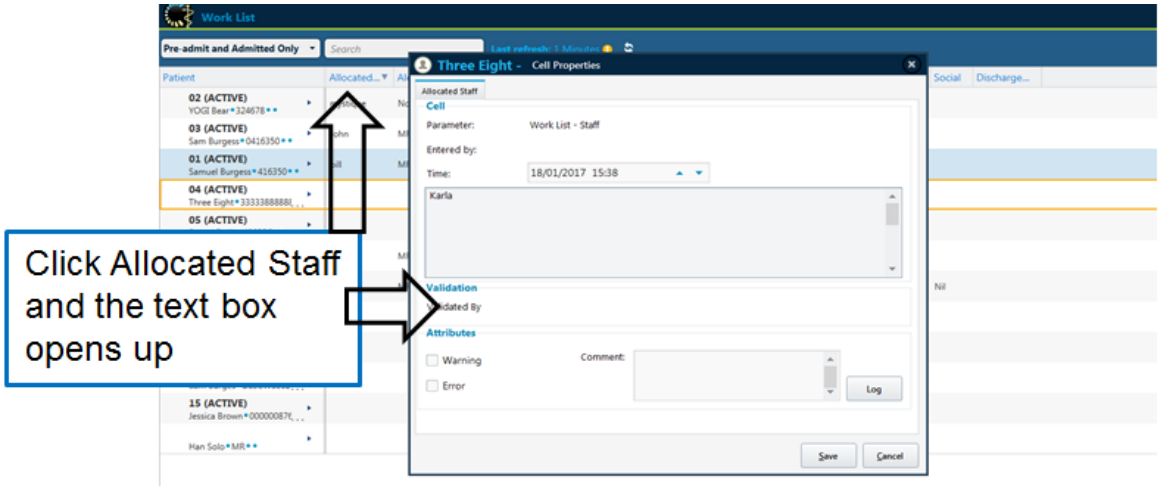
Work List Display

The work list display is useful because it has role pertinent information displayed (for example the Medical Work List Display has information on Antibiotics and the Medical Job List, the Nurse In-Charge Work List Display can be customised to display current patient condition, the Nursing Work List Display can show the allocated nursing staff for each patient, and the nurse patient ratio such as 1-1, 1-2, 1-3 via acuity)



NOTE: Some things on the work list view are auto populated (e.g. past medical history, problem list, alerts, job list) and some things are able to be manually entered.
The medical job list auto populates from the Job List on the Medical Ward Round Note.

Specific information such as the current patient condition for 'Nurse-in charge' work list display needs to be manually entered by double clicking on the cell. Another such example is the free text box for populating the Allocated Staff in the 'Nursing Work List Display'. Double click on the cell under 'Allocated Staff' and a text box will open up – enter details into this and it will then populate the Work List.



2.8 Patient Search

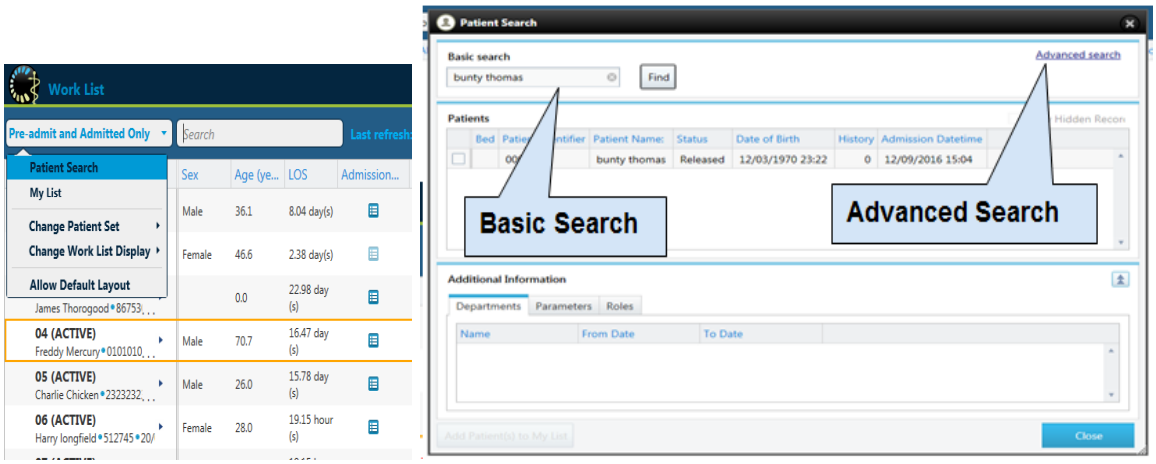
You can search for a particular patient by using the drop down patient search menu.
This will open the basic search window.

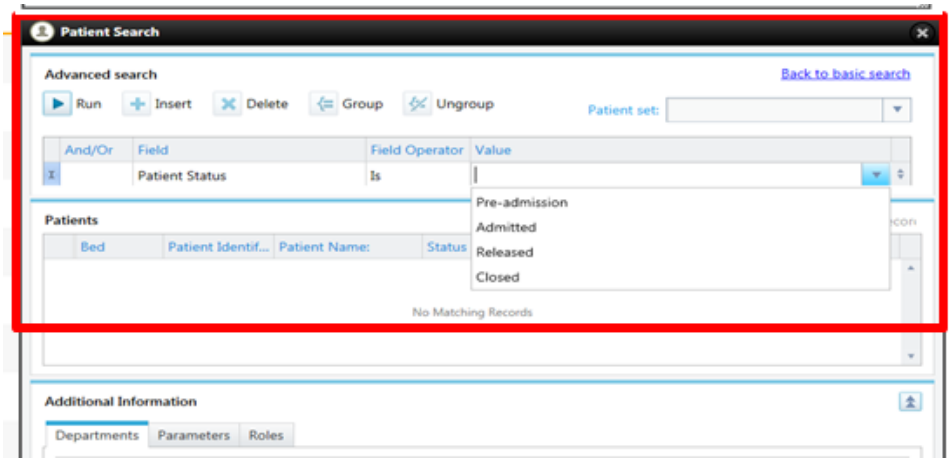
- **Basic searches** can be performed according to an entered search term, e.g. If you know the Patient First Name, Last Name and or MRN – you can perform a Basic Search.
- **Advanced searches** can be used if you do not know patient details. This can be performed according to an entered search query (constructed on the fly) or according to the predefined Patient Sets that have been customised.

Searches are performed in both the production and archive databases, regardless of the database currently in use.

For an Advanced patient search – Click on 'Advanced Search' Button in the top right corner of the 'Patient Search' window. This opens up the 'Advanced Search' box.
Example of performing an advanced search for 'Released' patient:

- Choose 'Field' = Patient Status, 'Field Operator' = Is, 'Value' =Released.
- After entering details for searching Click '**Run**' to start the search.





2.9 Main Screen Overview

- Once you select a patient this opens up the Clinical Overview tab with the Patient Flow Sheet.
- There are a number of parts of the screen that you should become familiar with.
- The Flow Sheet displays a continuous record that begins with the patient's admission date and ends when the patient's record is closed.

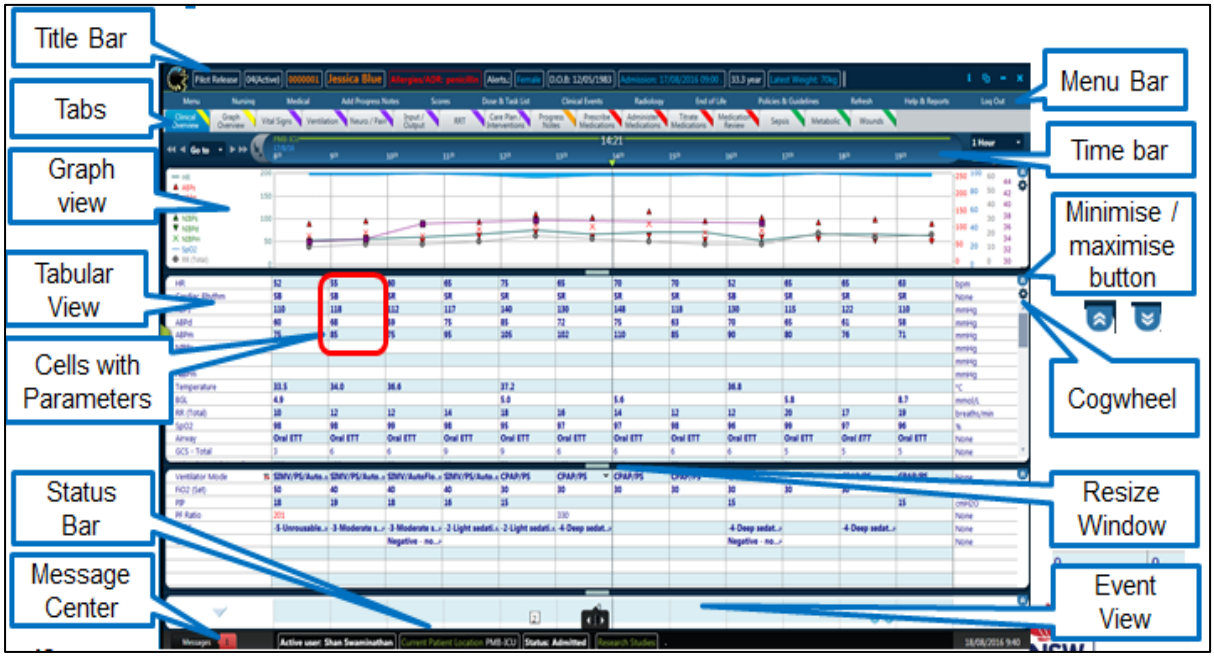
The Flow Sheet displays information including patient information within windows. These can be customised in a number of ways. Each window can be minimised or maximised simply by clicking on these icons.They can also be resized by dragging on the resize icon.

NOTE: Some window views have hidden rows e.g. Under Vital Signs tab – the **Cardiovascular section** contains *Hidden Rows*: they are populated when the form in the 'Nursing Menu' is completed e.g. Circulation Observations, OR if the parameter is being monitored e.g. Patients with PiCCO will have monitoring of CCO.

This same principle applies to all views clicking on the cog wheel will reveal if there are hidden rows for that section.

Components of the main screen are:

1. Title bar and status bar
2. Menu Bar
3. Buttons
4. Tabs
5. Views
6. Parameters
7. Cells
8. Time Bar



2.9.1 Title and Status Bar

Title Bar

- This is located at the top of the screen and displays patient information, such as Patient Name, Department Name, Medical Record Number, Date of Birth. It is similar to the 'patient sticker'. It also includes information about allergies and alerts (e.g. infectious status).

Status Bar

- This is located at the bottom of the window.
- The Status Bar is also customizable and generally displays the date and time and additional patient / department information. It is set to display active user, department currently logged into, patient status and any participating research studies. The PAS Alerts also show up on the Status Bar.
- It also displays the **Message Centre**. This flashes in case a certain action (dose or task related) needs to be done. It shows the number of pending messages and includes built-in severity colours, red if there are unread messages and green if there are no unread messages (this will be explored in more detail in the Daily Routine and Medication module).

2.9.2 Menu Toolbar

There is a primary toolbar (called the Main Menu Toolbar) and secondary toolbars. Toolbars HOLD buttons. Buttons perform actions (examples of buttons are MEDICAL, NURSING). There are also floating toolbars that allow scheduling of tasks.

Main Menu

- This is your main menu, located at the top of the screen
- It is composed of sub-menu buttons
- The majority of these sub-menus are customised to open additional sub menus. Some will open further sub menus or Modules e.g. The Nursing Menu opens Sub Menu's 'Input /Output Devices and Observations' → Lines → Central Venous Catheter → CVC Lumen 3

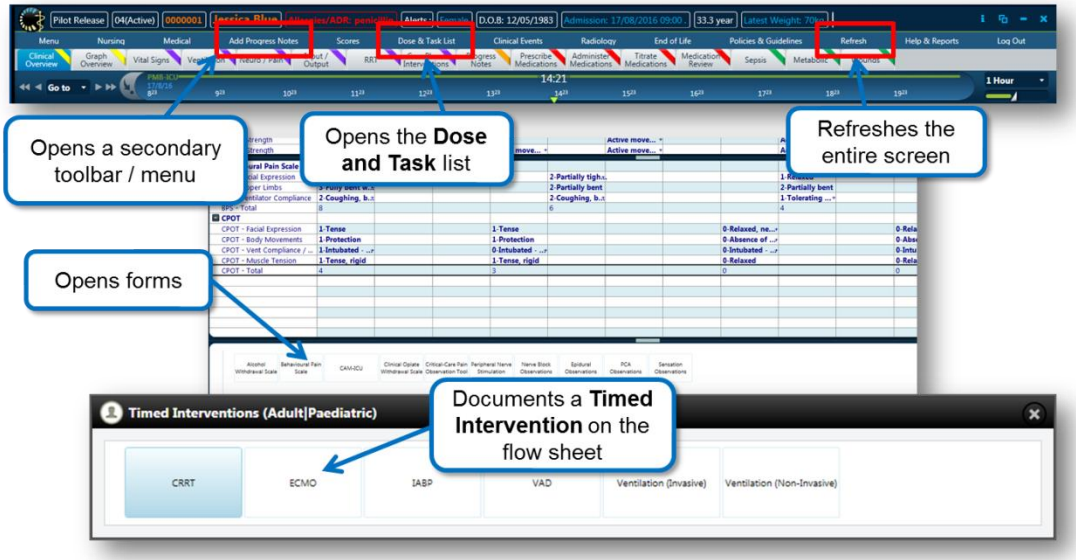
Sub Menus

- These are also known as a **Menu** within a **Menu**
- They can be either a **Menu** or a **Floating toolbar**
- Every button can open additional toolbars, perform specific actions, open forms, open separate applications and more.

Menu items are displayed on the Main Menu Toolbar and they are used for opening modules, performing automatic actions (such as documentation of a clinical event), opening menus (secondary toolbars) and performing a variety of other functions.

Buttons

Toolbars contain buttons. Buttons perform actions (e.g. of buttons are MEDICAL, NURSING). Every button can open additional toolbars, perform specific actions, open forms, open separate applications, and more.



2.9.3 Tabs

The Tabs bar is located under the Menu Toolbar. Each tab is made up of display views. A coloured bar on the top right hand corner indicates tabs with similar functionality or purpose. Tabs are like the pages within the patient file, often holding similar material on the single tab.

The groups in the tabs are highlighted by colours. The colours are:

- **Yellow:** Review patient information. Clinical Overview and Graph Overview
- **Purple:** Where observations are captured (commonly used as nursing tabs). Vital Signs, Ventilation, Neuro/Pain, Input/Output, RRT, Care Plans/ Interventions, ECMO/VAD
- **Orange:** Progress notes
- **Red:** Medications - Prescribe medication, Administer Medication, Titrate Medication, Medication Review.
- **Blue:** Pathology
- **Green:** Sepsis, Metabolic, Wounds

Scroll buttons

- If there are more tabs than can be displayed on the screen, you can scroll using arrows that are located at the end of the tab row. These arrows bring more tabs into view.

Types of Tabs

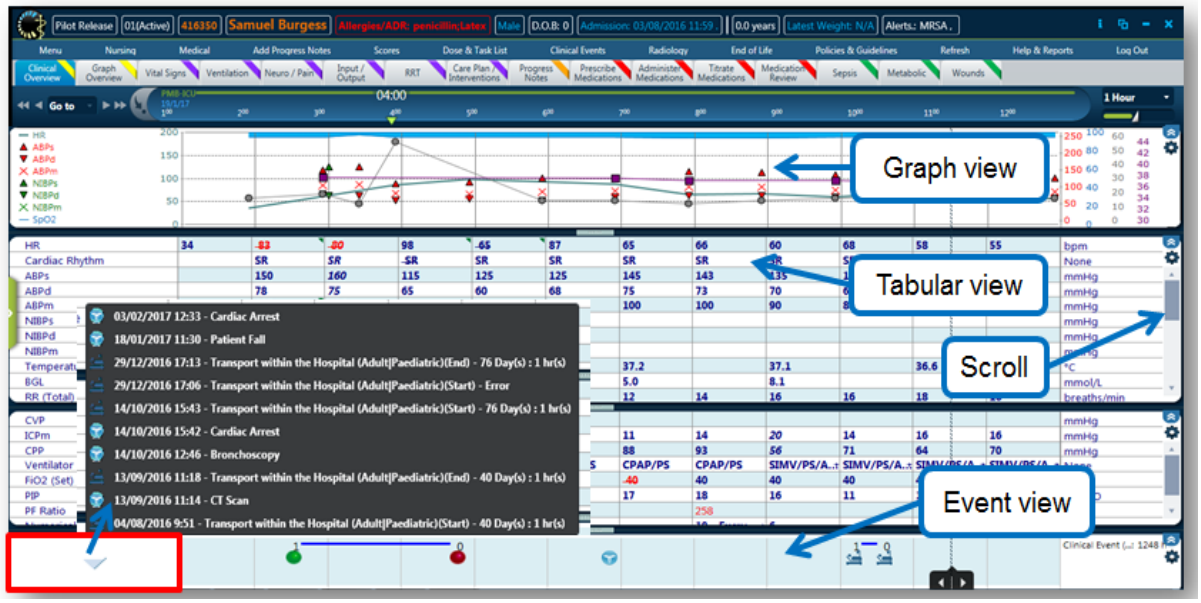
- **Time Related Tabs** – views that display time indications (Clinical Overview, Graph Overview, Vital Signs etc.)
- **Non-Time Related Tabs** – comprised only of view(s) that do not display time indication e.g. Progress Notes Tab.

2.9.4 Views

There are a number of views that can be used within eRIC. They each have their own representing icon and are:

- Graph view
- Tabular view
- Event view

Each view can hold parameters. The parameter within the view may require the use of the scroll functionality to view all the parameters.



Tabular view

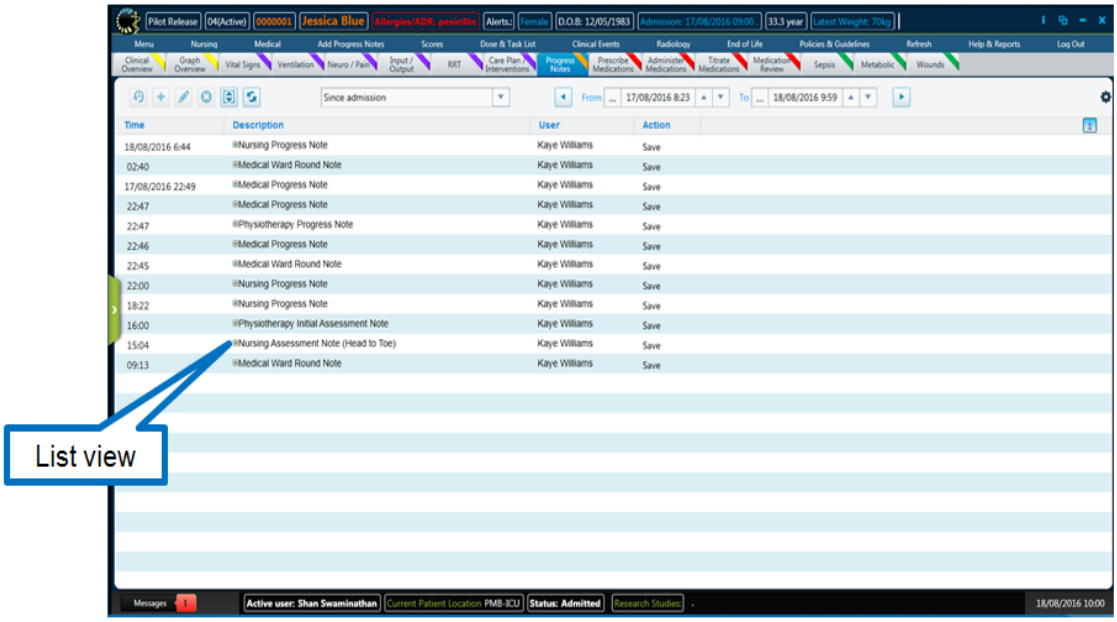
The tabular view displays time-related patient data in a tabular format. In this view, parameters are displayed on the left column and their values are displayed in the centre columns, according to the time selected in the time columns. The parameter types which are displayed in a tabular view include: numeric, numeric with tag, text, free text, check box, formula, grouped, date-time, mapped and image. Some values are displayed in cells automatically, such as data read from bedside devices. Data in these cells can be viewed and edited, if necessary. Data can also be entered manually into empty cells.

NOTE: Time columns in the Flow sheet represent a selected time interval, not a specific time. In the tabular view, the value displayed in a time column is the first value available for the time interval, and not necessarily the value from the start time of the column. For example, heart rate values were not entered between 9:00 and 9:15; at 9:16 a value of 95 bpm is entered. In such an instance, if the Flow sheet is set to one-hour intervals, the 9:00 column displays 95, even though the time of this value is 9:16.

Graph view
The Graph View displays validated time-related patient data in a graphic form. A graph can display up to ten parameters. Parameter values are viewed in the form of an X-Y graph. The Y-axis represents the parameter values. The X-axis represents the times of the main screen columns. It is divided into the time intervals currently displayed in the main screen tab. The parameter names are displayed to the left or on the top part of the graph. Each parameter name and its graphic indicator are displayed as the same colour and shape.

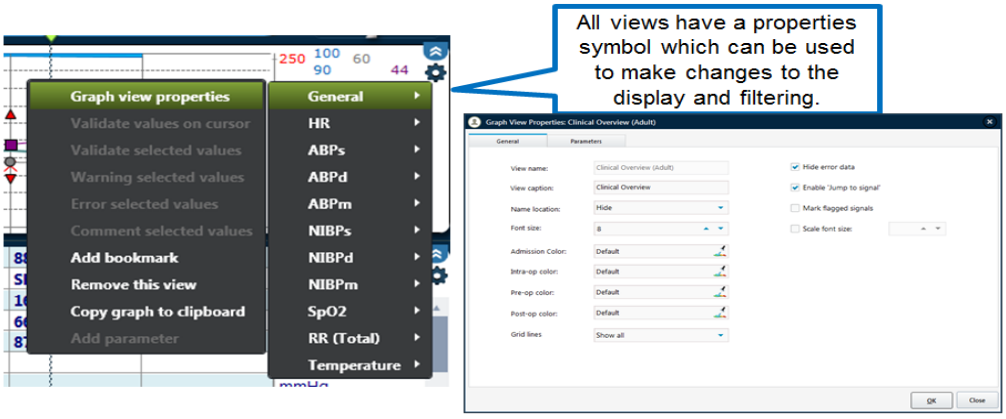
Clinical Event view
The Clinical Event view displays clinical events entered for the patient. These are quick icons which represent a clinical incident which occurred to the patient. They can be point-in-time events (e.g. planned extubation), or timed events (e.g. Transfer to OT for surgery).

List View
The List View enables you to view data in the form of a list. This view is used specifically for progress notes. Users will be able to view progress notes in a chronological list. The default will have the forms collapsed; however, users can expand the individual form, all forms, or open the form session browser.



Nomogram View
Nomograms are used clinically to help clinicians analyse patient data. It displays data points of a pre-selected image, often determined by clinical data factors. Growth charts and Phototherapy commonly use this view.

View Properties
Every view has a 'Properties' symbol. This can be used to make changes to the view display and its filtering. You can perform actions and change the view properties (on-the-fly) using the cogwheel button. Each view can be collapsed and expanded using the minimise and maximise buttons located in the upper right corner of the view. Each view size can also be adjusted 'on-the-fly' using the resize icon in the middle of the view.



2.9.5 Parameters

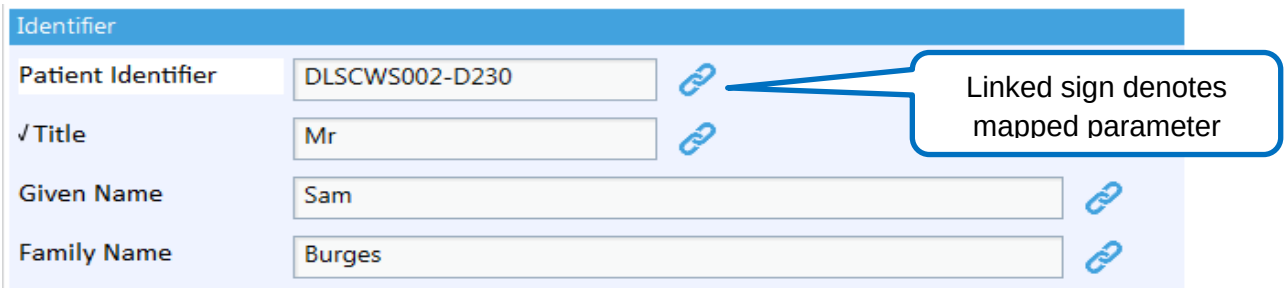
Parameters are the building blocks of the eRIC application. They are what make the views, tabs, forms etc., and are where and how data is captured.

Parameter Types

The parameter types available for use on the main screen and in forms include:

- **Numeric** – for numeric measurements (for example, **heart rate**, **blood pressure**, **temperature**)
- **Numeric with tag** – when a particular symbol needs to be shown with the number (for example, **pupil dilation 2+**)
- **Text** – when an attribute is described in words and selected from a customised list, (for example, **ventilation mode**). Every text value can be given a numerical equivalent value to perform calculations
- **Free text** – text can simply be entered in a main screen cell or in a form
- **Formula** – performs a mathematical function, e.g. GCS Total.

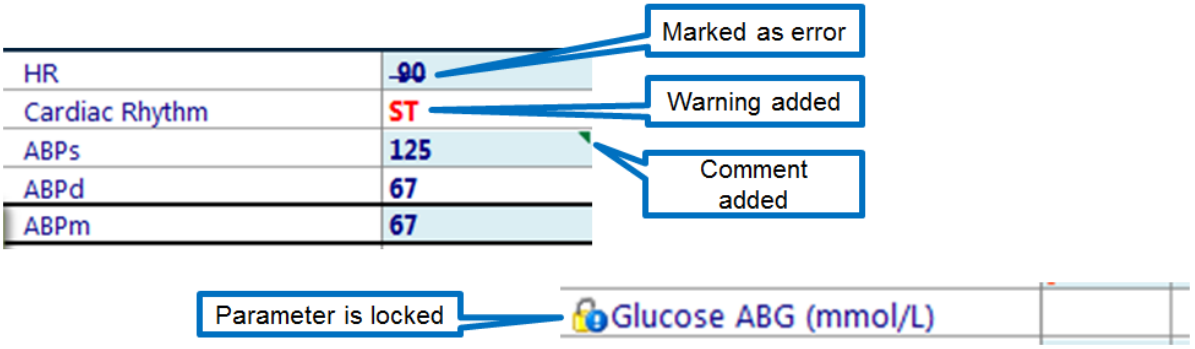
  NOTE: Need to click **Save** for some formula parameter (normally underlined) to display the result –e.g. on Burns Form after the TBSA Dermal % and TBSA Full thickness % are entered - the TBSA Total % will only display after 'Save' is pressed
- **Check box** – a binary parameter indicating either **true** or **false**
- **Grouped** – displays values from two or more parameters in one cell (for example, **systolic** / **diastolic blood pressure**)
- **Date and time** – can display a date and/or time
- **Mapped** – Mapped parameters are parameters that are linked to and draw data from external sources. These are non-editable in eRIC (e.g data from PAS)



- **Image** – allows editing and display of graphic images (for example, an image of the human body used to mark the location of drains or wounds, Wounds and Burns Images)

- **Clinical event** – allow documenting of clinical events that occurred to the patient and are displayed as icons on the Events view. They can be point-in-time events or timed events
- Depending on the data point, the application will determine the best parameter type to capture it.

2.9.6 Cells

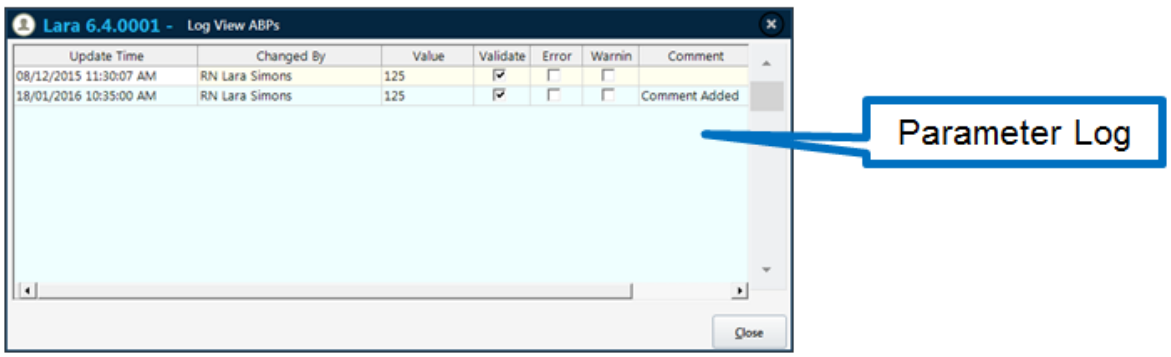


There are a number of indicators that will give you information on the contents of a cell. These are:
Blue – Normal value
Red – Warning added
~~Error~~ – a value stamped with a strikethrough mark
Lock icon – Read only value

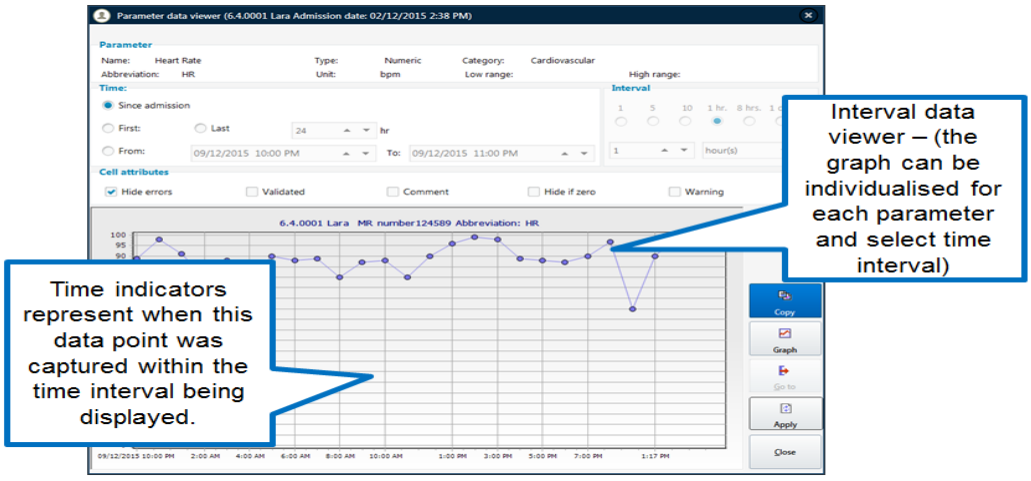
There are also a number of statuses that you can apply to a cell, e.g. if the value in a cell is not correct, you can mark it as an error. This is done by right clicking on the cell and selecting the status.

The cell statuses are:

- ***Italics***: if there are any data points within the interval displayed. Devices capture data every minute; however clinicians will most commonly view the screen at a larger interval, likely every hour. Therefore there are 59 other data points not being displayed
- **Validate** – entered manually or validated as correct by a user (confirming a value entered is correct – e.g. the ABP (M), this may be incorrect if arterial line waveform trace is poor or if the transducer is zeroed at the wrong level)
- **Mark Error** – value will not be used in automatic calculations. This is done for those values that may be incorrect, e.g., if the SpO_2 value is incorrect because the saturation probe fell off the patient's finger
- **Warning** – draws the attention of clinical staff to this value
- **Comments** – can be viewed in the cell tooltip or properties
- **Log** – view all actions that were performed on a specific cell

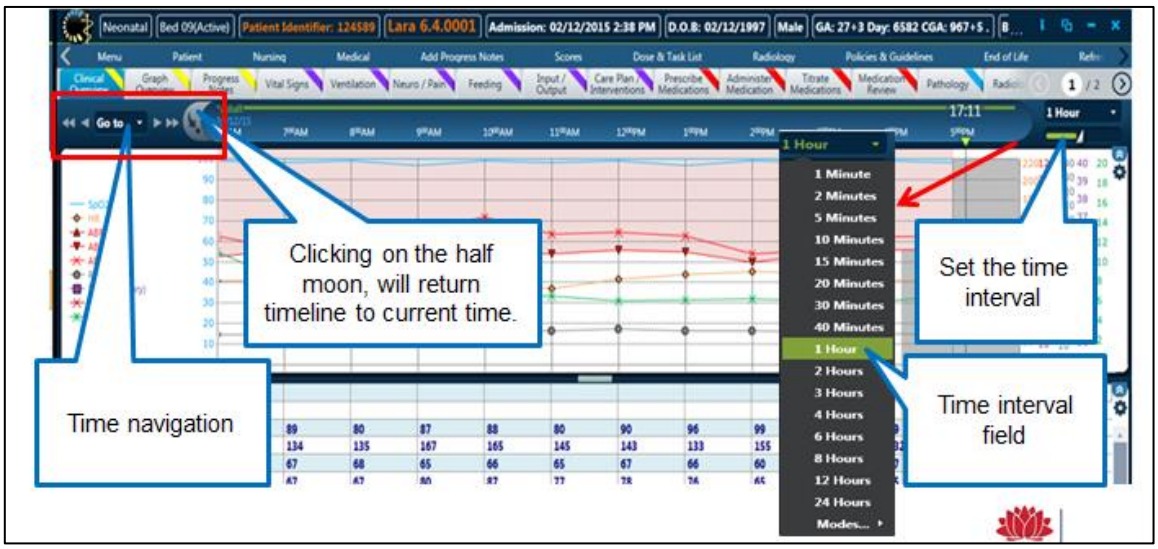


- **Cell Properties** – View cell properties and perform some actions such as adding a comment, mark as error & add warning
- **Interval data viewer** – Display the data of a specific parameter according to various filters. It can be used both for informational and navigational purposes. The Data Viewer can be opened in two formats: Interval Data Viewer and Parameter Data Viewer. The Interval Data Viewer opens by default displaying values only from the chosen interval, while the Parameter Data Viewer opens by default displaying all the parameter values
- **Add bookmark** - Columns can be bookmarked to ensure that significant data remains on display. For example, a column containing an event can be bookmarked to ensure that subsequent shifts are aware of the incident. Bookmarks mode displays only columns with bookmarks. If any columns remain once the bookmarked data has been displayed, they will display data in fixed intervals to the right of the final bookmark
- **Fixed Bookmark** - Displays all bookmarked data within the range of the current fixed columns. For example, if there is a bookmark at 17:15 and you are using one-hour intervals, the columns will display data from 17:00, 17:15, 18:00, and so on
- **Time Indicator**: When within that interval was the data entered, at the beginning, middle, end etc.



2.9.7 Time Bar

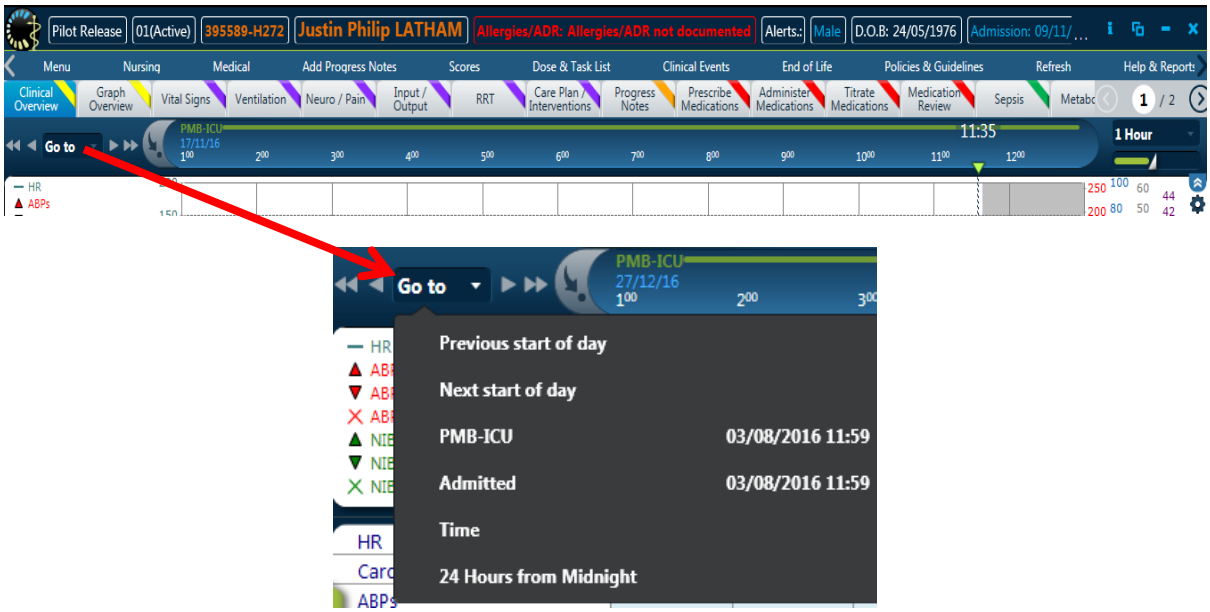
The Time bar represents the timeline displayed in the Flow sheet.



Time Navigation

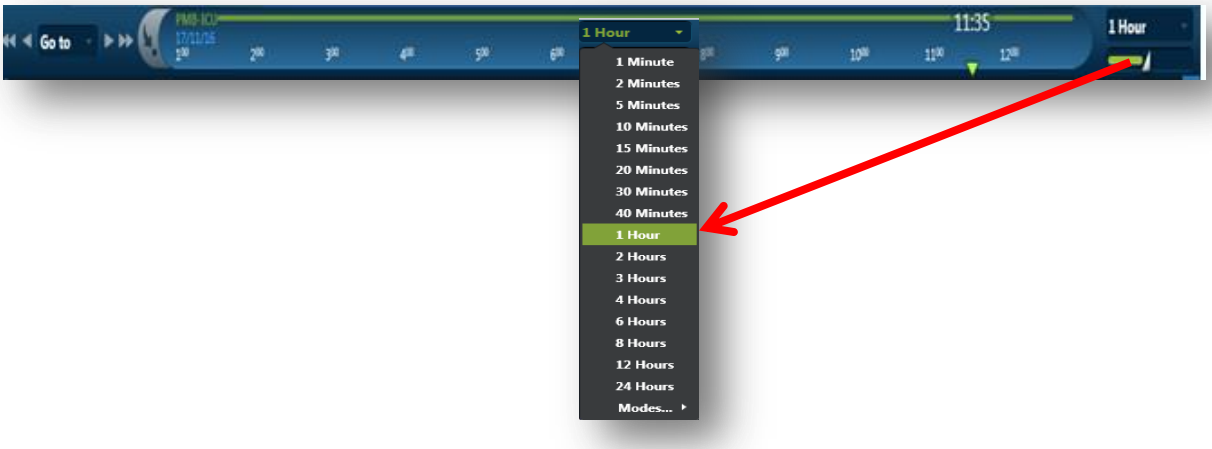
- The navigation icons are located at the left of the Time Bar. These icons enable you to scroll back and forth in time-related views.
    - << Move one page back
    - < Move one column back
    - From **Go to** → select from a drop down list → Time / Admission
    - >Move one column forward
    - >> Move one page forward
    - Go to current time

Time Bar can easily be changed.
You can set the start point. This is done with the go to scroll bar. To do this simply click on the drop down and choose your start point, e.g., when the patient was originally admitted.



NOTE: Setting time to current time - You can set the current time as the start point. To start from 'now' simply click on the relevant part of the time bar as shown below.

The Time Interval can also be modified straight from the time bar. Just click on the interval drop down list and make your selection.



Time Interval Menu

- Two parts to this menu – Field and Slider
- Time Interval Field – Drop down menu that determines the interval of the Time Columns.
  - From 1 min all the way to 24 Hours
- Time Interval Slider – A slider bar that determines the interval of the Time Columns. The same options as Field.

You can use the time bar to setup and customise your Flow sheet. The time bar sets your timeline in terms of where your Flow sheet starts and over what sort of period (this is an on the fly change).

Time Columns

- Data is displayed in time columns, which are indicated on the top part of the screen below the tabs row
- Each column header shows the start time of the interval this column displays
- When the date changes within the same window, it is displayed above the time in the column header
- When a single continuous patient record is shared across multiple departments, the name of the department in which a patient's record is located is indicated under the timeline.

Time Cursor

- The time cursor is the vertical line that is displayed on top of the display views when clicking your mouse
- The time cursor displays tooltips for each display view. These tooltips display further information regarding the time the cursor is placed upon.

There are also a number of modes you can use:

Modes

- **Automatic**: the time interval changes to accommodate the entire duration of the admission on screen
  - Note: this mode involves numerous calculations and therefore can take more time to load than other modes
- **Data Driven**: only displays columns that contain values.
  - Note: in this mode different time column intervals can be displayed simultaneously on the Flow sheet. (Columns can be 1 day , and 1 min on the same screen)
- **Shift Mode**: displays one hour intervals, and the last column displayed is the last hour of the current shift. (Shift can be setup in customisation)
- **Fixed Bookmarks**: columns can be bookmarked. This mode displays only columns with bookmarks
- **Range**: permits the view of a specific time period. The user defines the start and finish time, with the time intervals calculated automatically, based on the time period.

2.10 Forms

- There are several forms that will need to be completed in eRIC e.g. the 'Safety Checklist', 'Admission Summary Form', 'CVAD Insertion Form'.

Purpose of the forms

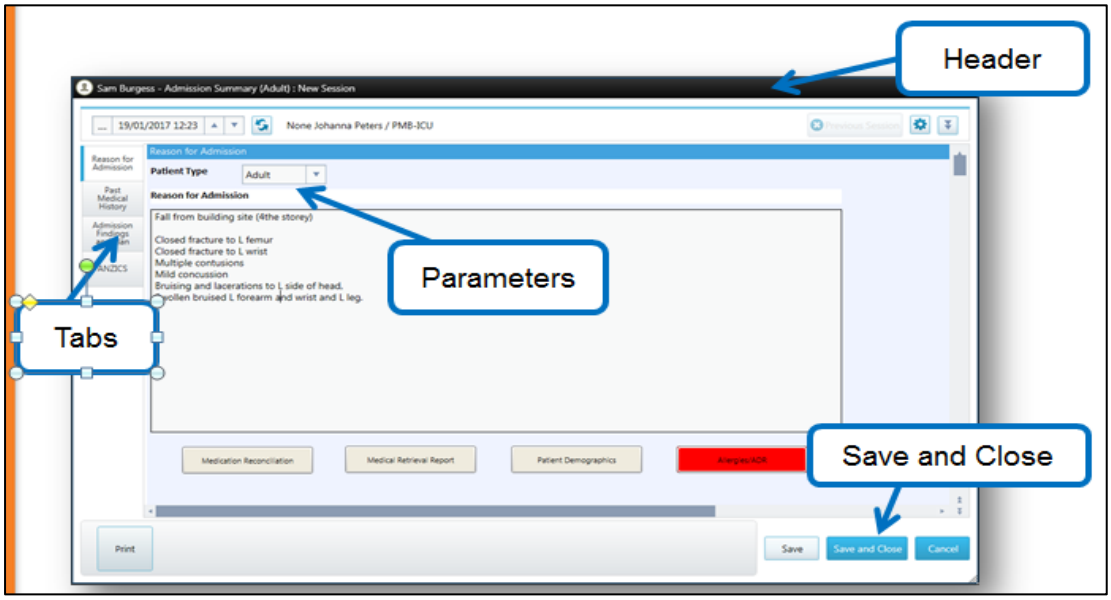
- Allows users to enter & display patient information in an organised manner.
- It contains any type of data required in your department. Data is mostly made up of parameters, which can later be displayed in other places in the system.
- Forms can be used in relation to specific actions or windows:

- Forms attached to events
- Forms attached to orders
- Forms attached to the Patient File (e.g. Admission form and Demographic form).

Form Structure

A form's main components:

- **Header** – contains the Patient name, form name and session details (e.g. new Session), form sessions, times & icons representing the status of the session version
- **Session Browser** – contains data that was inserted into the patient's record at various times and by who, it is a chronological list of the previous saved sessions of the form
- **Tabs** – used to divide information into major categories, similar to pages
- **Frame** – contains objects such as parameters, action buttons, images, and order list objects
- **Parameters** – data components within the system. These can have specific properties applied when displayed in a form. E.g. Display last value, display current value (this minute), display a default value, display value from a specific time period, display only if the value has been validated. Parameters can also have specific controls applied; if the text is bold it means it is a mandatory field which must be completed in order to save a form session. If the parameter has an underline, it means that there is a description attached to the parameter, which can be clicked and the description read. The parameter can be displayed in 3 ways on a form; as the name saved to the parameter, as the abbreviation saved to the parameter or as a free text label
- **Buttons** – General buttons: save, mark session as error, sign or Action buttons, such as print, or open another form etc. Some of these buttons are found at the bottom of the form or within the form session browser.



Completing a Form

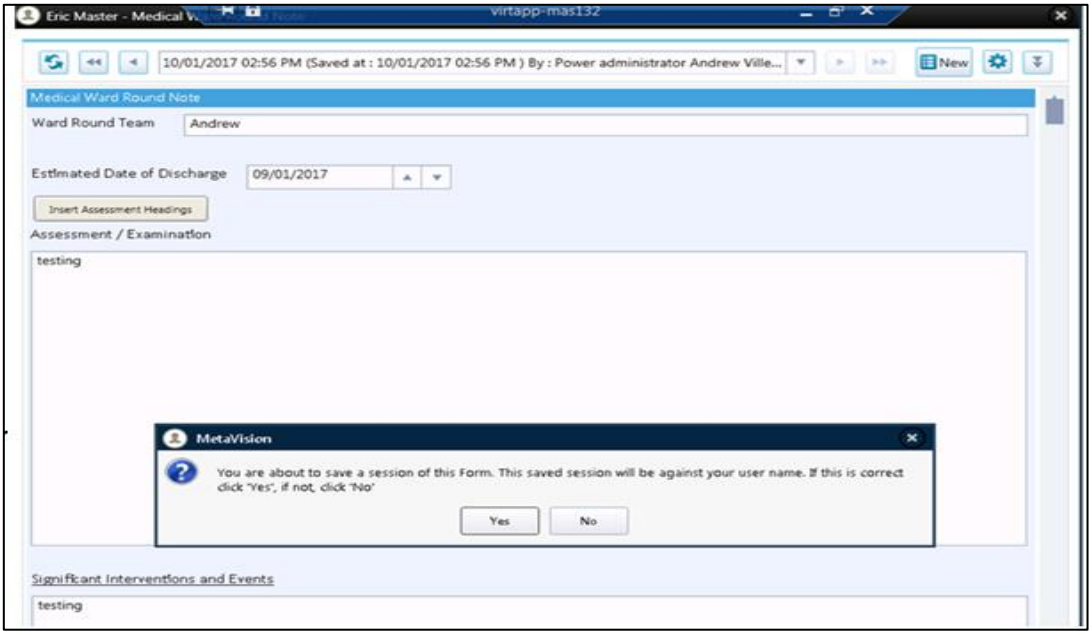
NOTE: Always ensure that you are making entries as a 'new session' (**do not** write over another user's session OR previous sessions that you have saved and closed).

- Check the user name, patient name, date and time
- Use the drop 'down arrow' or the 'scroll' to scroll between sessions
- Select 'Save and Close' to save and close your session.

Note Lock

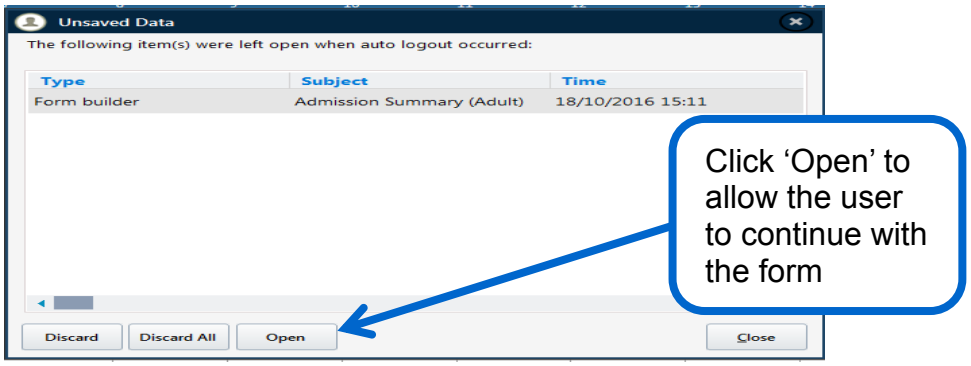
- There is a code snippet on all 'Notes' (Progress Notes, Medical Ward Round Notes, Assessment Notes, Echocardiogram Report)

- The code snippet shows a dialog box notifying the 'currently logged in user' that clicking 'Save' on a saved note will create another session and save it under their user name
- The dialog box will show for all new sessions regardless whether the user is reviewing or intentionally creating a new note.



Unsaved Data Prompt Window

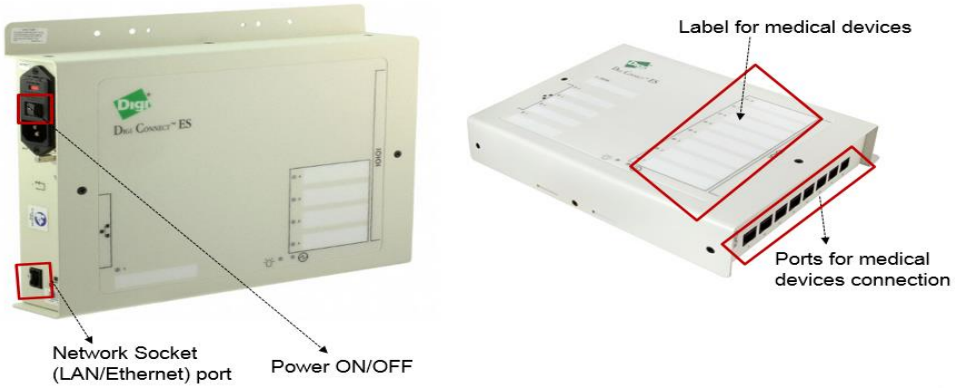
If any form in eRIC is commenced and unsaved, when eRIC automatically logs-out the user from inactivity **(set log out time is 5 mins):** eRIC will save the data entered for that user. When the user logs back in, they will receive a prompt of 'unsaved data' and be directed back to the form for completion



3 Technical Troubleshooting for eRIC

3.1 Connecting patient bedside monitor and medical devices to eRIC

When a patient is admitted to ICU, medical devices such as Monitors, Ventilators, Non-Invasive Ventilators (NIV) and CRRT machines need to be connected to eRIC.
Each bed area will have a Digi (Terminal Server) that acts as a gateway to send data from the medical devices to the eRIC application. The patient monitor is always connected to the Digi but the medical devices will need to be individually connected.



The Digi allows for labelling of individual medical devices. There are 8 ports and the labelling is text colour coded to the 'colour coded cable' for each device. E.g. Ventilator 'Blue Text' matches 'Blue Cable', Monitor 'Red text' matches 'Red Cable' (Colour coding is site specific)

3.2 Troubleshooting the inability to view Monitor and Medical Device Data in eRIC

When information from the medical device cannot be seen in the eRIC application, perform the basic troubleshooting steps outlined below. If you are unable to resolve the issue contact the local CIS Manager.

NOTE: **remember you can always enter data from devices manually provided the eRIC application is accessible. If there is a problem with viewing data from medical devices in eRIC, ask the following questions:**

1. **Is this happening in the Entire Department?**
   If so, contact your local CIS Manager and enter data manually until it's resolved.

2. **Is this happening only in one bed area?**
   If the answer is yes:
   Step 1: Check that the Digi is properly connected to the power outlet and the power is turned on
   Step 2: Check that the Digi is properly connected to the network socket
   Step 3: Restart the Digi and disconnect the power outlet, wait for 2 minutes and reconnect.

If the issue still persists, perform the next steps (as seen below per each device). If this does not solve the problem, contact your local CIS Manager and enter data manually until it's resolved.

3. **Is this happening for one medical device only?**
   If the answer is yes:
   Step 1: Make sure the right coloured cable from the medical device is connected to the correct port at the Digi box (check the label of the port)
   Step 2: Make sure that the connector (the part between the cable and the Medical Devices) is properly connected
   Step 3: Replace the connector and the cable on the Medical Devices with an alternate cable connector (to rule out faulty cable).

If the issue still persists, contact your local CIS Manager and enter data manually until it's resolved.

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eRIC User Guide

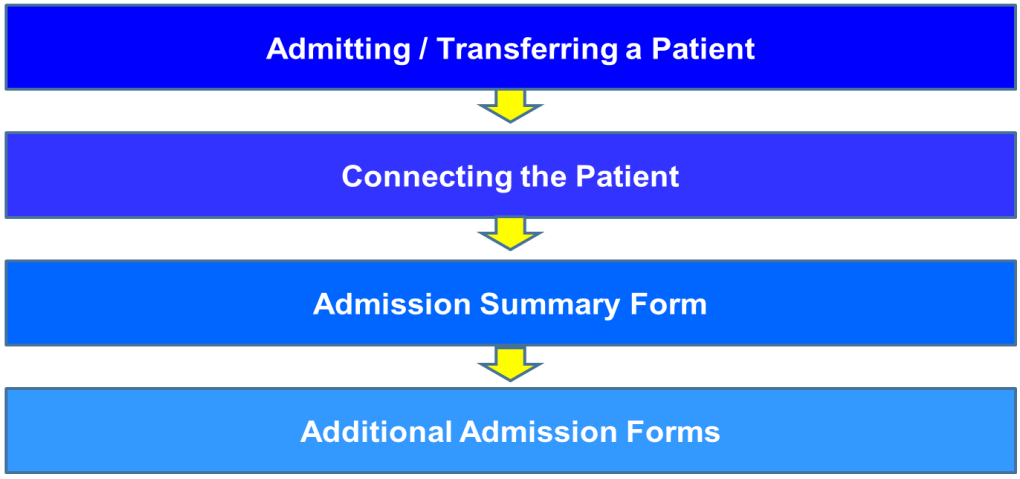
Module 2: Admission

Admission

4. Overview Admission Module

This module is will provide you with the knowledge on how to create an electronic admission for a patient into ICU using eRIC. It will also introduce you to all the electronic forms that need to be completed as part of the admission procedure.

5. Admission Procedure



Admitting / Transferring Patient
The patient is admitted in PAS as per the normal admission process. The admission procedure in eRIC commences when the patient physically arrives in ICU. Login to eRIC and the patient should be visible on the Work list in the 'Pre-admitted' status. Use the 'Patient File' window to allocate the patient an ICU bed in eRIC and check the admission date and time.
The patient may be transferred into ICU from the Emergency Department, from another department such as a ward due to a change in the patient status requiring admission into ICU, or from another hospital.
The procedure to admit the patient will be initiated by the ICU ward clerk or admitting nurse.

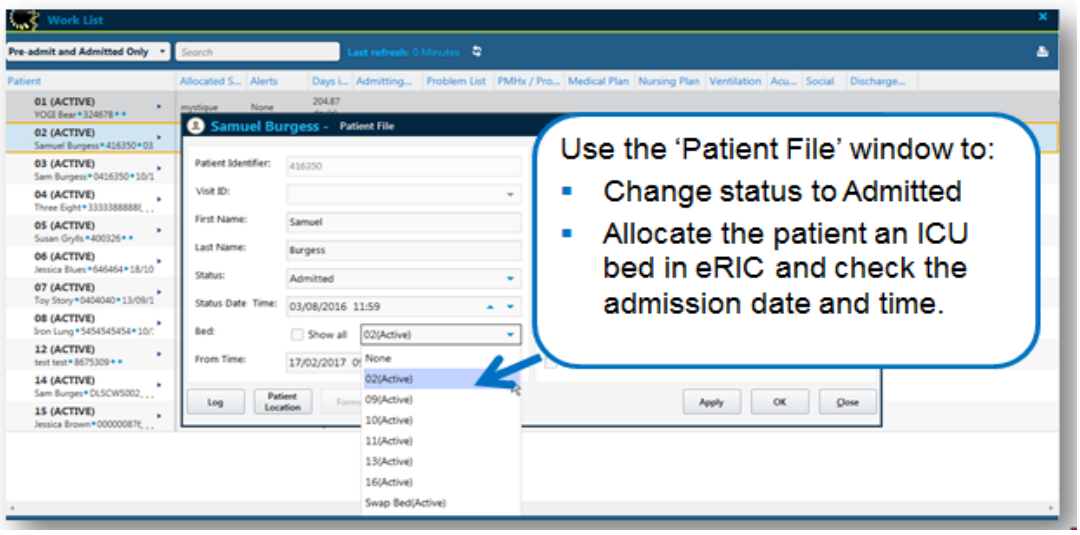
Connecting the Patient
When the patient arrives physically into ICU, the usual patient admission processes are followed, the patient is connected to the patient monitor which then allows data on patient observations such as vital signs to be viewed on eRIC when the user logs in.
Additional devices such as the ventilator will also be connected to the patient (and thus eRIC via the Digi.

Admission Summary Form
Admission summary form, which has sub-forms, needs to be completed next. There are forms that have to be completed at the time of admission and others that can be completed at a later time. These forms provide all the information required to capture the patient's case. If all the information is not known on admission, it can be completed as an ongoing form as and when the information becomes available.

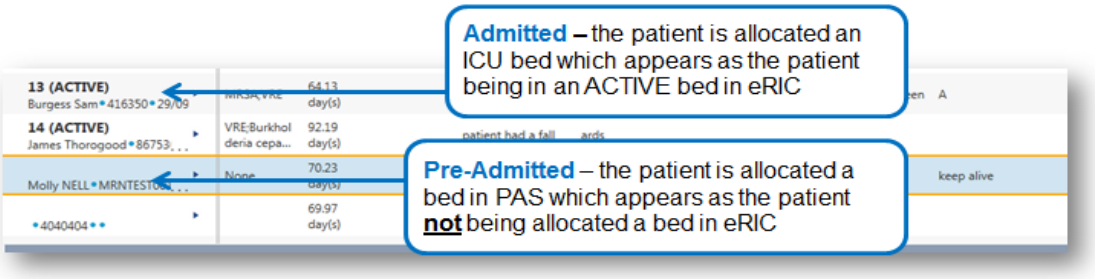
Additional Admission Forms
In addition to the admission summary, there are additional forms that need to be completed as part of the admission process (e.g. safety checklist, pressure area risk assessment).

5.1 Patient Registration / Admitting a Patient

The patient is admitted to ICU in PAS – this automatically results in the patient being admitted in eRIC in 'Pre-Admitted' status (no bed allocated)
The admission procedure in eRIC commences when the patient physically arrives in the ICU.
The patient may be transferred into ICU from another department such as a ward, the emergency department (ED), Operating Theatre, or from another facility.
Patient admission will be initiated by the ICU ward clerk or admitting nurse. Use the 'Patient File' window to change status to 'Admitted' and allocate the patient an ICU bed in eRIC and check the admission date and time.



Case Status
The Case status is set to 'Admitted' or 'Pre-Admitted'



5.1.1 Patient File

Information about the patient that includes basic demographic information, admission date/time and log of patient journey can be accessed from the 'Patient File' window.

The **Patient File** is used to view patient information after they are registered in the system. It can be used for:

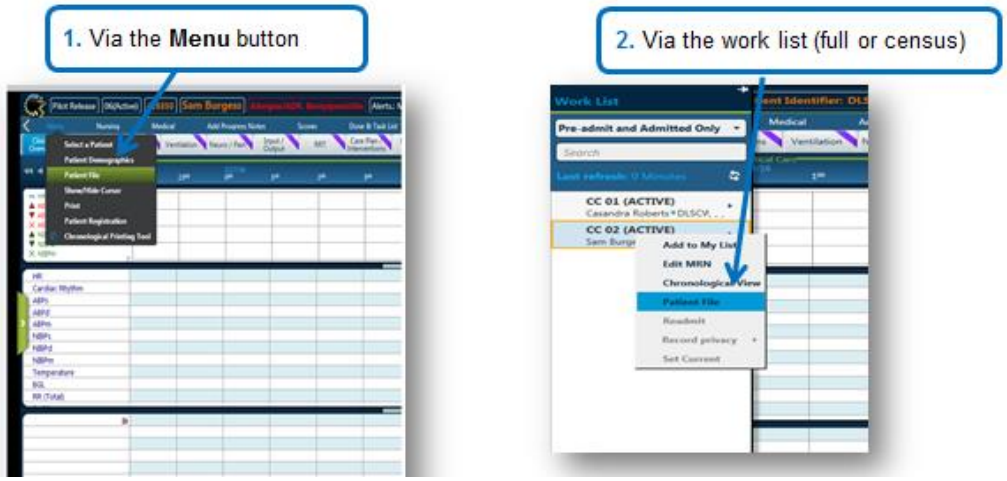
- PAS updates,
- to check patient bed status movement, and
- for transferring a patient between beds (bed swap)

The CIS manager will use it to update a status from 'Released' to 'Closed' after discharge once all the data in eRIC is complete.

Edits can be made to the patient file when PAS is down.
NOTE: Edits should be made in the PAS unless PAS is down.

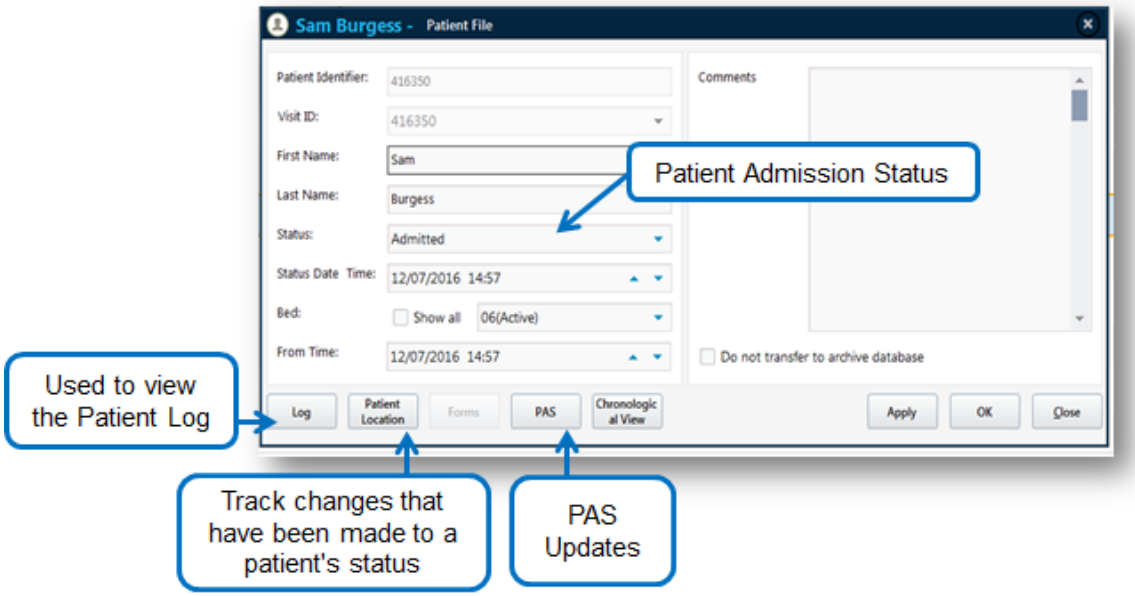
The Patient File can be accessed in two ways:

1. Via the 'Menu' button on the main screen toolbar and selecting the 'Patient File' button
2. Via the work list (full or census) and clicking the action menu arrow (▸) of relevant patient and selecting the 'Patient File' button



Patient File Window:
The patient file window has many information windows.
The 'Patient File' is used to view patient information after they are registered in the system.
It can be used for 'PAS' updates, to check patient bed status movement.
It is also used for making changes to admission status.
Patient Status indicates if the patient is in a 'Pre-Admitted','Admitted', 'Released' or 'Closed' status. Released is when they are discharged from ICU and the record can still be edited. Once the status is 'Closed' the electronic record can no longer be edited.

The buttons at the base of the window included the '**Log**', **'Patient Location'** '**PAS**' and '**Chronological View'.**



1. Log
This button is used to view the Patient Log, which lists all changes that were made via the Patient File. It also has a link button to 'Transport History'.

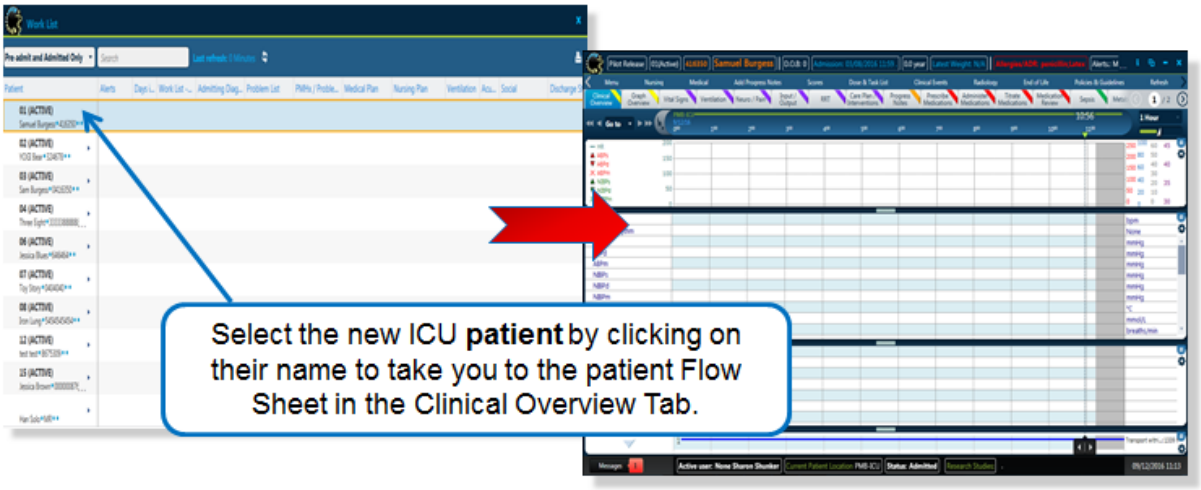
2. Patient Location
This will show and track the changes that have been made to the patient's status; a window opens, displaying the patient's periods of admission, bed number, department ownership and times that the patient was in transport.

3. PAS
The PAS button, when clicked, will update information from the Patient Administration System.
Click on 'PAS' button – two options will appear – 'Automatic' or 'Compare Data'. Select 'Automatic'. Do not choose 'Compare data' since the patient's information for the ICU medical record is to be the same as in PAS.

4. Chronological View
This provides an overview of the patient bed status and movement between units – this is for ICU units that have more than one pod

The comments field is a free text field which can be used to add any comments the clinicians wish to capture (e.g. when cancelling an admission or discharge)

Admitting a new patient to ICU
The first screen on logging in to eRIC is the Work List. Select the patient WHO has just been admitted into ICU and click on their name to take you to the patient flow sheet in the Clinical Overview Tab.



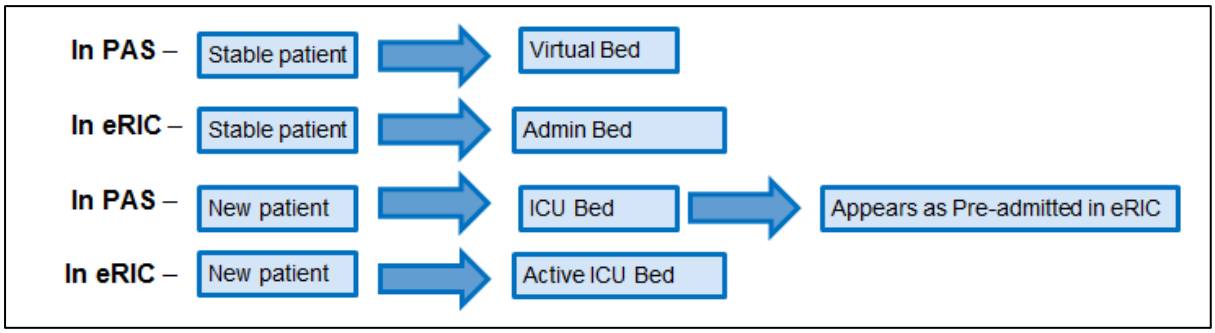
- Check patient admission details on Patient Title Bar

5.1.2 Admitting a patient to a Surge /Swing Bed

- The patient may be admitted to ICU as a surge patient:
  - A **surge patient** scenario usually occurs when a new patient has to be admitted to the ICU but there is no physical bed
  - To make a bed available, the stable patient who is medically fit for discharge from ICU but a physical bed is not available on the wards, is moved to a chair or to the corridor

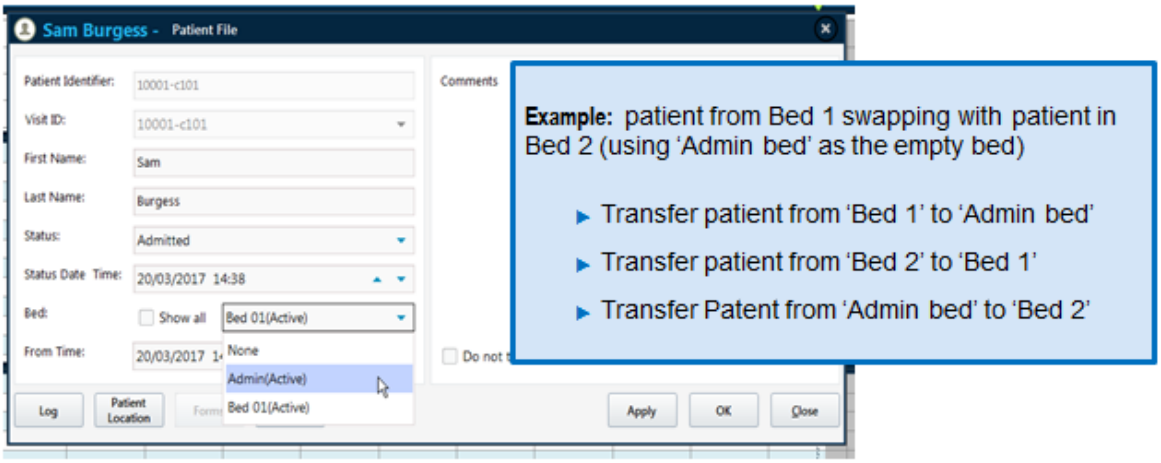
- The steps to facilitate this transfer:
  - **In PAS** – transfer stable patient to virtual bed
  - **In eRIC** – transfer stable patient to Admin bed
  - **In PAS** – transfer new patient into ICU bed, this will result in them appearing in Pre-admitted status in eRIC
  - **In eRIC** – the new patient needs to be assigned an Active bed in eRIC

- When a ward bed becomes available for the 'stable patient':
  - **In eRIC** – Complete standard discharge process for the patient
  - **In PAS** – The receiving ward will transfer the patient to the ward bed.



5.1.3 Creating a Bed Swap

If patients need to swap beds in the ICU during the ICU stay, do this in eRIC with a three step transfer as outlined in the example below (also needs to be done in PAS).



5.1.4 Cancel Admission

There are a few possible scenarios which may require cancelling the patient's admission to ICU, as outlined below:

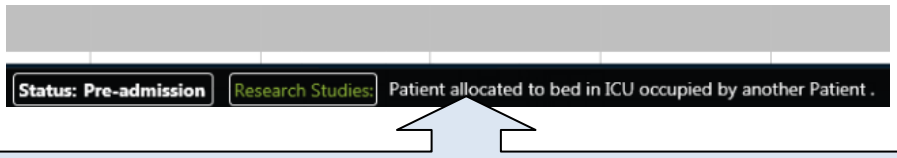
A patient has been admitted/pre-admitted via a PAS transaction to eRIC and there is **no** 'clinical data' entered for this patient in eRIC.

A patient has been admitted/ pre-admitted via a PAS transaction to eRIC and there is 'clinical data' entered for this patient in eRIC

1. Cancel the admission in PAS
2. In eRIC use 'Patient File' to update the status to 'Closed' ('Status Date Time' needs to be a minute after the original ICU admission 'From Time').

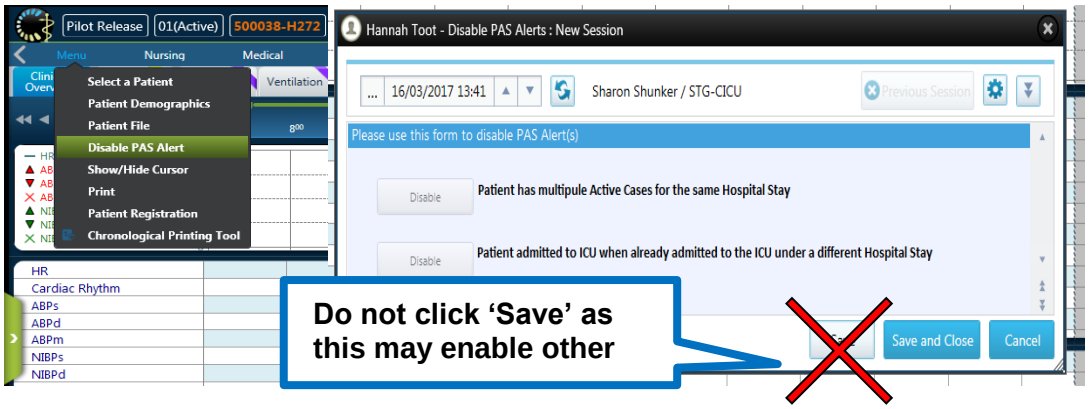
5.1.5 PAS Alerts

Transactions that occur in PAS that trigger alerts in eRIC can be viewed as an alert on the 'Status Bar'



- Notification of a PAS Alert displayed on the Status bar.
- This PAS Alert message is associated with an individual patient case
- The Alert is noticed by the user
- Each alert requires specific action to resolve the problem
- Once the problem is resolved - disable the Alert

The Disable Alert Window is accessed from the 'Menu' < 'Disable PAS Alert'



There are two PAS Alerts:

1. PAS Alert: Patient has multiple Active Cases for the same Hospital Stay

Cause:

- A patient is admitted to ICU via PAS (in the pre-admitted status)
- If the Emergency Patient Registration Window is used to create a new case for the same patient, this will create multiple active cases.

Action:

- Open the unnecessary case
- Go to 'Patient File' and update status to 'Released', to release the previous admission
- Open the necessary case
- Open Disable PAS Alert Form, disable the alert and click 'Save and Close'

2. Patient admitted to ICU when already admitted to the ICU under a different Hospital Stay

Cause:

- If a patient is currently admitted in ICU and a case file from a previous encounter in ICU is opened this alert is raised

Action:

- Open Disable PAS Alert Form, disable the alert and click 'Save and Close'

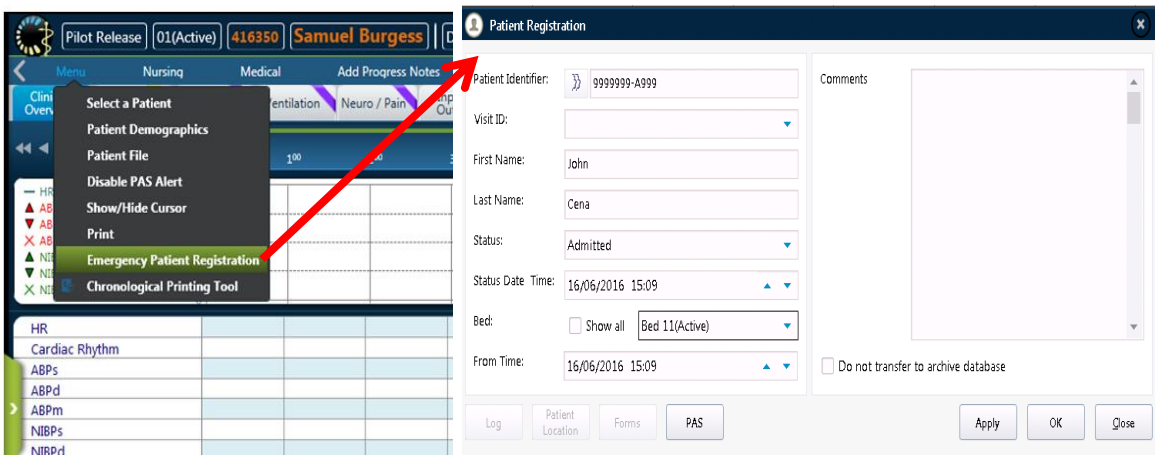
5.1.6 Registering / Admitting a patient when PAS is down

If the PAS system is 'down' the user can manually register a patient.

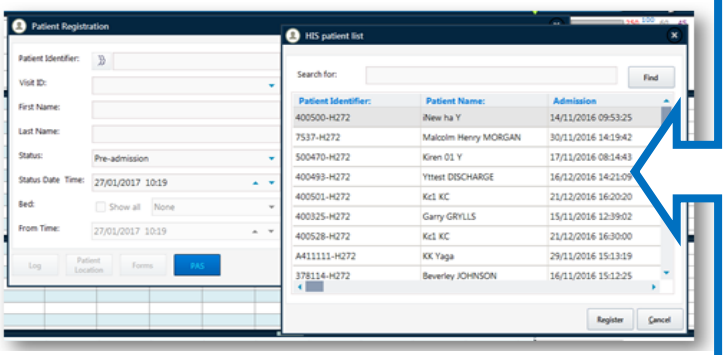
Downtime registration

In this scenario, PAS is down, or the interface from PAS is down.

1. Open the 'Emergency Patient Registration' Window from the 'Menu'



2. Click the PAS button on the **Emergency Patient Registration** form. The HIS (Hospital Information System) patient list form appears.
3. Search for the patient in the CACHE using the known **MRN,** or **First Name** and **Last Name** (If the MRN is available in the CACHE search, errors will decrease).



- On the HIS patient list type the MRN or Patient Name or part of either in the Search for text box and click 'Find'
- Highlight the matching row and click Register
- The Emergency Patient Registration form reappears with Patient Identifier, First Name and Last Name containing the expected values. Visit ID is empty.

If patient not found in CACHE:

1. On the Emergency Patient Registration form, enter:
- MRN into Patient Identifier
- First Name
- Last Name

2. Leave Visit ID blank.

3. Select Status = Admitted

4. Select an 'Active Bed'

5. Check that the admission time to ICU (From Time) is the same as the Status time

- If the correct MRN is not known, then follow the local procedure to find the correct MRN or get a downtime MRN. If there is no local procedure create a temporary MRN with the pattern ICU-xxxxxx (e.g. ICU-10001) in eRIC.
- If any of first name, last name, date of birth and sex is not known then follow the local procedure to choose temporary values
- Click **OK.** The eRIC main screen appears
- Open the 'Patient Demographics Form' from the Main menu. The form will be empty except for Patient Identifier, Given Name and Family Name
- On the Patient Demographics form 'Patient Details tab'- enter the Date of Birth and Sex. **NOTE:** eRIC will overwrite the linked (🔗) information including identity (first name, last name, date of birth, sex) and all other demographic once the Resynchronise with PAS workflow completes. For this reason avoid entering any personal demographic information
- On the Patient Demographics form click **Save and Close**. The eRIC main screen reappears and the process is complete.

NOTE: Always check and confirm that PAS is down and there is no patient already admitted in eRIC via PAS. Using the Emergency Patient Registration window to admit a patient in eRIC who has already been admitted in PAS will create a PAS Alert 'Patient has multiple Active Case for the same Hospital Stay'.

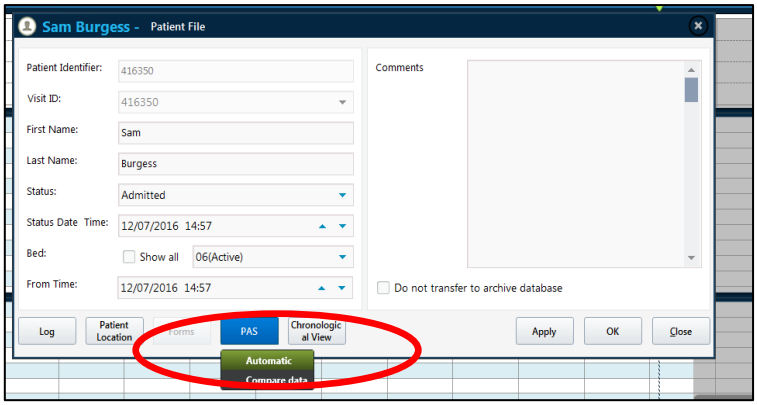
Resynchronise with PAS workflow

This is the workflow to restore the link between PAS and eRIC and refresh the personal information from PAS. This cannot begin until PAS is available; the person is registered and they have an active Facility MRN in PAS.

The workflow depends on whether the Case MRN is the same as, or different to, the active PAS MRN. The Case MRN will be different to the active PAS MRN if it is a temporary MRN which will never be known to PAS e.g. 'T-1234567' or has become inactive in PAS because it was merged before this workflow.

Resynchronise with PAS (Case MRN is the same as the active PAS MRN)

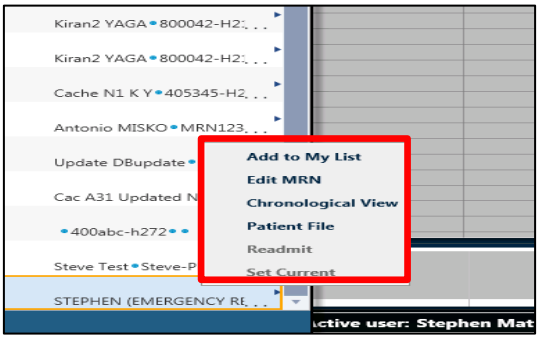
Use this workflow when the Case MRN is the same as the active PAS MRN. (In PAS follow the local procedure to do a dummy update of the patient data in PAS).
- Select Patient File from the 'Menu' menu. The Patient File form opens
- Click the 'PAS' button select 'Automatic'
- Click OK. eRIC changes the patient identity and demographics on the Case.
- The workflow is complete.



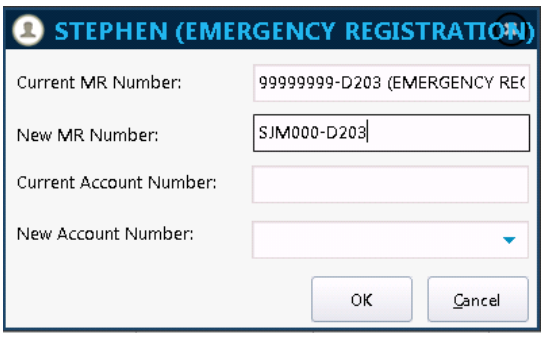
Resynchronise with PAS (Case MRN is different to the active PAS MRN)

Use this workflow when the Case MRN is different to the active PAS MRN.

- On the Work List, right click on the Case. A context menu appears:



- On the context menu, select Edit MRN. The Edit MRN form appears
- **NOTE:** If instead eRIC presents the error 'Changing hospital number is not allowed while working with Person ID policy', then contact your CIS Manager. This error means the Case already has an AUID and so may not have its MRN changed
- Type the active PAS MRN into the New MR Number field and leave both Account Number fields empty:

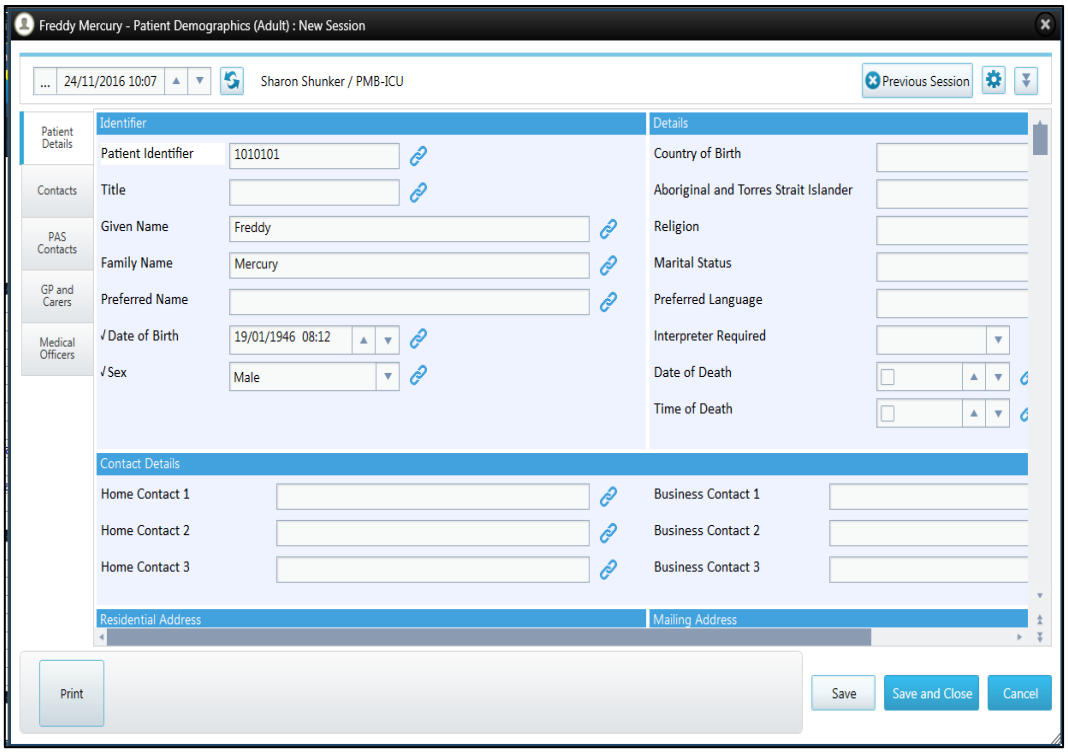


- Click OK
- Follow 'Resynchronise with PAS (Case MRN is the same as the active PAS MRN)' to finish the workflow.

5.1.7 Patient Demographics

Open the Patient's Demographics Menu from the 'Menu' menu.

- View patient demographic information synchronised with PAS in the linked ( ) fields
- There are several additional windows that can be opened using the buttons on the left – they include information on the Patient Details, Contacts, PAS Contacts, GP and Carers and Medical Officers
- The information in Patient Details, Contacts and PAS contacts is linked from PAS to eRIC
- The information on GP and Carers and Medical officers is not linked from PAS (this information should be viewed in PAS which is considered the source of truth)
- The following PAS contacts correctly appear in the 'Patient Demographic' form (Contacts tab) in eRIC:
  - PAS NOK will be populated as the eRIC Primary Contact
  - PAS Emergency Contact will be populated as the eRIC secondary contact
  - PAS Primary Care Giver will be populated as the eRIC Alternate Contact 1
- MRNs with a length of 4 or less characters are automatically entered in eRIC to appear the same as they do in PAS.

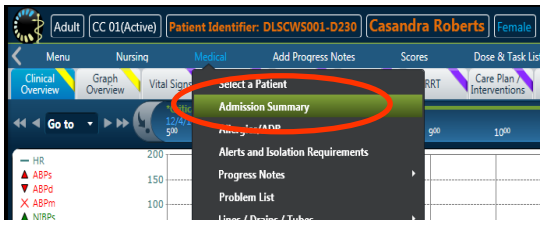


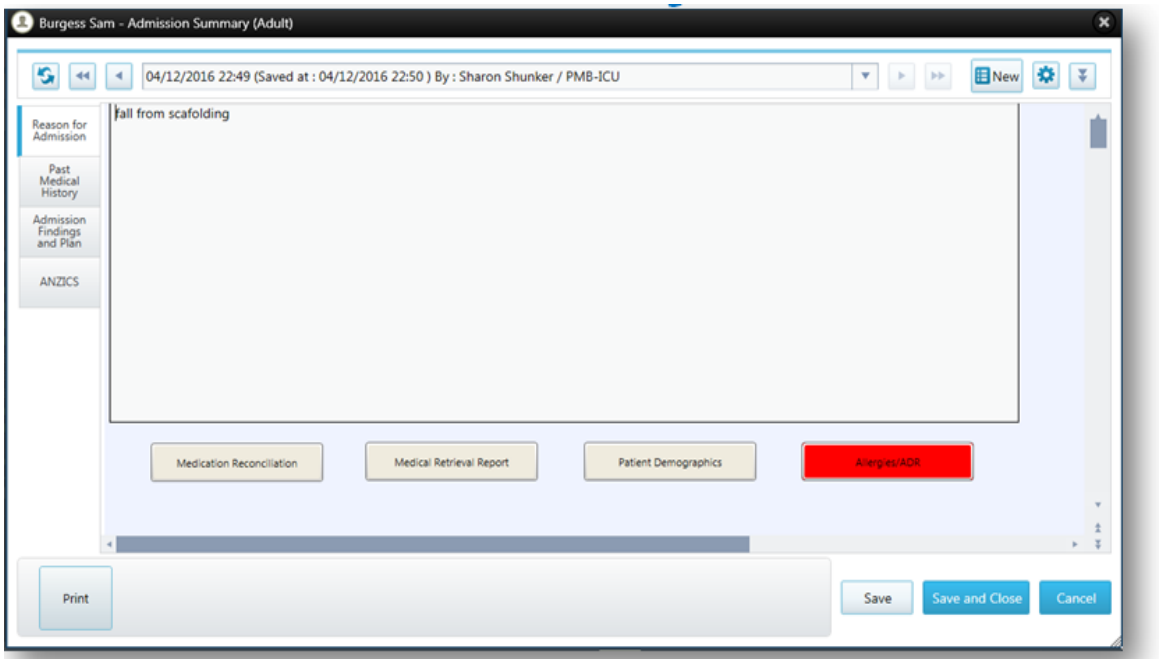
Interpreter required is not messaged from the PAS. ICU staff should refer to PAS for this information.

NOTE: Ordinarily PAS broadcasts an electronic message when patient information changes; eRIC receives the electronic message and automatically updates the Case to match PAS.

5.2 Admission Summary Form

Once the patient is admitted there are additional forms that need to be filled in to complete the admission process. The first one is the Admission Summary Form. This is accessed from the 'Medical' menu from the menu bar → select **Admission Summary** → this opens the **Admission Summary** form.



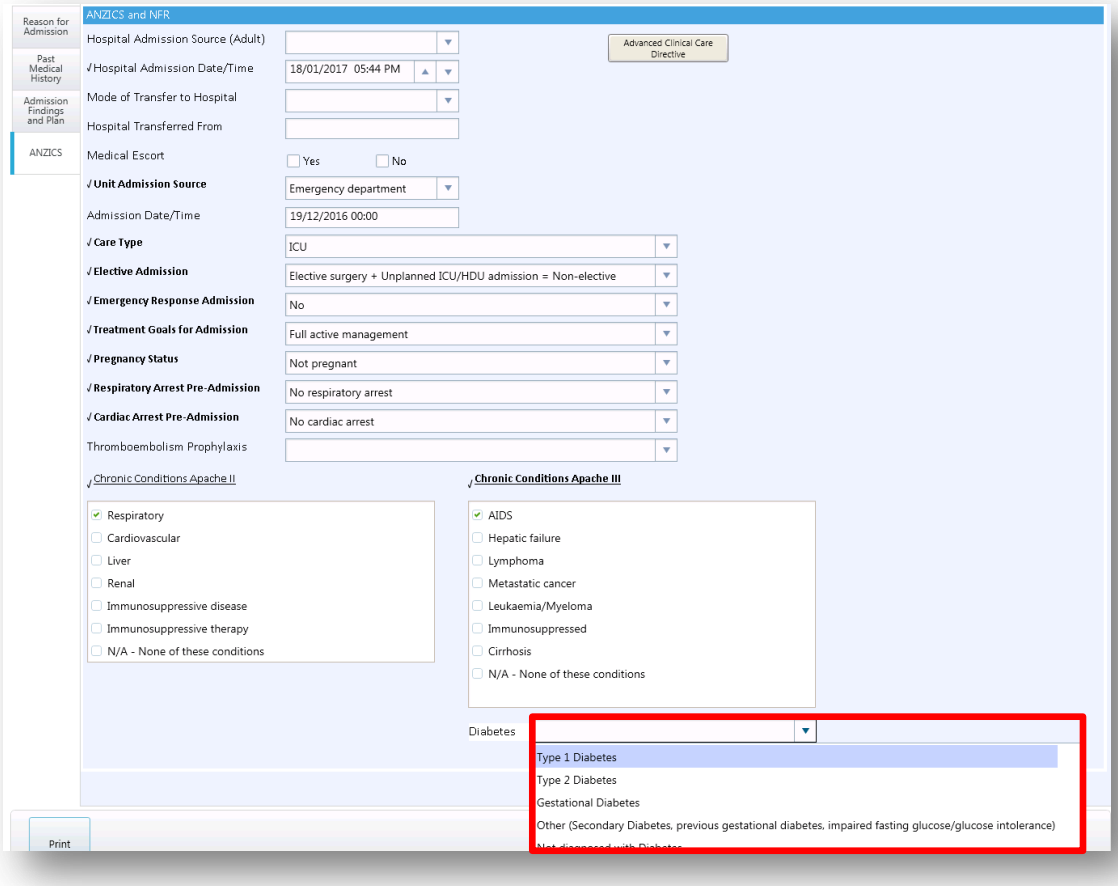


There are several tabs in the Admission Summary Form that need to be completed. These are accessed by the four tabs on the left hand side of the form. The forms are 'Reason for Admission', 'Past Medical History', 'Admission Findings and Plans', 'ANZICS'.

1. **Reason for admission** - this form includes a free text box
2. **Past Medical History** - this includes a free text box for past medical history, family and social history. It also requires you to indicate the patient's smoking status – if they are a current or ex-smoker there is additional information that is required (in the form of drop down boxes that automatically open)
3. **Admission Findings and Plans** - there is a free text box for 'findings on examination', 'admission plan'. Includes an Alerts drop down box for selecting patient's infectious status e.g. MRSA or VRE. There is also an Alerts (eMR) drop down box. The examining Medical Officer needs to enter their name in the relevant box at the bottom of the form
4. **ANZICS** - The ANZICS form is an important data form that has several mandatory sections that have to be completed:
   - Mandatory sections can be identified as they are in bold and have a tick. The Admission Summary cannot be saved and exited until all mandatory sections are completed

- Copy Hospital Admission Source, Hospital Admission Date/Time, Mode of Transfer to Hospital, Hospital Transferred From and Care Type from PAS. All Mandatory fields must be completed
- This form includes the button for accessing the '**Advanced Clinical Care Directive**' form. There is the ability to scan an existing advanced care directive into eRIC. It also has a link button to state wide and local policies and guidelines

NOTE: Chronic Conditions (both Apache II and Apache III) have strict pre-determined criteria to be met – this criteria can be viewed by clicking on each of the underlined Chronic Conditions titles.

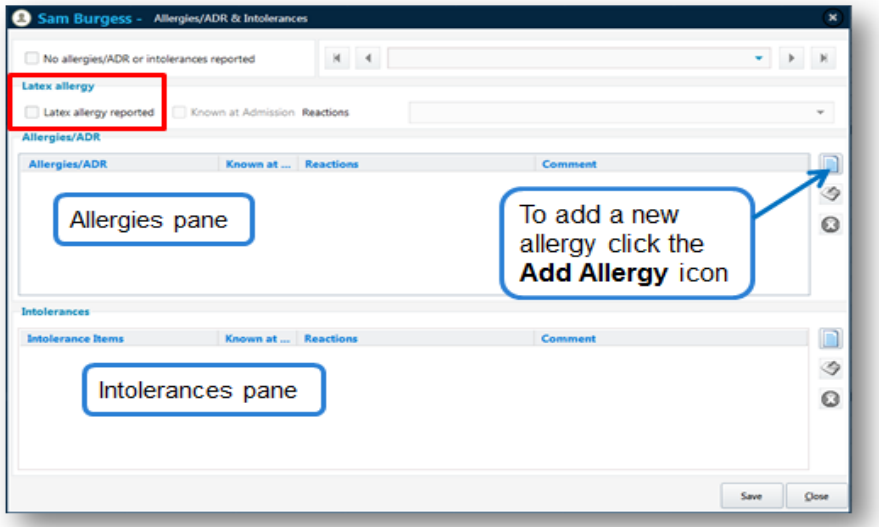


There are four buttons at the bottom of the 'Admission Summary Form' that require additional information.

- **Medication Reconciliation** – this can be completed by the ICU Pharmacist or the ICU medical officer. It does not have to be done immediately at the time of admission, but should be completed within the first 24 hours when possible
- **Medical Retrieval Report** – if the patient has been transferred in by the medical retrieval team, the report can be scanned into this section
- **Patient Demographics** – view and check the information here. View patient demographic information has synchronised with PAS in the linked (🔗) fields. This information is on the Patient Details, Contacts and PAS Contacts tabs. All other fields on these tabs, and all fields on the GP and Carers; and the Medical Officers tabs; will be empty. View this information in PAS
- **Allergies /ADR** – this needs to be completed with existing allergies, new allergies and intolerances.

Allergies /ADR

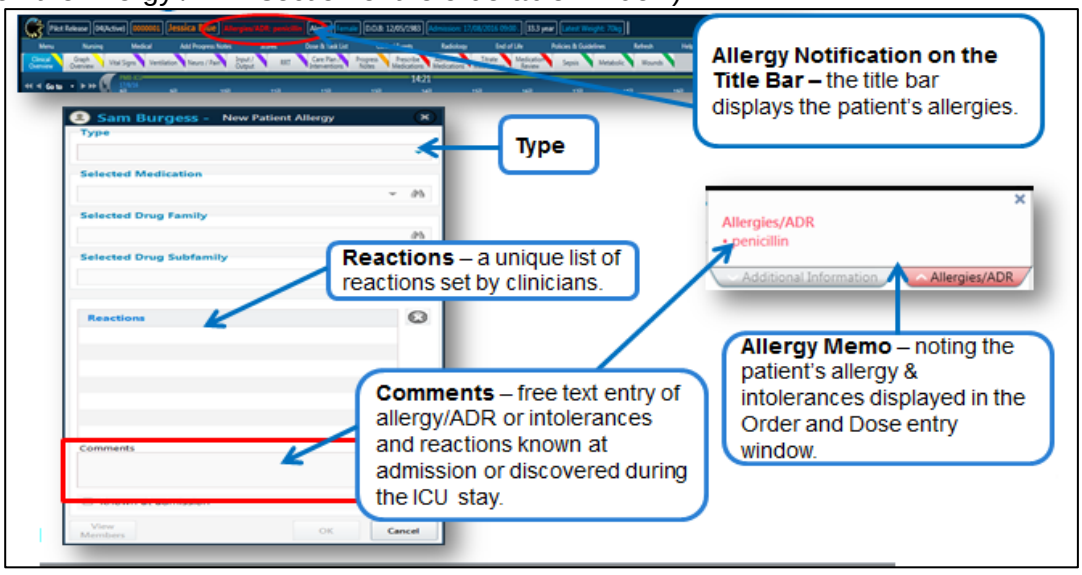
- To add new allergies click the 'add allergy' icon
- It is mandatory that the Allergy / ADR form is completed as part of the admission procedure
- Users are expected to review the Allergies / ADR form each time any changes are made to the 'Admission Summary Form'. It will not allow you to close the Admission summary form without opening and reviewing the Allergies/ ADR form.



- **The New Patient Allergy** window will open (The New Patient Allergies window is context-sensitive, meaning the second dropdown menu changes according to the allergy **Type** selected). The Type Window offers:
  - Drug Family
  - Sub Family
  - Medication (the list of medications as per the customisation module)
  - Ingredient (the list of ingredients as per the customisation module)
  - Miscellaneous

Comments and Known at admission

This allows the user to document a free text comment and if the allergy/ADR or intolerance was known at admission or discovered during the ICU stay (this comment is what displays on the Allergy /ADR section of the orderable window)



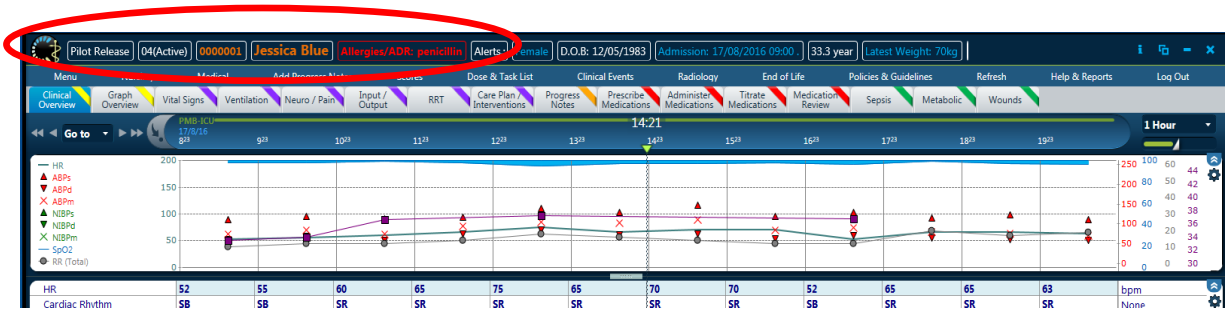
Allergy Notifications

- A number of components work together in eRIC to keep you informed of allergies
- These include: Title bar, Status bar and Allergy memo within the medication module.

NOTE: Allergies are displayed on the title bar but **do not** sync with eMR allergies. Any allergies discovered in ICU (or any change in allergy status in ICU) will have to be entered into eRIC and into the eMR.

Title Bar

When a patient's allergies have been documented, the title bar displays the patient's allergies and/or intolerances, providing you with ongoing notification of a patient's allergies and intolerances.



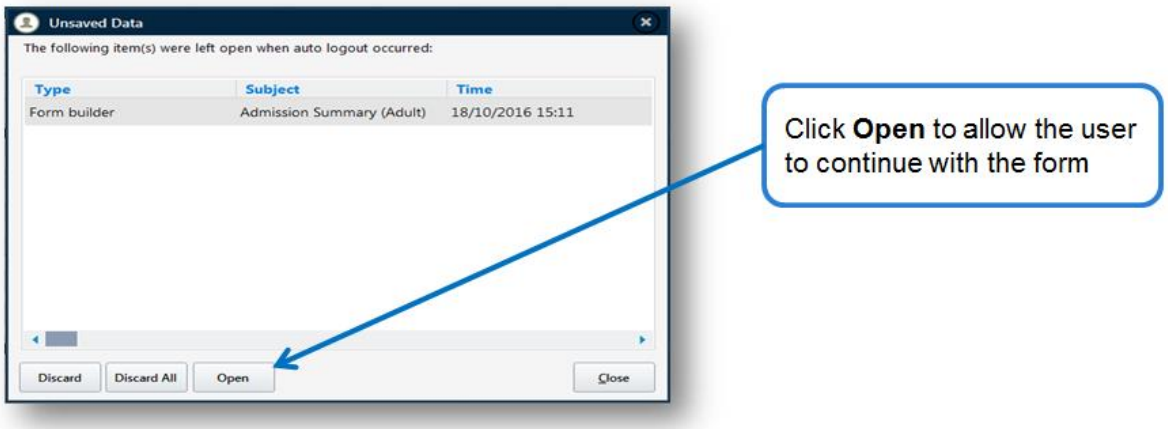
Allergy Memo

An Allergy Memo is found in the top right-hand corner of the Order and Dose Entry windows, noting the current patient's allergies and intolerances.

Once the Admission Summary form is complete select 'Save and Close'. The Admission Summary form can be accessed from the bottom of the 'Medical ward round note'. It also populates information into the Medical Discharge Summary.

Unsaved Data Prompt Window

If the Admission Summary form in eRIC is commenced and unsaved, when eRIC automatically logs-out the user **(auto log out set for > 5mins of inactivity)**: eRIC will save the data entered for that user. When the user logs back in, they will receive a prompt of 'unsaved data' and be directed back to the form for completion.



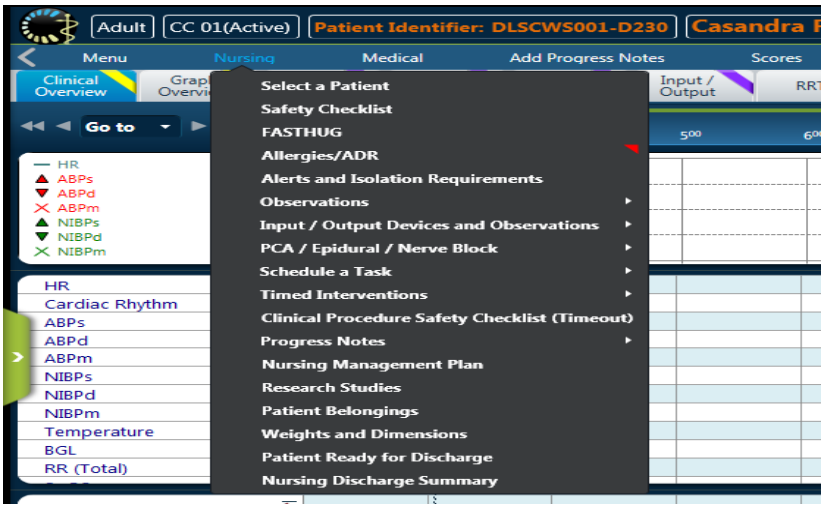
5.3 Additional Admission Forms

There are several additional forms that will need to be completed on admission.

5.3.1 Nursing Forms on Admission

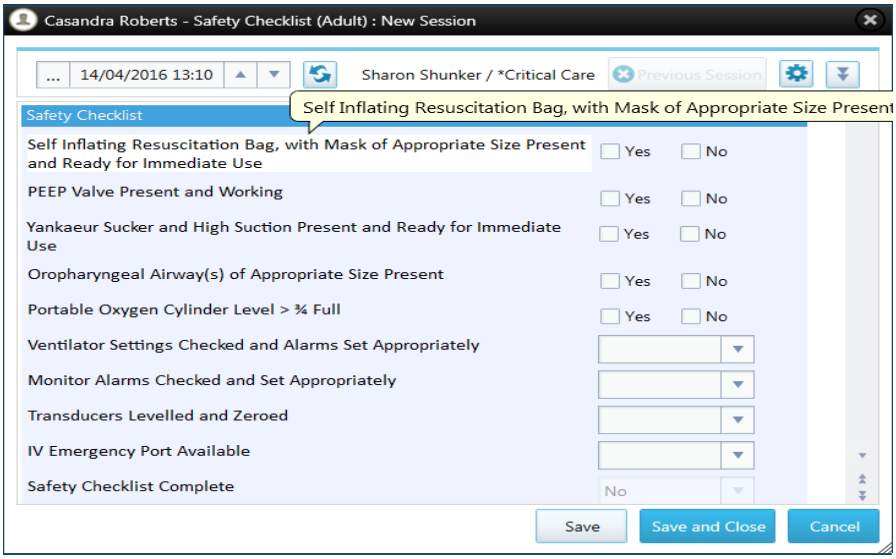
Some of the additional nursing forms that need to be completed on admission can be accessed from the 'Nursing' menu. They include:

- Safety Checklist
- Alerts and Isolation Requirements
- Lines and Tubes – this has a submenu for each line /tube /drain
- Patient Belongings Form
- Weights & Dimensions
- Burns patients will require a Burn Body Chart to be completed



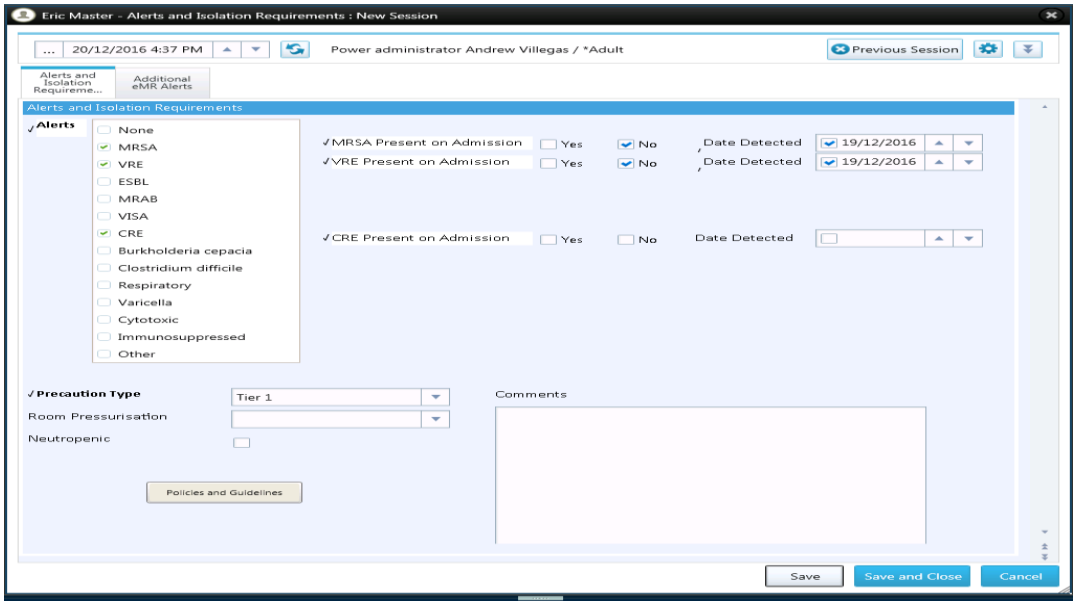
Safety Checklist

This contains information on routine safety checks that need to be attended on admission and subsequently as per unit protocol.

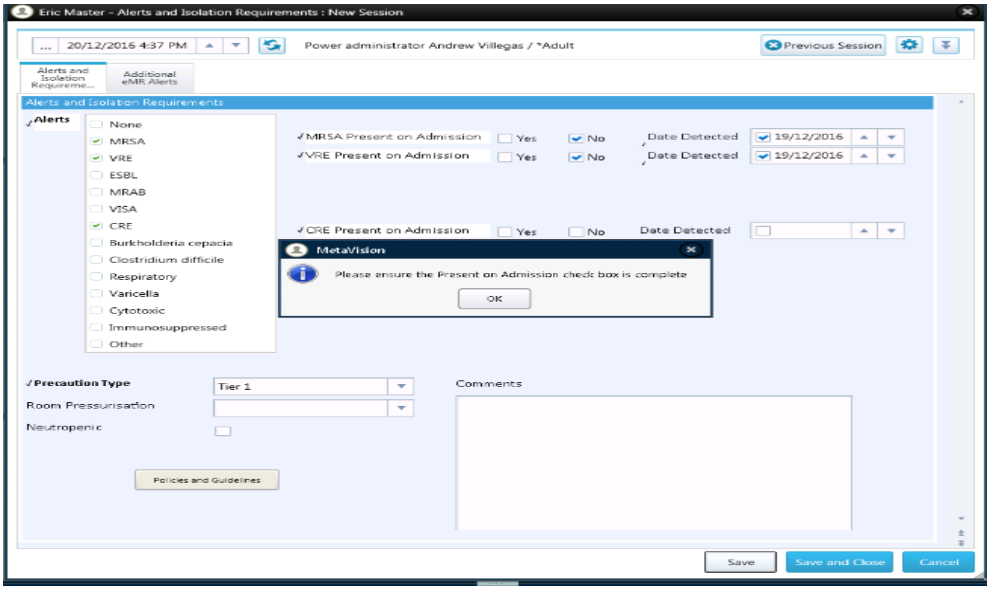


Alerts and Isolation Requirements

- This allows the entry of information relating to the patient's infectious status and isolation requirements – it also has a link at the bottom of the page to policies and guidelines (statewide and local). This alert will appear with the patient information on the Title bar
- Infection such as MRSA, VRE etc. may be present on admission or may be detected during the ICU stay. If detected during the ICU stay – need to tick 'No' for Present on Admission and then need to enter the Date it was Detected (this is important as it populates into the MRO Operational Report)



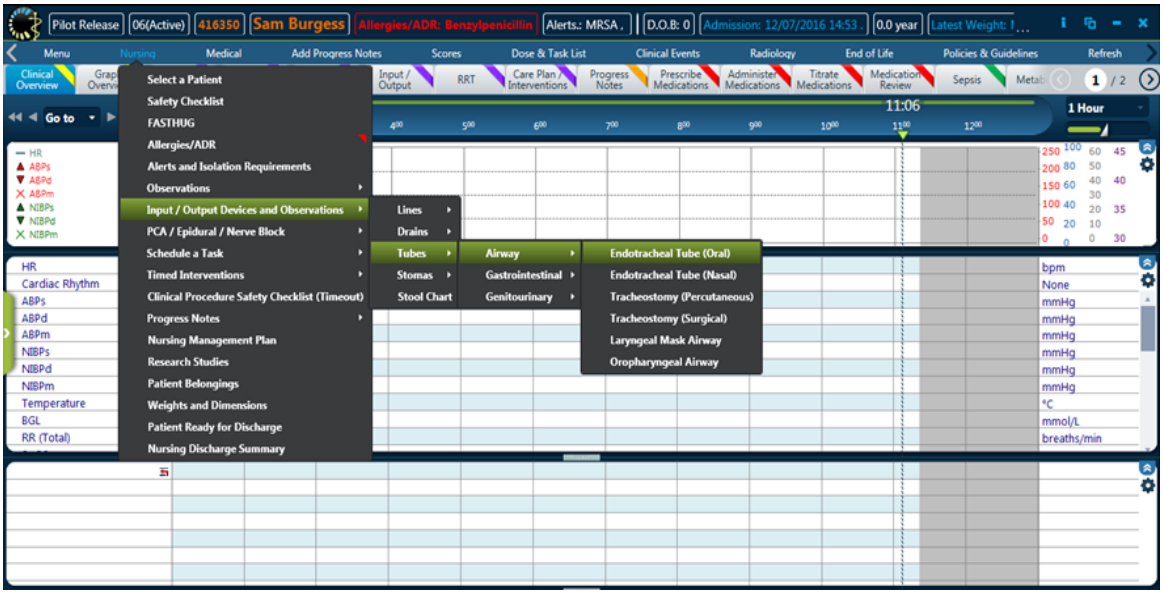
- The clinician needs to enter 'Name of Infection' & if it was 'Present on Admission' and 'Date Detected' to each MRO infection – MRSA, VRE, ESBL, MRAB, VISA, and CRE
- As the clinician clicks each MRO infection from the Alerts selection, they will see the box to enter 'Present on Admission' and 'Date Detected'. The form will show a pop-up window requiring an answer to whether the infection was present on Admission.

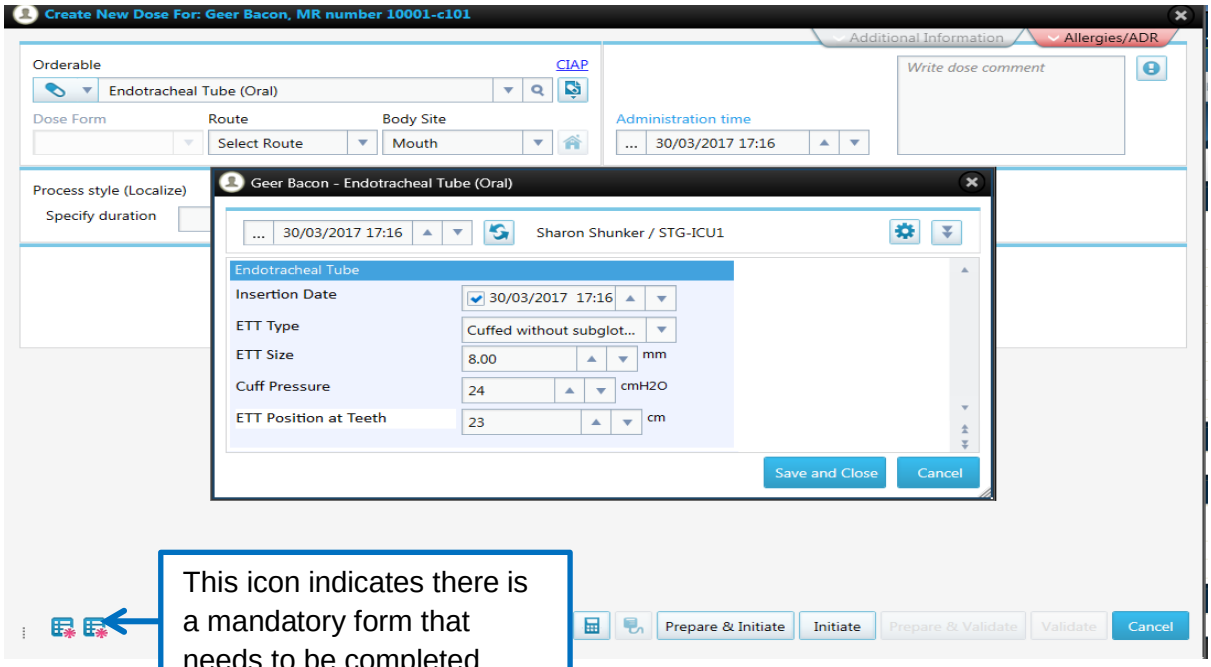


Lines and Tubes

This is accessed via **Nursing → Input/ Output Devices and Observations →** choose desired 'Lines' 'Drains' 'Tubes' 'Stomas'. The individual sub menus then allow the nurse to choose which line the patient has, and also enter information about it (see e.g. below for ETT).

A complete list of all the lines and tubes can then be viewed on the Input / Output Screen.

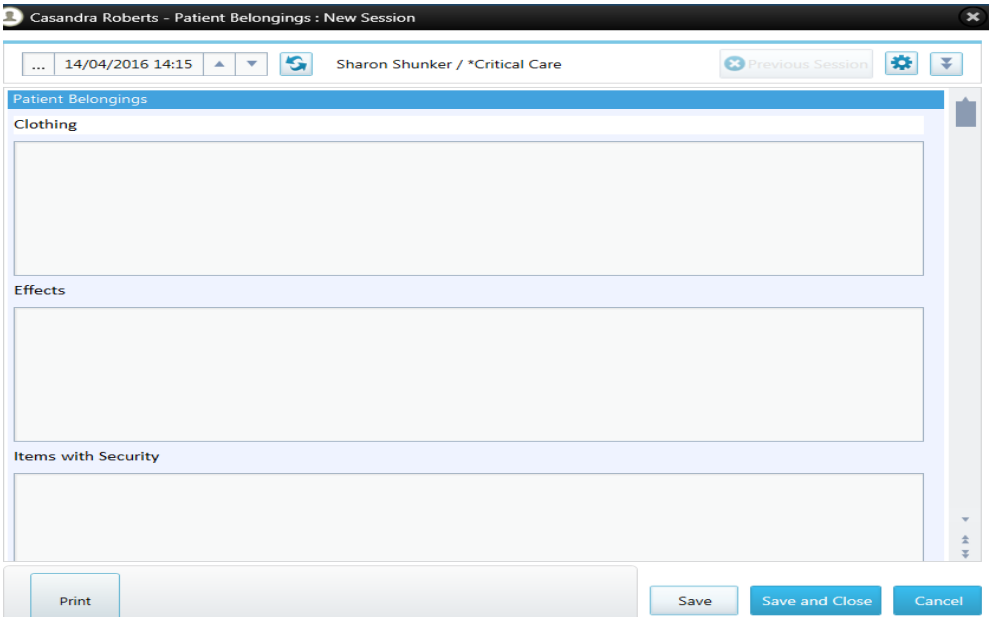




This icon indicates there is a mandatory form that needs to be completed

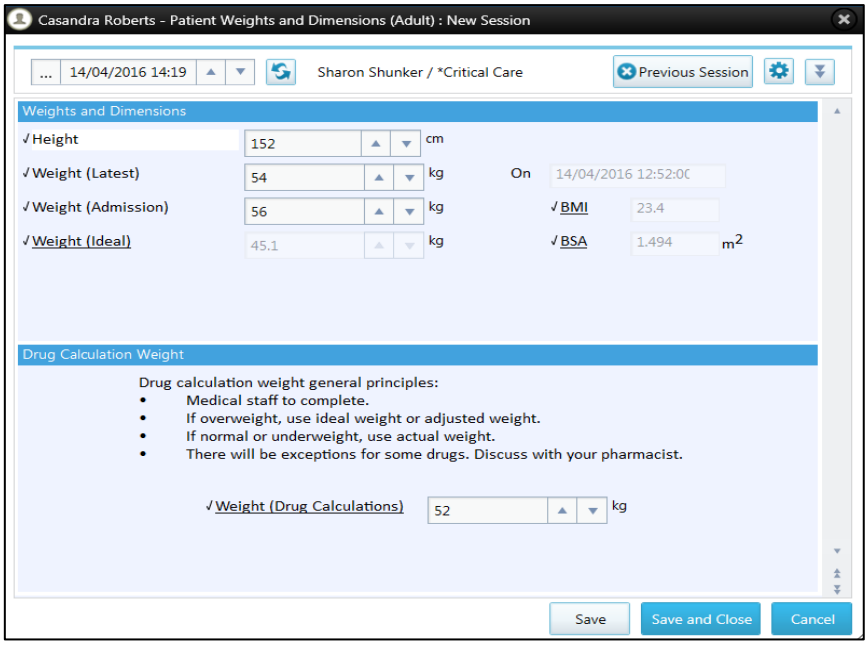
Patient Belongings Form

This form needs to be completed on admission. It is signed by the person checking the belongings and the person verifying the belongings.



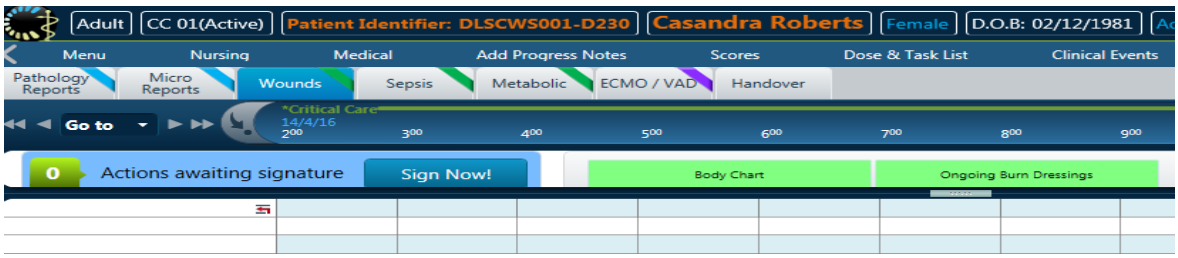
Weights and Dimensions

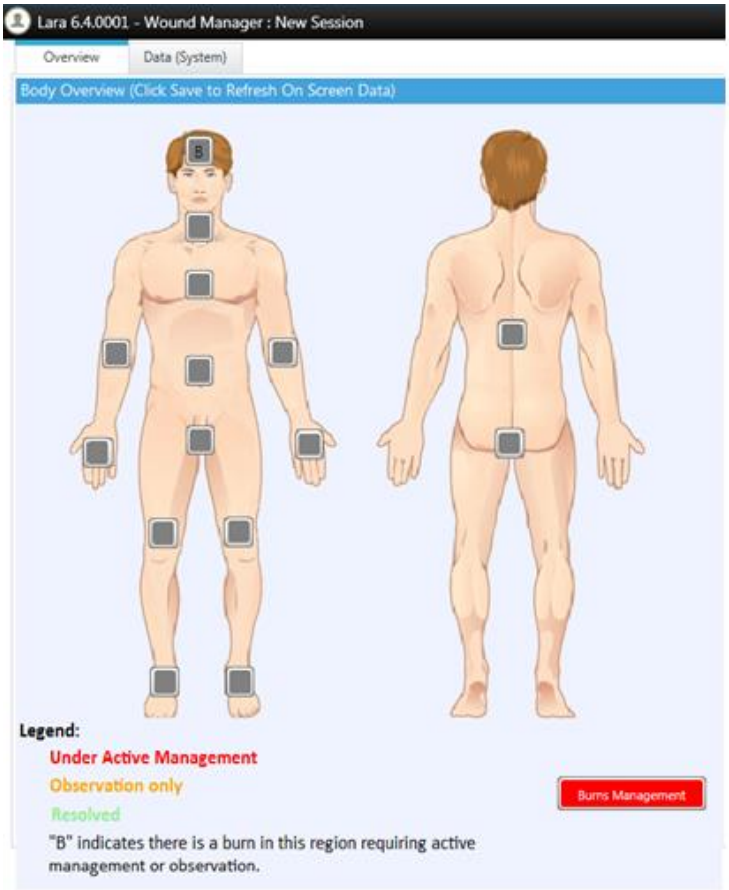
This form needs to be completed with the patient's height, weight and weight to be used for drug calculations. If the patients weight (Drug Calculations) is changed – all medications that are weight based prescriptions need to be re-prescribed (this is because the original weight is retained in the Order Details Window)



Burn Body Chart

Patients with burns will need additional forms completed. Under ‘Medical’ menu there is a ‘Burns Admission Management’ form. The nurse will need to complete the ‘Body Chart’, this can also be accessed from the ‘Wounds’ tab.





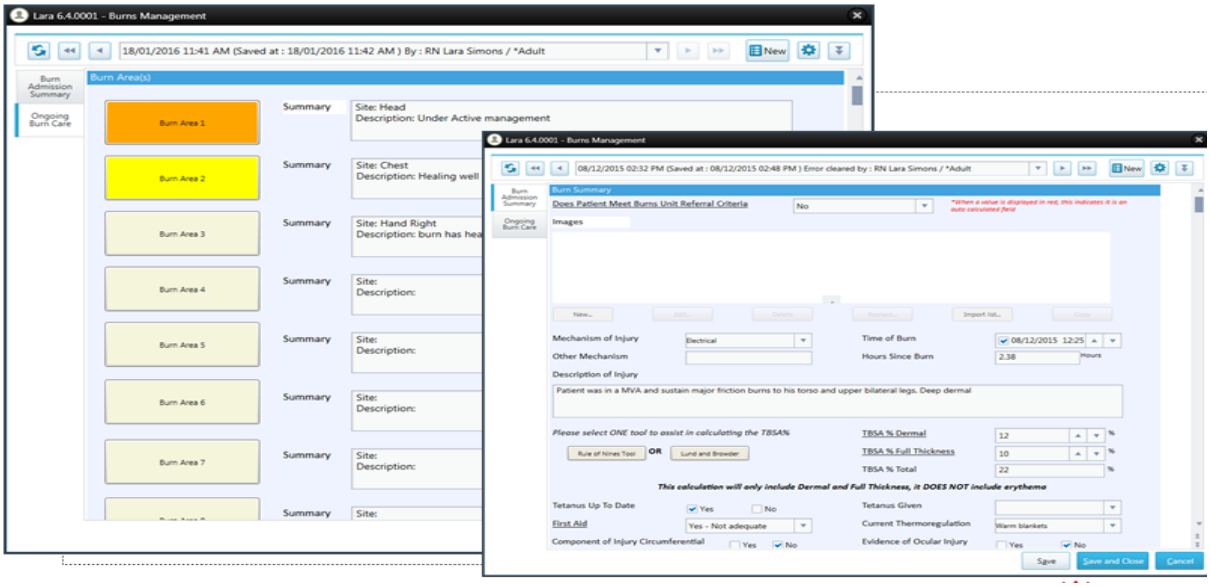
This form is completed to indicate areas of the patient with a burn wound. ‘B’ is placed in the area a burn is present. A colour can also be added to indicate management of the wound. There is a button at the bottom called ‘Burns Management’ and the colour of this button will indicate if there are any active burns:

- Grey: no burns
- Orange: Burns with ‘observation only’ as the status
- Red: burns with ‘active management’ as the status

5.3.2 Medical Forms on Admission

Burns Admission Management Form

In addition to the forms in the 'Admission Summary Form', for burns patients, the ICU clinical staff will need to complete the 'Burns Admission Management' form.



A newly admitted patient to the ICU with burns will receive specialised care; to document this and plan further care, the clinician (Medical officer, burns fellow, nurse) opens the Burns Admission Management form to document the initial burn details. This is the first 24 hours of information, giving an overview of what happened and the actions taken. This is all static information which should not really change, other than an update of the initial TBSA% or burn details that were not captured initially. For ICU's that don't have burns as a regular occurrence, this does not have to be completed.

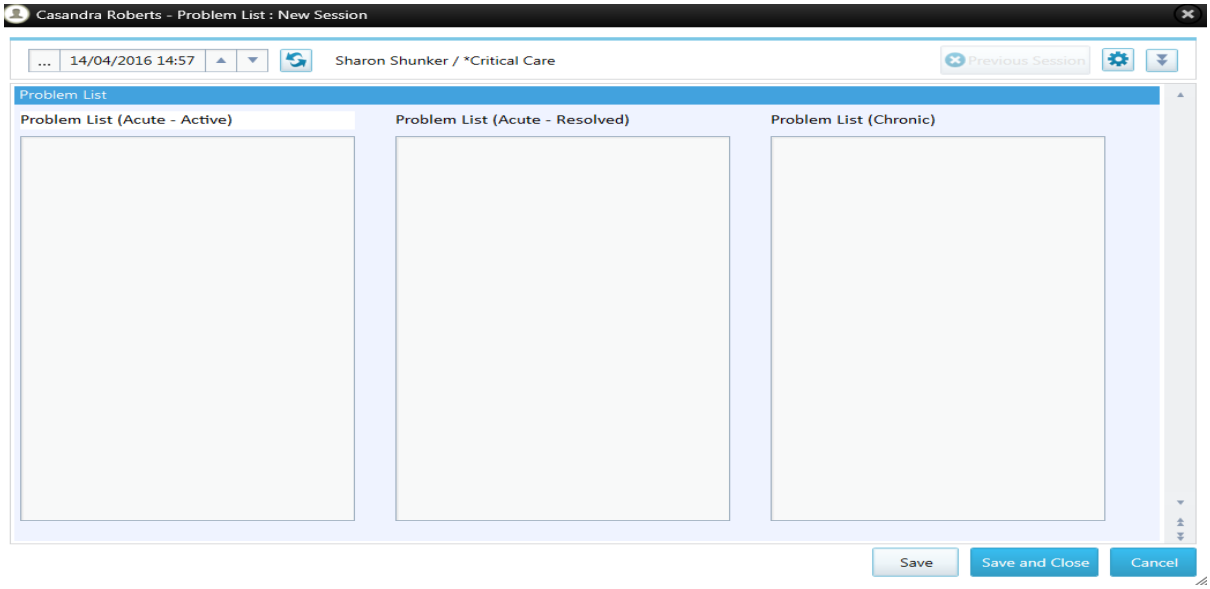
The Burns Admission Management form includes:

- The 'story' of what happened (when, where and how). **The Time of Burn entered will be used to calculate the field 'Hours since Burn'.** This is a formula and will auto calculate upon the form being saved. It is important because it is used to calculate the fluid resuscitation fields
- TBSA calculation (Rule of 9's or Lund and Browder).These will open to separate forms with the ability to document and draw on the desired areas. The user will then need to manually document the TBSA Dermal and TBSA Full thickness into the fields. The TBSA % total will calculate automatically ONLY ONCE THE 'Save' button is clicked on. (This applies to all formula parameters that are underlined – need to click on 'Save' to activate the formula)
- Burn depth documentation – There are descriptions and information provided for all burn depth documentation. This is to aid in accurate calculations
- Upload images of the initial burns - The user can upload images of the burns when the patient arrives in the ICU
- Pain, airway and ocular documentation - (vital areas to monitor in the first 24 hours).
- Interventions completed (at the scene, the emergency room or ambulance)
- Fluid resuscitation for the first 24 hours (with Parkland formula calculations and urine output targets) - these fields are auto calculated, user must enter the fluids previously given to patients, and the weight of the patient. The other fields will calculate when the user saves the form (**NOTE:** this is to be used when burn is < 8 hours old)
- The user can access buttons to document actions which may have occurred during the burns admission, such as line insertion or local policy for further information.

The second tab, ‘Ongoing Burn Care’, documents the current burns for ongoing management with their site and description; there are action buttons to go from here to document the burns and the dressings.

Diagnostics / Problem List

The ICU medical officer needs to complete the problem list at the end of the admission process. This lists the Acute Active problems, Acute Resolved and the Chronic issues. This can be found under the ‘Medical’ menu and the ‘Problem List’ button.



The values are also presented on the medical ward round note. The parameter will display the latest value. Therefore wherever the user completes the parameter, it will display the most up to date value in both the problem list form and the medical ward round note form.

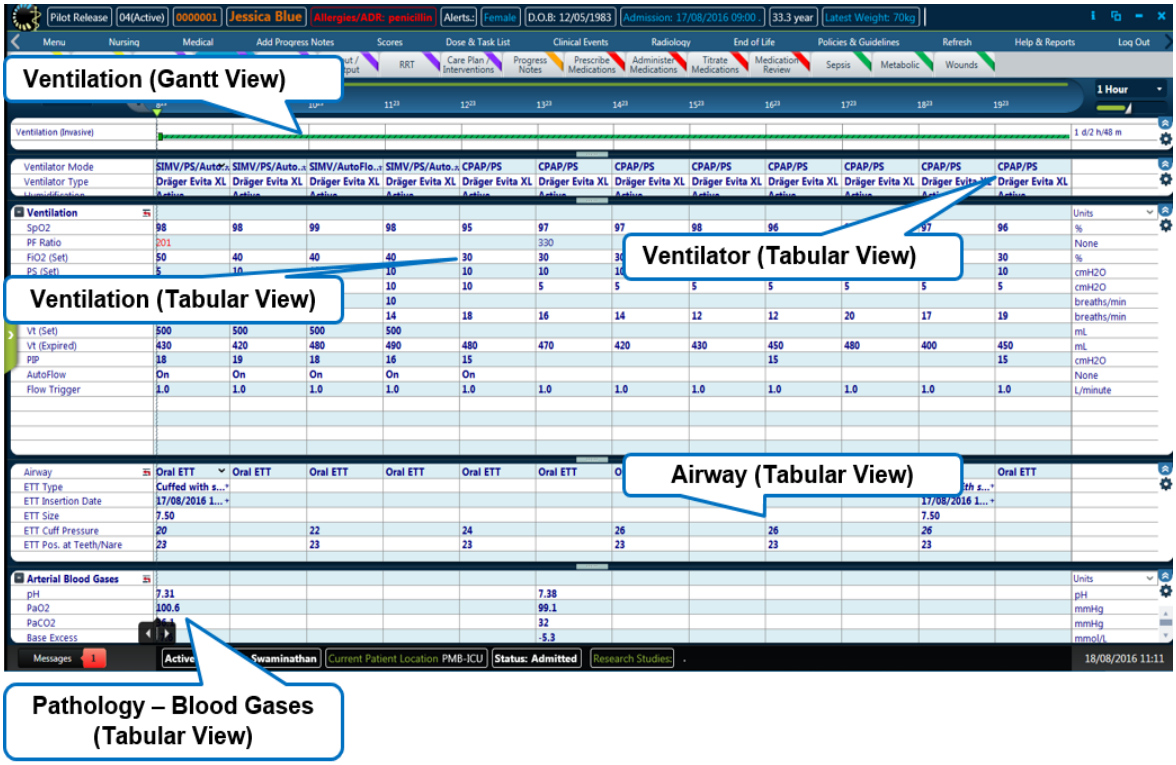
5.4 Review Tabs

Clinical Overview Tab

Once the admission procedure is completed, the Clinical Overview tabs can be used to view the patient’s vital signs.

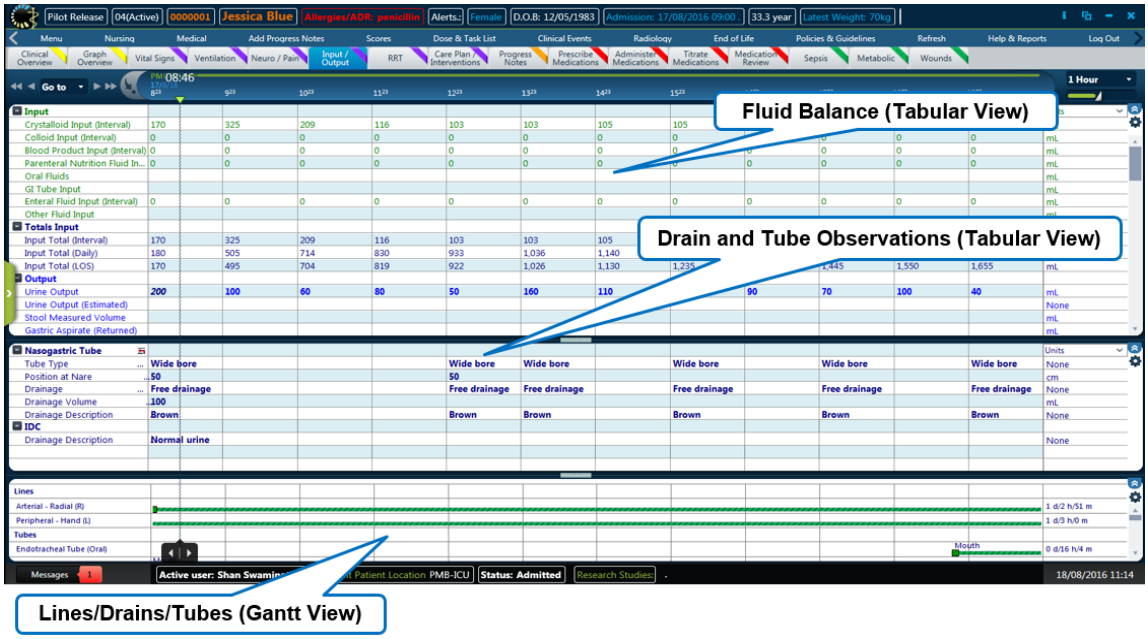
Ventilation Tab

This provides an overview of the patient's ventilation status.



Input / Output Tab

This screen provides a view of the patient's input and output status and also the lines, tubes and drains that are insitu.



Fluid Balance (Tabular View):

- Top section lists fluid inputs, followed by totals. Next is Fluid Output, Output Totals, and then Balances. Specific totals (Drains, IV fluids, Blood Products, GI totals, Urine Totals and Dialysis) are also listed
- The majority of these will be coming in from other sources (e.g. medications and nutrition) which will all be 'Ordered'; and these will be formula parameters which will auto calculate per interval. The only input the user can manually enter is oral fluids (sip of water you gave the patient), GI tube input (medication flushed down with water) and other fluid input. The other values are for interpretation, not documentation. The totals are all formula parameters and therefore cannot be manually entered
- Output is manually entered, as this is often measured on an hourly basis. All outputs coming from hourly observations of drains and tubes will populate in the GI outputs parameter or Drain output parameter. The totals, however, will be auto calculated. Urine will be entered into the output totals
- Balance Totals are all auto calculated
- The next sections are closed by default, and when opened, will show a breakdown of where the individual outputs are coming from.

Drain and Tube Observations:

- When a patient has a line, drain or tube inserted in them, this is a foreign object, and therefore regular observations must be performed to ensure the safety of the patient. This information is displayed as 'hide empty rows' which is designed to only display a parameter if there is a value present. Therefore, if there is no data, it is set to not display or to 'hide' that parameter. All parameters within the tabular view will be linked to a form which will be completed when the process parameter is documented. Relevant values will be automatically displayed from the forms as they are completed, there will be no need to manually transcribe any values. There are a large number of drains and tubes the patient may possess and the majority may not be relevant for particular patients.
- By hiding rows, only the relevant parameters and values will be displayed making it easier for the user to view and interpret the data. The workflow for documenting a line, drain and tube will be outlined in the Daily Routine module.

NOTE: On the Input / Output Tab if a '0' value is displayed – this is a null value for a calculated field (formula field that pulls or is calculated from another area). Therefore in 'Drain Output' 0 does not = no drain loss, but means no drainage has been recorded.

Lines/Drains/Tubes (Gantt View):

- This is where the user can see which lines, drain or tubes are currently insitu for the patient and for how long (This is the cannula / catheter chart). The user can cease the process parameter from here when a line, drain or tube is removed.

6. Admission Module Specialised Workflow Processes

- Allergies/ADRs need to be recorded in eMR and in eRIC separately.

eRIC User Guide

Module 3: Daily Routine

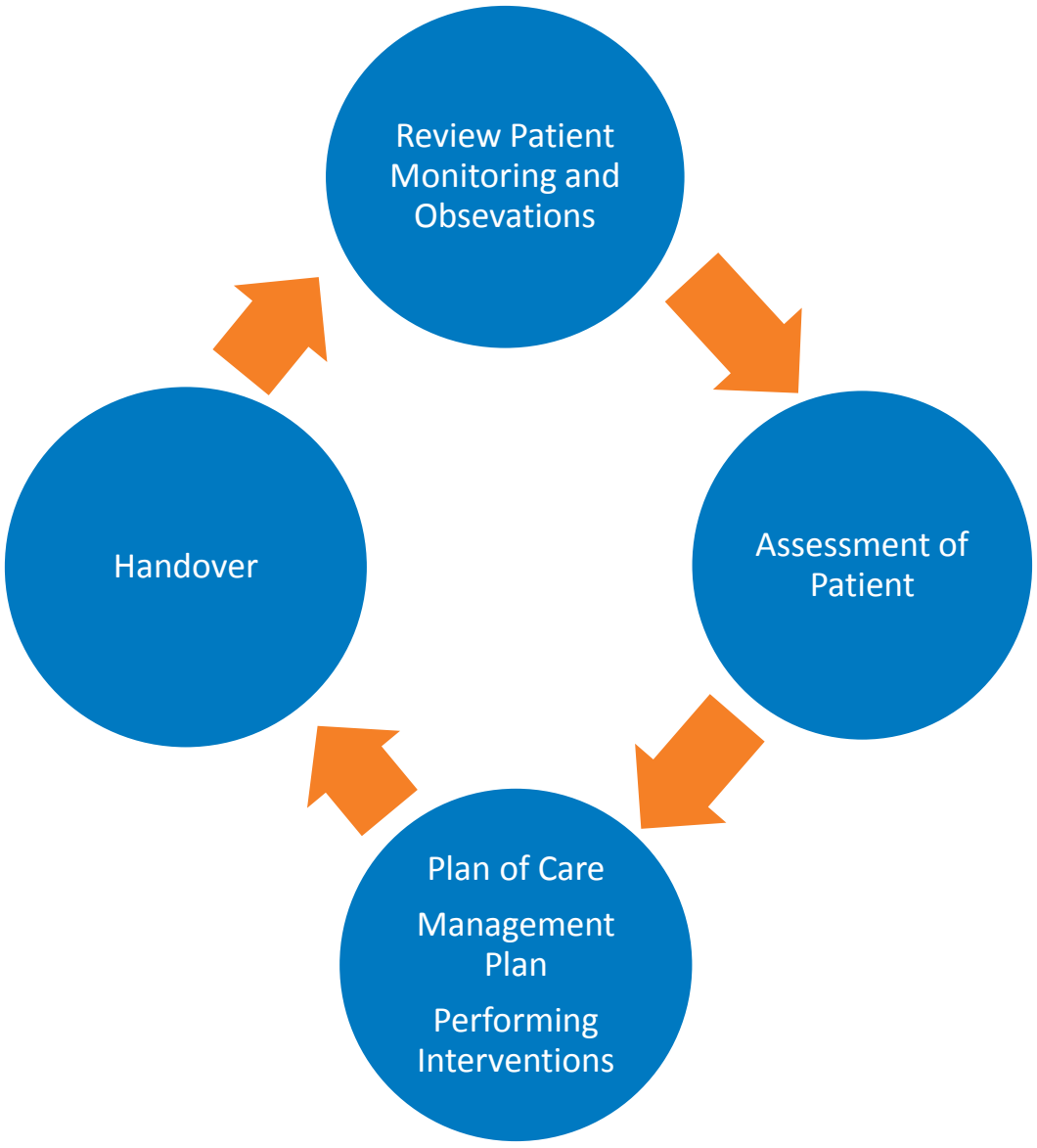
Daily Routine

7. Overview Daily Routine Module

This module will promote your understanding of how to use eRIC as part of the ICU daily routine process for assessment and management of the patient.
This process includes reviewing the ICU patient, assessing the ICU patient, planning the care of the patient,documentation and handover of care to the next shift.

8. ICU Daily Routine

Care and management of an ICU patient is a 24-hour process, so the daily routine covers a 24-hour period and the various activities are generally based on each shift. The duration of the shift may vary for each ICU. The routine for each shift will commence with obtaining handover and then the activities can be broadly categorised under the following headings.



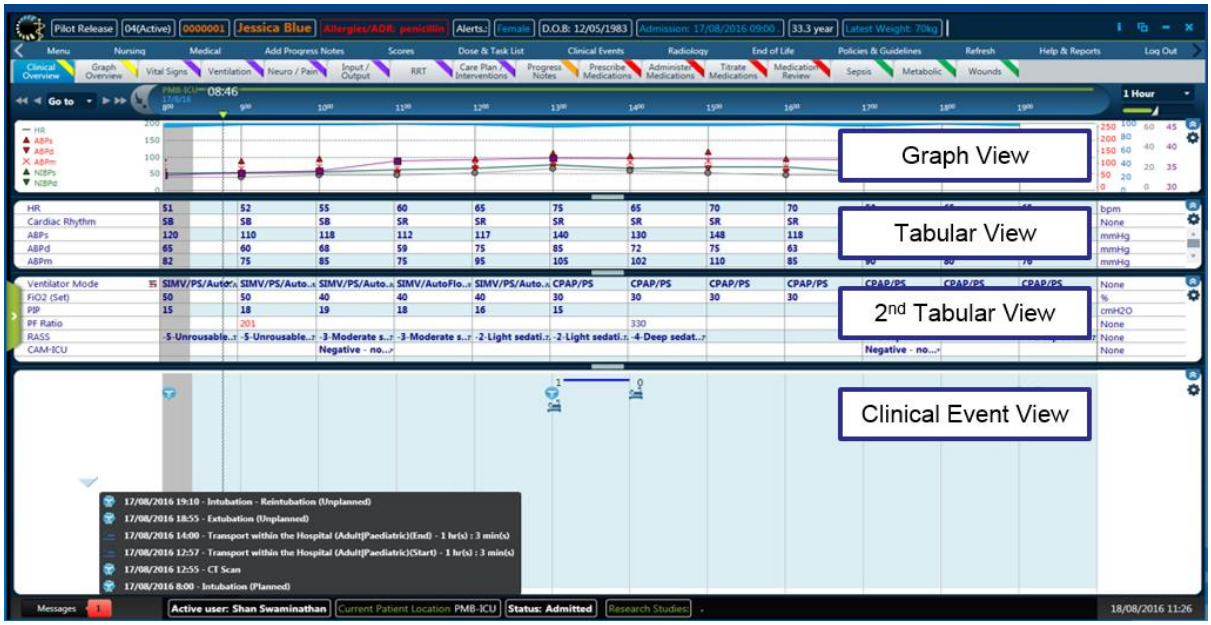
8.1 Review Patient - Monitoring and Observations

At the start of their ICU shift the clinician (nurse, medical officer, allied health, pharmacist) will review the patient parameters recorded in eRIC. This will include (but may not be limited to) a review of:

- The Clinical Overview tab and Graph view tab
- Vital Signs – cardiac, respiratory, cardiovascular
- Ventilation (for those patients that are ventilated)
- Neurological Observations and scores
- Input /Output
- Medications

8.1.1 Clinical Overview

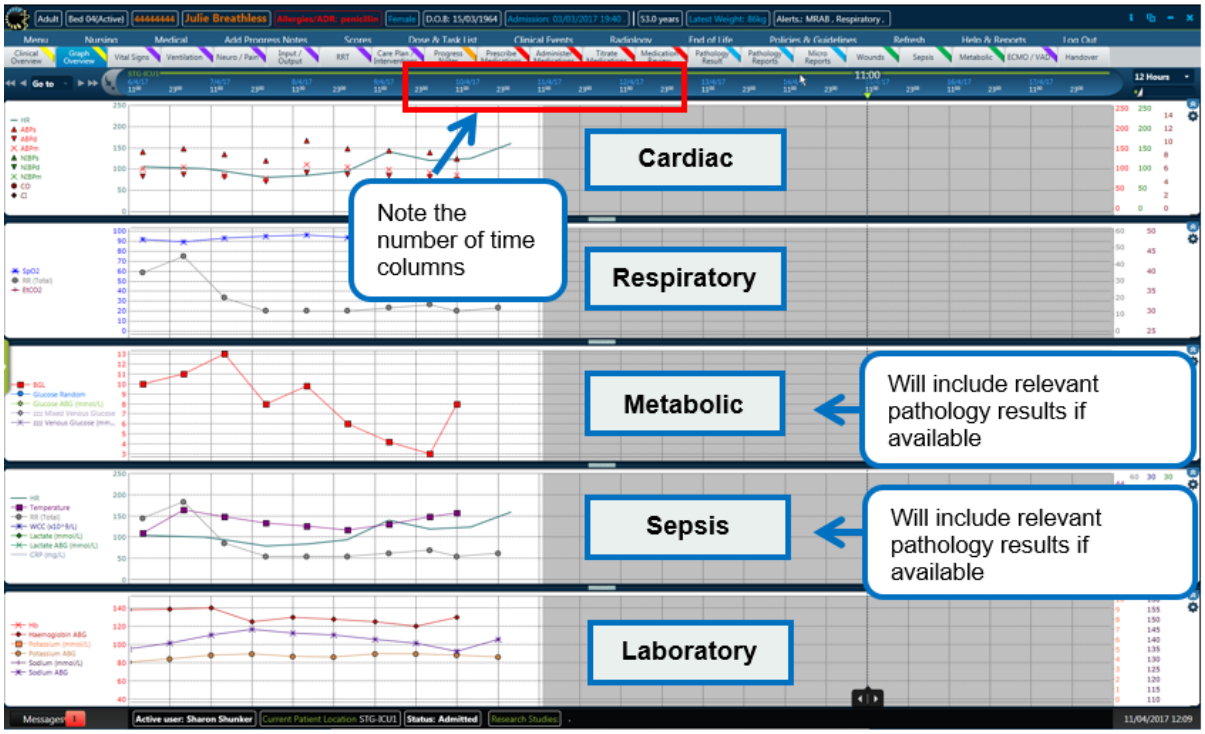
This will be the most viewed tab as it contains all the most common elements required for observation of care.



This view contains a

- **Graph View** on the top for tracking common patient vitals **(HR, Blood Pressure, Oxygen saturation and Respiratory Rate)**.
- **Tabular View** of the data above and other important parameters.
- **Second Tabular View** on this tab will only show the parameters if there is data in them, hiding the empty rows.
  The parameters on this tabular view can be viewed at any time by clicking on the properties cogwheel, General → Show Empty Rows.
  The Urinalysis will be displayed on the Clinical Overview tab.
- **Clinical Events View**. This is used to track events that have happened to the patient. This view keeps a record of all the previous clinical events that have occurred and can be viewed by clicking on the down arrow on the left hand side of the view. This will bring up a list of past clinical events with a date and time. By selecting one of these past events the user is transported back to the event. This ability allows for fast and effective movement through the Flow Sheet to view past clinical events and what the vital signs were at the time of the event.

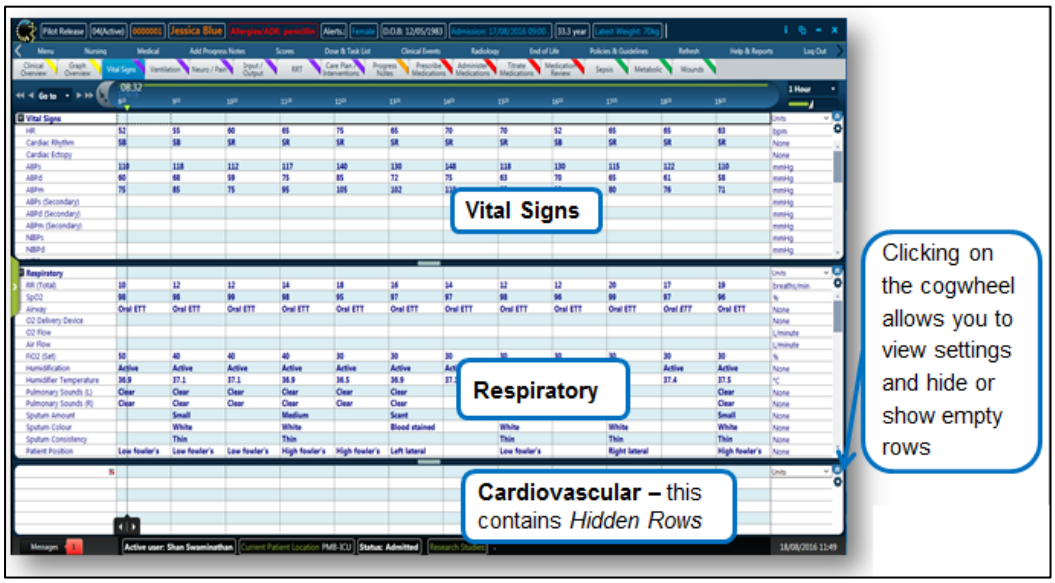
8.1.2 Graph Overview



Graph Overview tab

- This tabs status and layout is different to most of the other tabs in eRIC
- This tab has 24 columns whereas most other tabs have only 12
- This tab also has a different time default; it is set to 12hrs, not the standard 1 hour time interval. This is used to give the clinicians a high level graphical overview of the patient in several different key areas
- The four graphs are broken down into the follow areas:
  - Cardiac
  - Respiratory
  - Metabolic
  - Sepsis
- Only validated parameters will be displayed in the Graph view.

8.1.3 Vital Signs



This tab contains 3 tabular views for a more detailed breakdown of the vital signs. Most of this data will be automatically populated from the patient's monitor but some of it such as O_2 delivery device, O_2 flow rate, circulation observations may need to be manually entered.

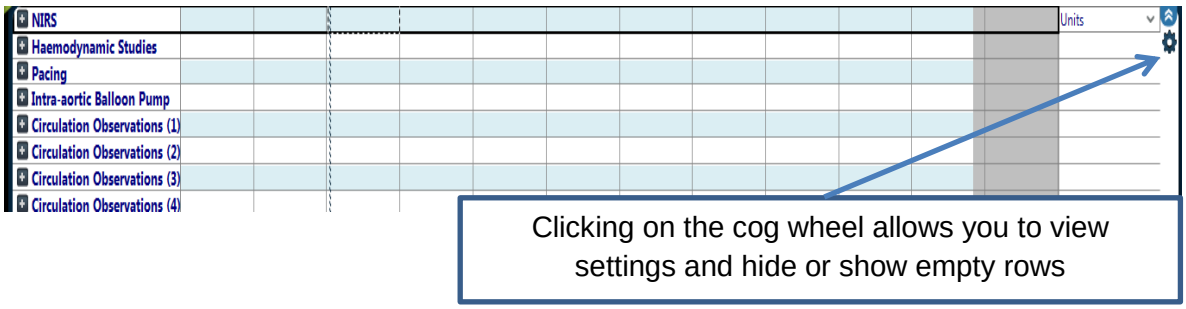
NOTE: As per local guidelines the data must be validated at regular intervals and incorrect parameter information corrected manually or marked as error. A comment can be added to indicate why they are marked as error. Check the parameters when validating to ensure they are accurate. Validation is of the patient's physiological status NOT validation of eRIC correctly recording a device parameter (which may or may not have accurately captured the patient's physiological status). Any data that is not populating from the monitor or devices to eRIC will need to be manually inputted.

NOTE: Need to note the labelling of vital sign parameters on the monitor:

- Arterial Blood Pressure needs to be labelled 'ABP' (NOT 'ART')
- Temperature should be labelled 'Temp' (do not use labels that specify the source; the source can be specified using the 'Temp Source' parameter cell box on the 'Vital Signs tab').

If the patient needs the frequency of observations increased e.g. a patient requiring Thrombolysis observations, this should be validated at the relevant increased frequency. It can also be scheduled as a task with a reminder e,g, complete thrombolysis observations every 15 mins for first hour, followed by hourly for 4 hours, etc.

Cardiac – Heart rate and cardiac rhythm, ABP, NIBP, CVP, Temperature, BGL, Ketones, ICP, CPP, IAP (Intra-abdominal pressure).
Respiratory – RR, SpO_2, Airway, O_2 delivery device, O_2 flow rate, FiO_2, humidification, pulmonary sounds, sputum information, patient position, head of bed elevation, PF Ratio
Cardiovascular – This contains *Hidden Rows* \ they are populated when the form in the 'Nursing Menu' is completed e.g. Circulation Observations, or if the parameter is being monitored e.g. PiCCO monitoring, CCO.



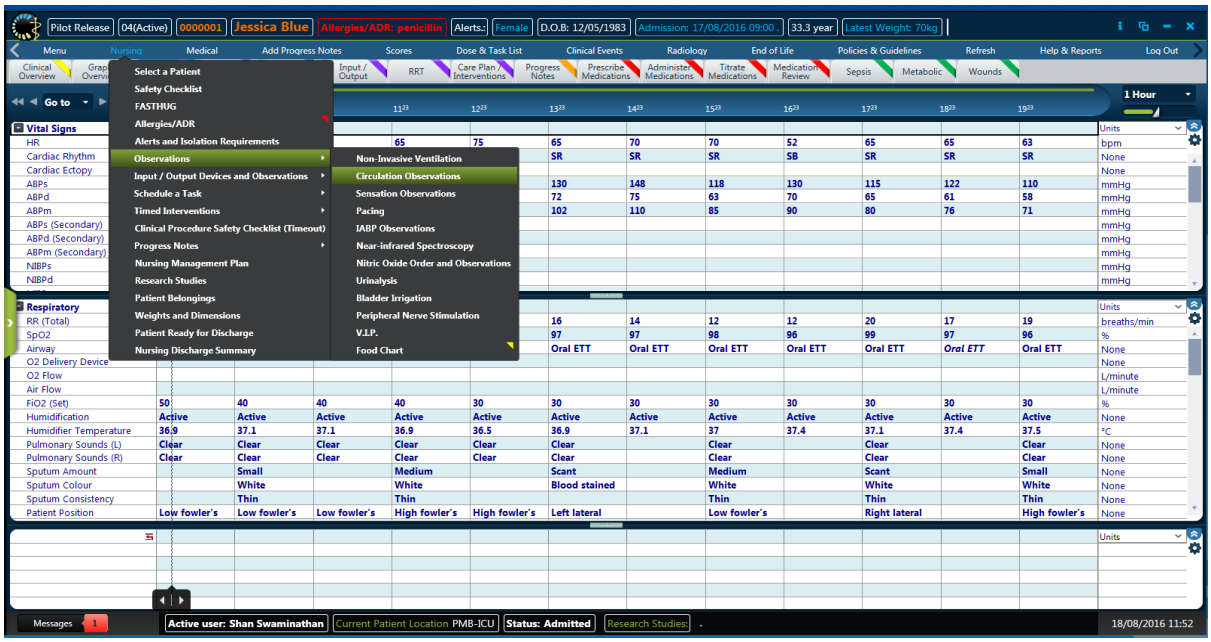
Nursing Observation Forms

Commonly used Observations that nurses will perform are located under the 'Nursing' menu; for example, Circulation Observations.

The form to complete for the Circulation Observations is located under:
Nursing → Observations → Circulation Observations

NOTE: Completing and saving this form will populate the Vital Signs tabular view → **Cardiovascular.**

Once this data has been completed, the data will remain on the Tabular view allowing the nurse to complete the observations straight from the tabular view instead of opening and saving the form each time. The same applies to all other observation forms.

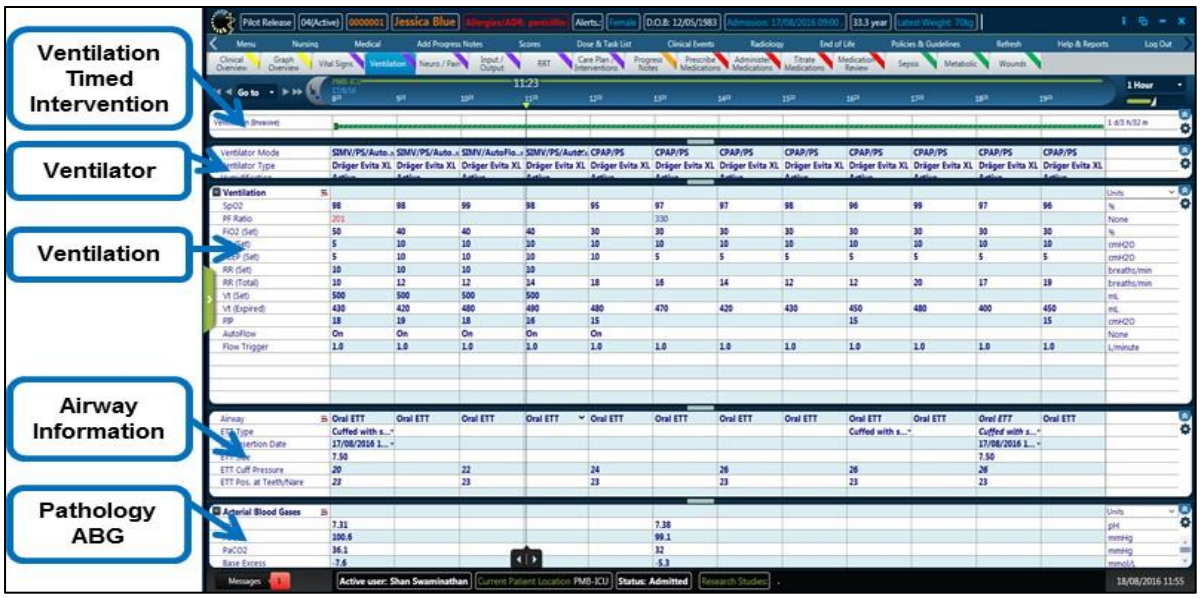


8.1.4 Ventilation

This view will allow the clinician to view all information relating to the patient's ventilation status. The data is automatically populated in eRIC from the ventilator – but the user MUST CHECK and Validate that it is correct (according to patient's actual physiological status) and accurate at regular intervals.

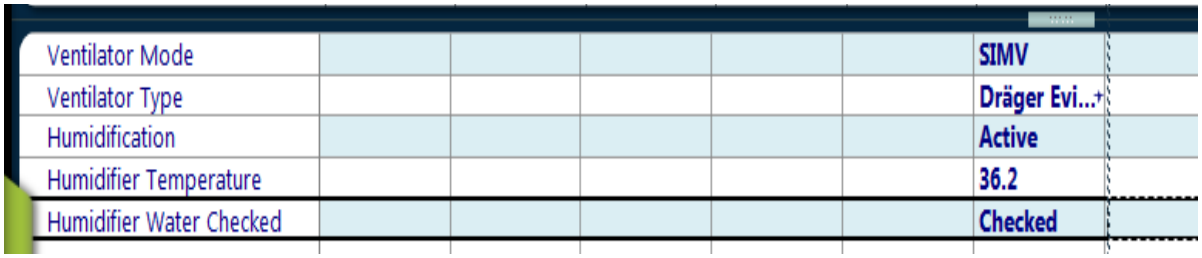
NOTE: Check Mode and parameters. If anything is incorrect or not populating this can be manually entered.

NOTE: The RR will auto populate only from the monitor (from the ECG). If the ventilator RR (Total) needs to be entered this will have to be a manual entry.



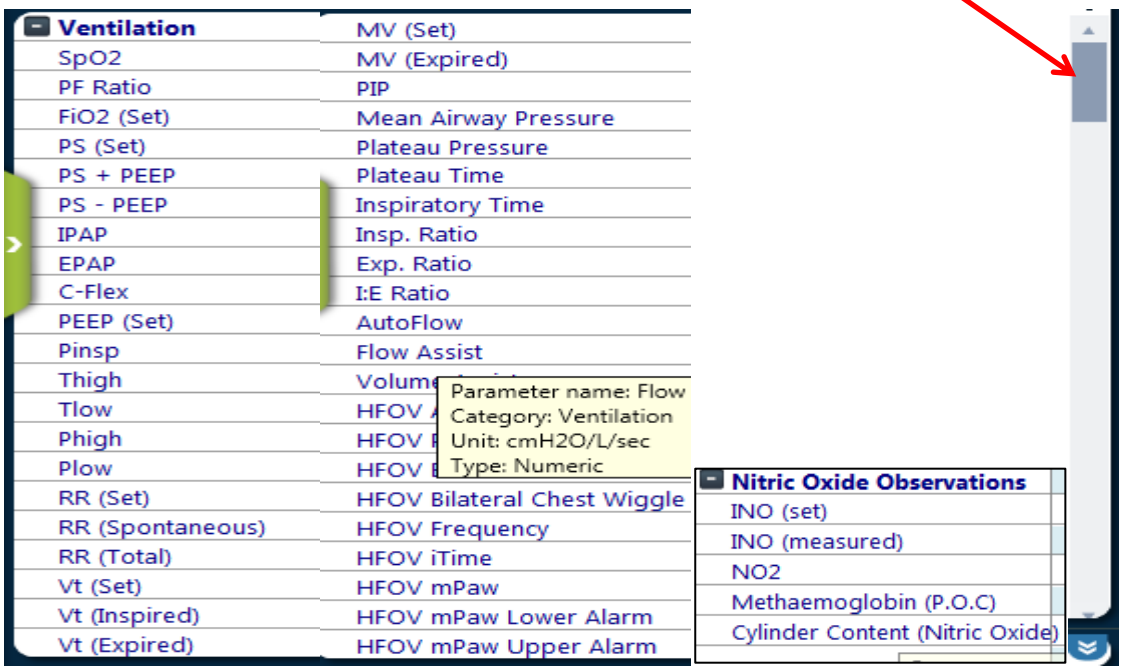
Ventilation Dose – a Dose view (Ventilation Timed Intervention) showing what type of ventilation the patient is on (Invasive or Non-invasive, also allows to record if on nitric oxide treatment). It provides information about how long they have been on the treatment for and can been used to calculate the number of ventilation days.

Ventilator - Tabular view providing the user with the ventilator information – Ventilator mode, type, type of humidification, humidification temperature, humidifier water checked.

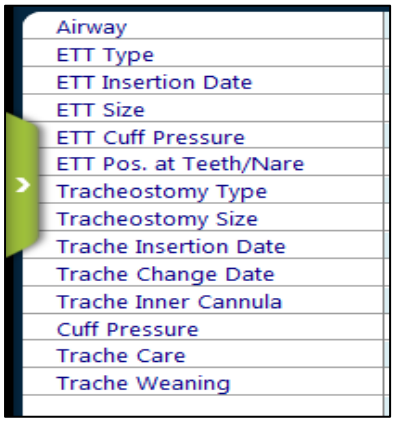


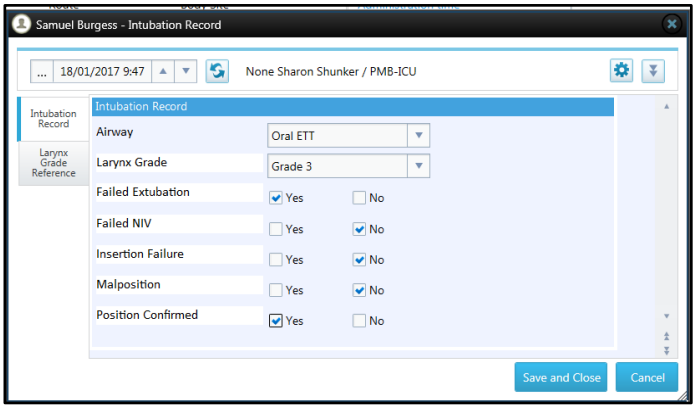
NOTE: When the Respironics V60 ventilator is set to Stand-by and connected to eRIC; the system receives data and therefore continues to populate some parameters into the ventilation observations.
The recommended solution: Disconnect the Respironics V60 device from the Digi when not in use. When the Respironics V60 device needs to be reconnected to the patient, ensure it is also correctly reconnected to the Digi using the correct colour coded cable and port.

Ventilation - Tabular view for observations (both the ventilation observations and nitric oxide observations). It includes the following parameters (use the scroll bar on the right to scroll and view all parameters)

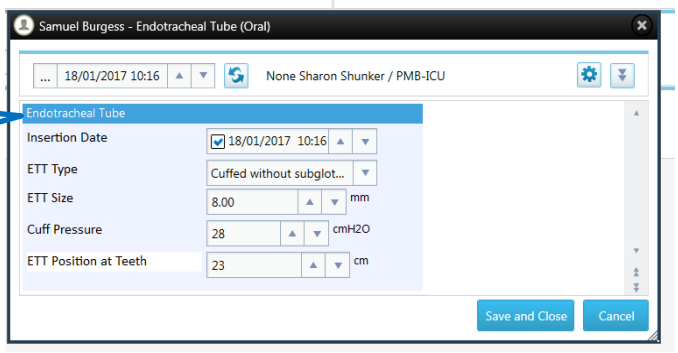


Airway – Tabular view for airway information and observations for different airways the patient could have insitu.
This is initially populated on completion of the 'Airway Form' and 'Intubation Record'. The 'Intubation Record' will be located under Nursing → Input /Output Devices and Observations →Tubes → Airway → Endotracheal Tube OR Tracheostomy Tube (the extubation form will be located under Clinical Events)





Airway Form



Pathology – Blood Gases – Tabular view showing data from the Lab for the different blood gases (Arterial, capillary, Venous and Mixed Venous).

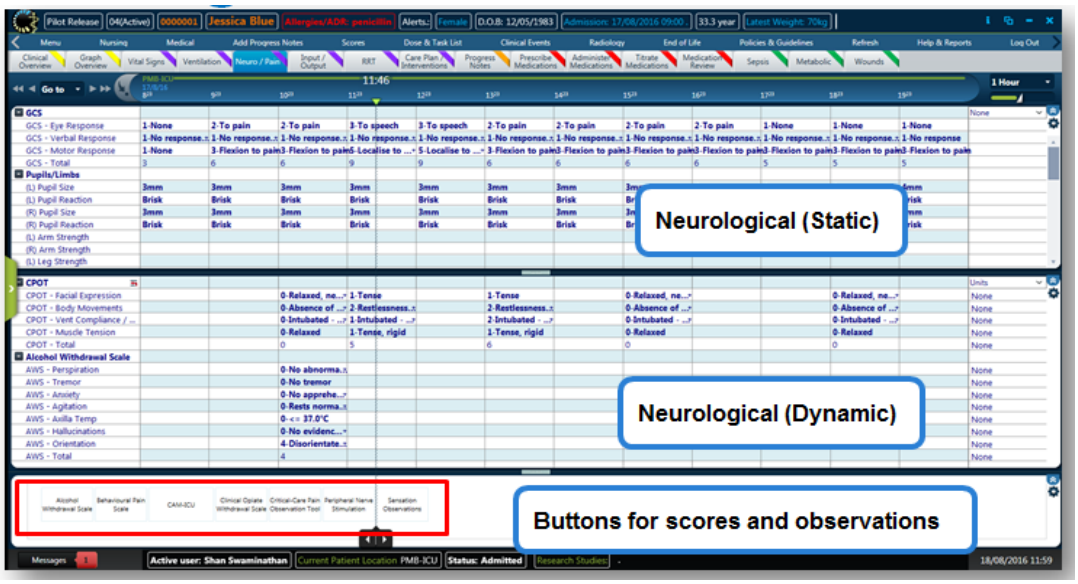
8.1.5 Neuro/Pain

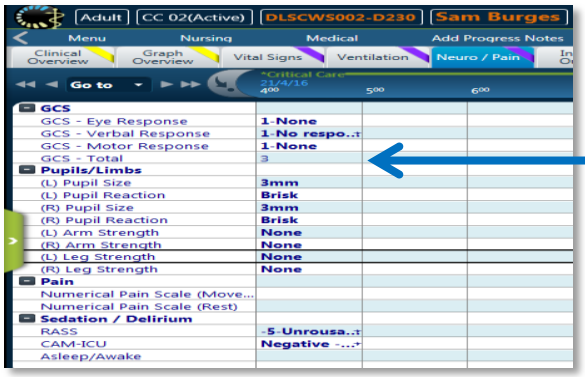
This view allows clinicians to view information on the patient's neurological status (GCS), pupils, limb strength and ICP and CPP monitoring.

Neurological (static) – Information and scores that nursing will do and input on a regular bases for most if not all patients (e.g. GCS, pain and sedation and delirium check). To input the GCS right click on the individual parameter boxes and use the drop down menu to select the desired score. 'GCS – Total' Parameter is a formula parameter. This means that it will auto calculate the GCS Total, but only once all the required fields have data in them.
It allows the clinicians to input the numerical pain score, sedation score and delirium score (the information for scores and individual forms for scores can be accessed from the 'Scores' menu). It can also be accessed by the buttons located at the bottom of this tab – clicking on them opens up the appropriate forms.

Neurological (Dynamic) – Tabular view for recording various different neuro and pain scores (ICP/CPP, Behavioral **Pain** Scale, CPOT, Alcohol Withdrawal Score and Clinical Opiate Withdrawal Score, Sensation Observations, Nerve Block etc.)
NOTE: This tabular view will only populate data once the form has been completed. It allows the clinicians to input the various scores (the information for scores and individual forms for scores can be accessed from the 'Scores' menu). It can also be accessed by the buttons located at the bottom of this tab – clicking on them opens up the appropriate forms.

Toolbar – buttons that open different forms that once complete the data will appear on the dynamic tabular view.

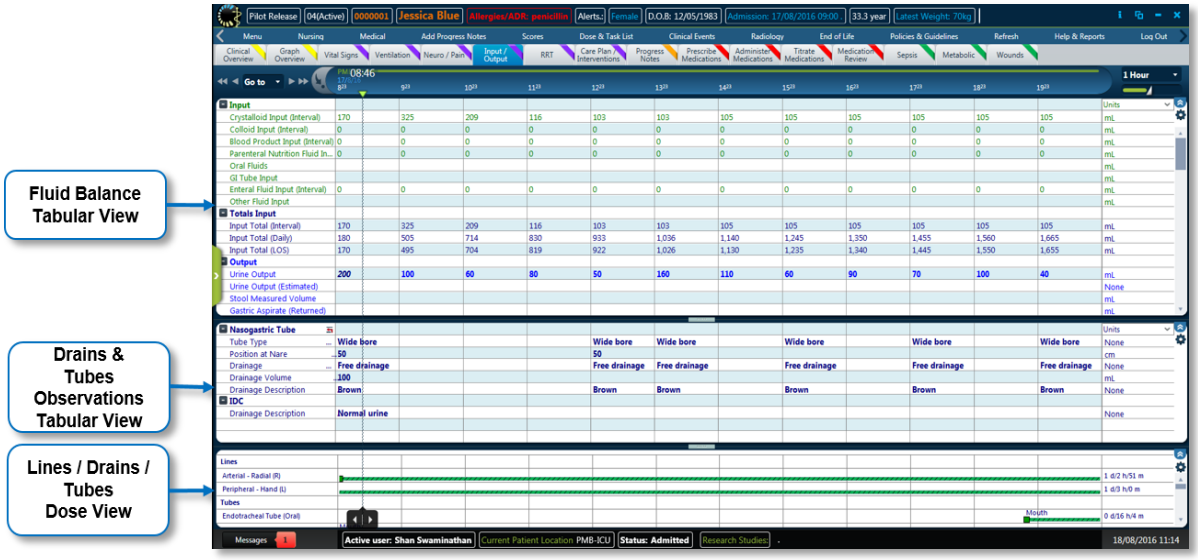




To input the GCS right click on the individual parameter boxes and use the drop-down menu to select the desired score. The same applies for pupils and limb

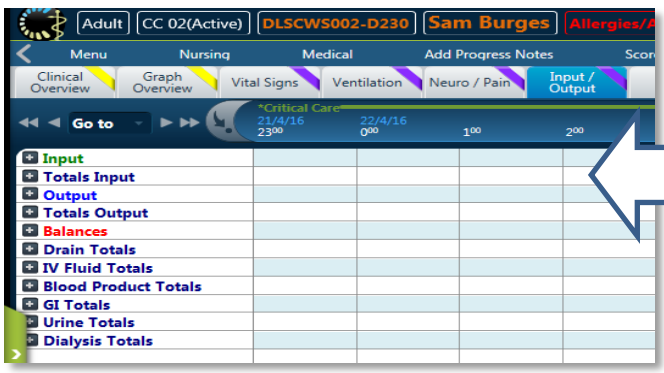
8.1.6 Input / Output

This view allows clinicians to view information on the patient's Input / Output and Fluid Balance status.



Input / Output tab - Fluid Balance Tabular View

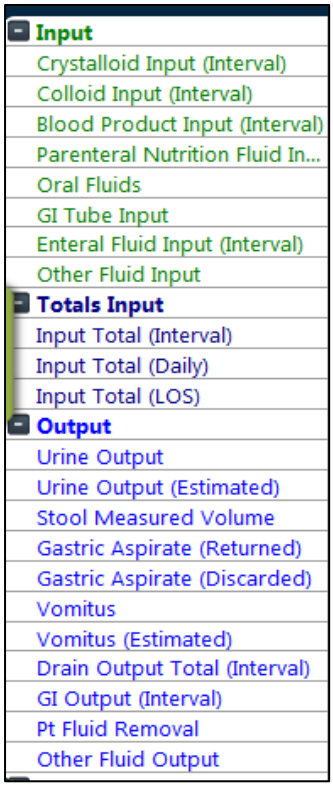
- Clinicians can review fluid administration and fluid loss in this view.
- Nurses record urine output in this view
- The Fluid Balance view has several headings which can be expanded or collapsed
- This tabular view has many calculations automatically taking place for an up-to-date record of the patient's fluid balance. The data is taken from various sources such as infusions, medications, enteral feeds and other fluid inputs that the patient has had or is currently receiving.

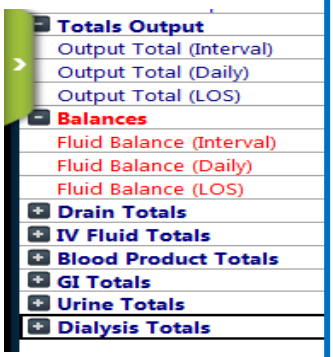


The view has the following headings that are all expanded meaning all the parameters within this heading are viewed:

- Input
- Totals Input
- Output
- Totals Output
- Balances

NOTE: On the Input / Output Tab if a '0' value is displayed – this is a null value for a calculated field (formula field that pulls or is calculated from another area). Therefore in 'Drain Output' 0 does not = no drain loss, but means no drainage has been recorded.





Headings

Input – under this heading there are several formula parameters, and these parameters populate data from other locations within eRIC.

- Crystalloid, Colloid, Blood Products and Parenteral Nutrition Fluid parameters populate their data from the Medication Tabs
- These fields are not editable and a user cannot update or edit these fields - the data depends on the medications, fluids and enteral feeds that the patient is on
- Oral Fluids and GI Tube Input are fields that a user can complete as they are monitored. Includes the amount of fluid a patient drinks or the amount of fluid that is given via the GI tube.

Totals Input – this heading has three parameters - all have formula parameters and therefore are not able to be edited.

- Interval is the amount of fluid input in that time column. In this case, amount taken in an hour
- Daily is the amount of fluid input within this current 24 hour period. Starting at 12am, the formula will calculate the total volume each hour until 12am and reset and start the calculation for a new day
- LOS stands for Length of stay and this is the total amount of input since admission for a patient.

Output and Totals Output – there are some fields that have formula parameters and are not able to be edited, while others, a user will need to complete throughout a shift.

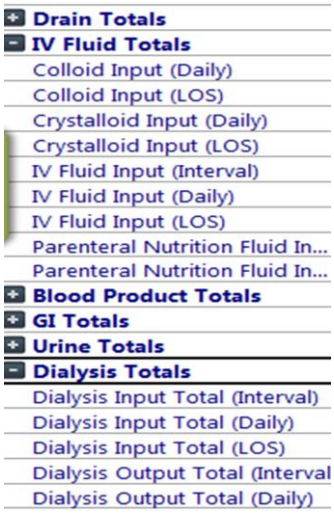
- For example, urine output is a parameter that the user will monitor and record regularly
- Drain output will also need to be measured and entered.

Balances- this is the difference between the input and output for the corresponding parameters.

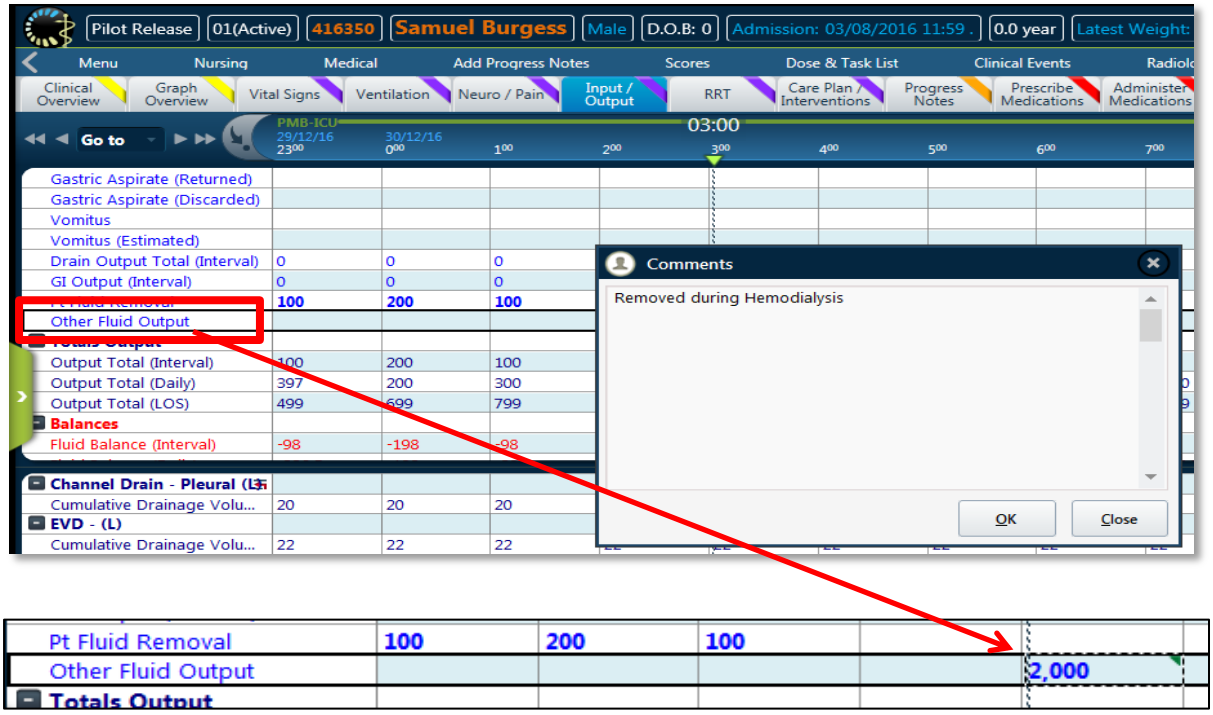
The view also has the following headings that are all pre-collapsed, meaning all the parameters within this heading cannot be seen without expanding the heading.

NOTE: These headings will remain closed with or without data and it is a clinician's responsibility to expand and look at these parameters.

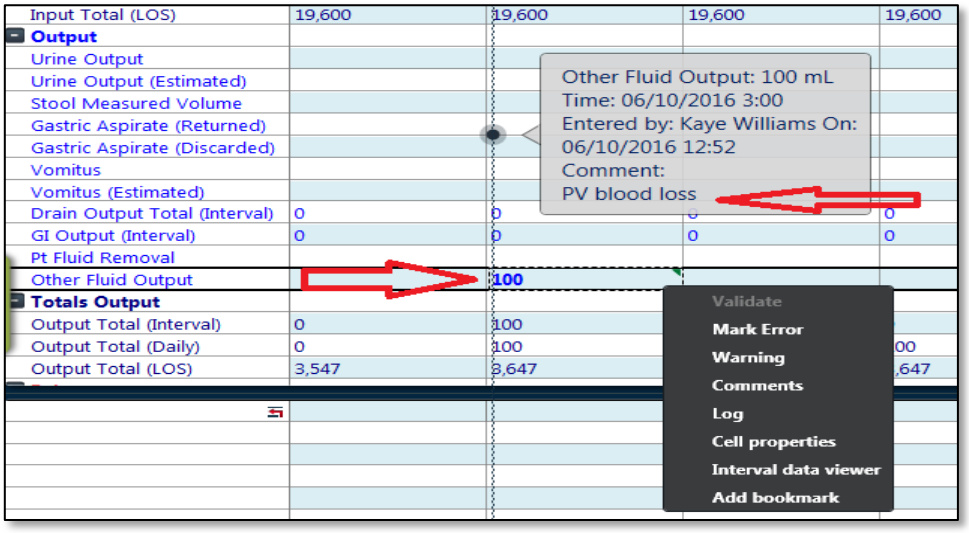
- Drain Totals
- IV Fluid Totals
- Blood Products Totals
- GI Totals
- Urine Totals
- Dialysis Totals



NOTE: Fluid that is removed during Hemodialysis should be entered in 'Other Fluid Output' add a comment to say that this was removed during hemodialysis.

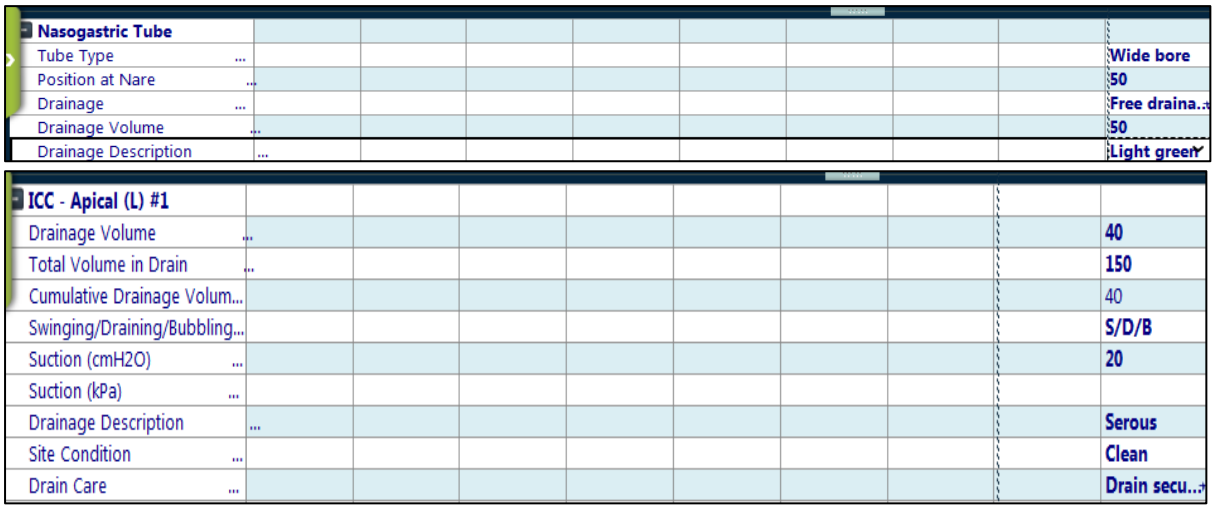


- Blood loss is recorded under 'Other fluid output' with comment as to what loss it is e.g. PV Blood loss or loss from a wound or laceration



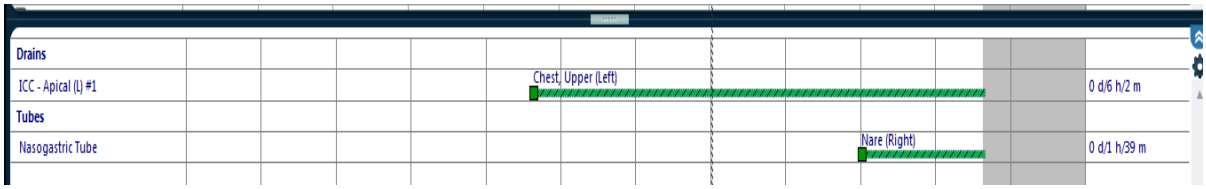
Drains and Tubes Observations

This tabular view of Drain and Tubes Observations is where a user will continue to record observations on Lines/Drains/Tubes that are currently running, e.g. for nasogastric tube, ICC observations.



Lines/Drains/Tubes – Dose View

This view (Gantt) shows what Lines/Drains/Tubes are currently insitu and how long they have been in for (this is like the cannula / catheter chart).



Lines /Drains/ Tubes

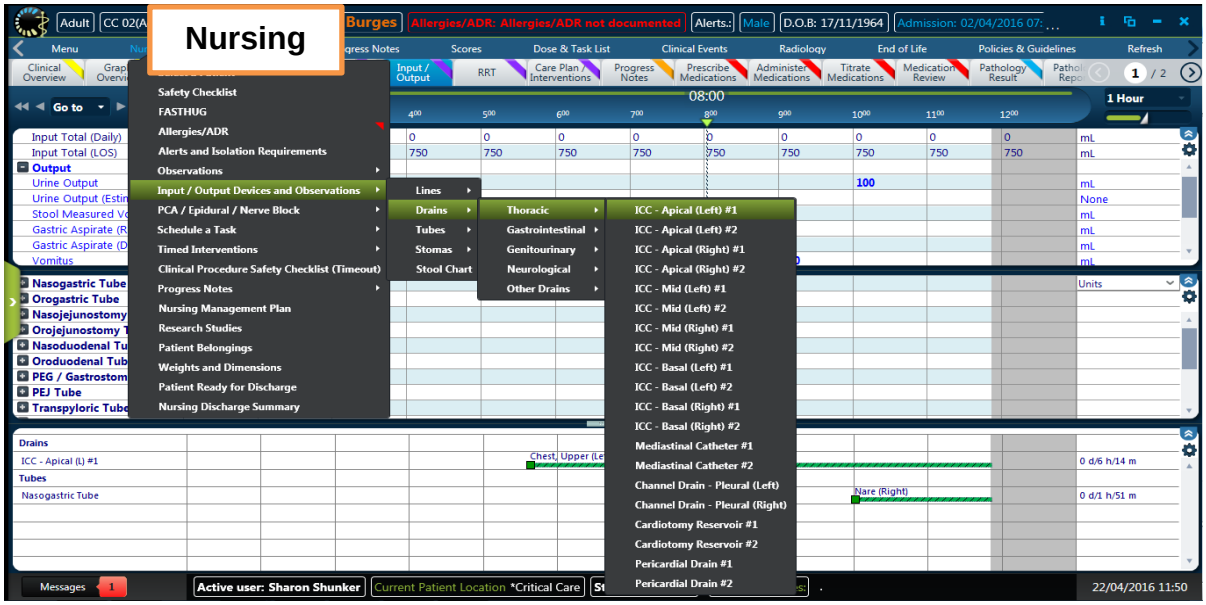
NOTE: To record that a line/drain or tube is insitu navigate to either:

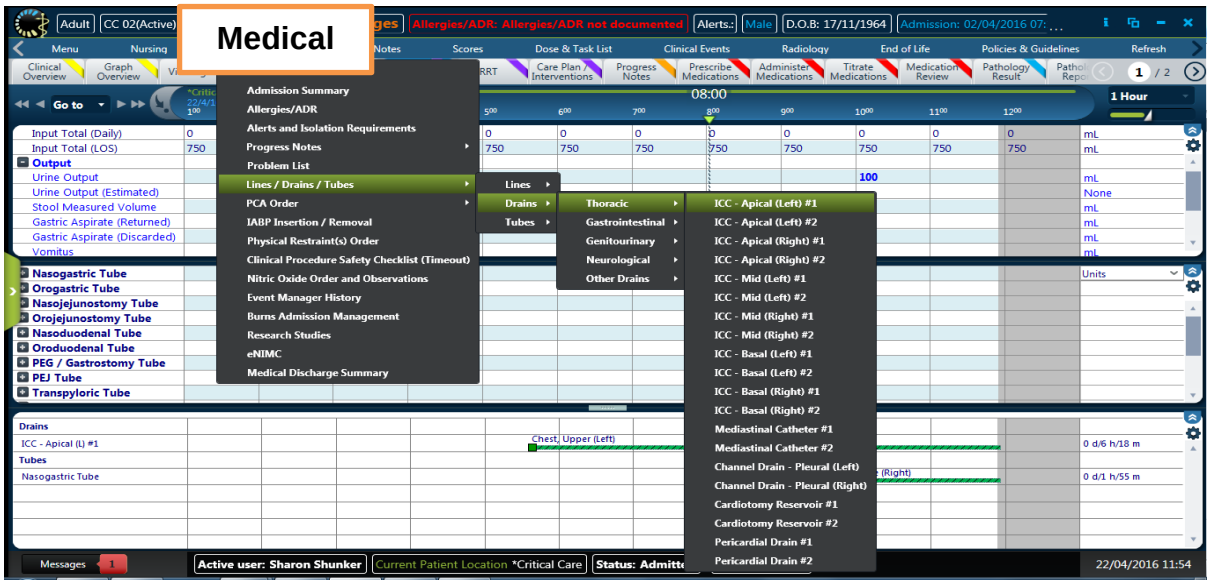
Nursing ➔ Input / Output Devices and Observations ➔ select the one you need
Medical ➔ Lines / Drains / Tubes ➔ select the one you need

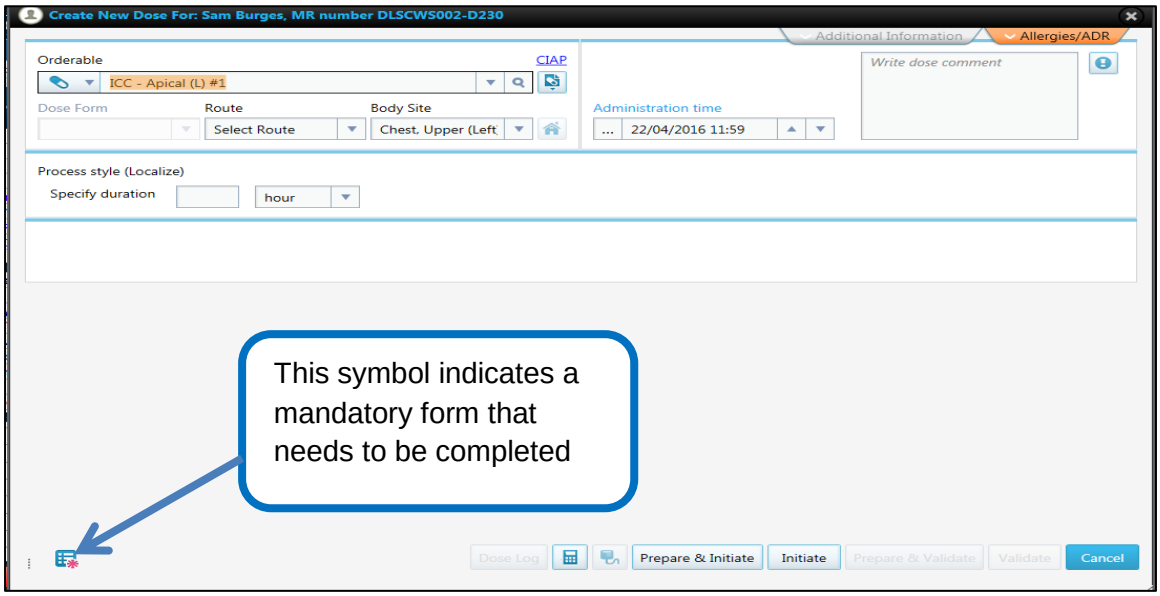
Both menus lead to the same action. A line started from the nursing path can be started from the medical path as well.

Many of these forms will be filled in at the time of admission as the patient may come with pre-exiting Lines/Drains/Tubes.

In the menu there are many different options for lines/ drains/ tubes (over 100 just for the lines). Select the Lines/Drains/Tubes required and this will take you to a specific form that needs to be completed. With this there may be another mandatory sub form that needs to be completed. See example below for L Apical ICC.





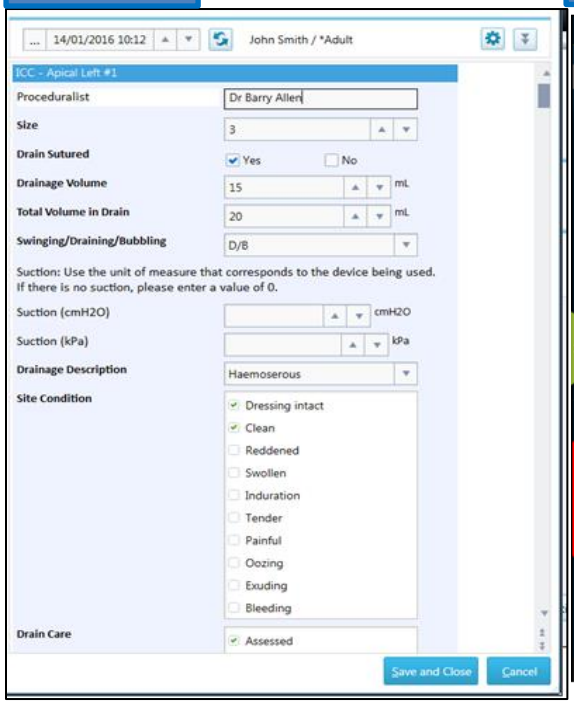


The ICC drain has a mandatory form attached seen in the bottom left hand corner.
If a clinician doesn't see that the **Lines/Drains/Tubes** has a mandatory form attached and selects 'Initiate' without completing the form, the system automatically opens that form. The process parameter cannot be initiated without the completion of the form.

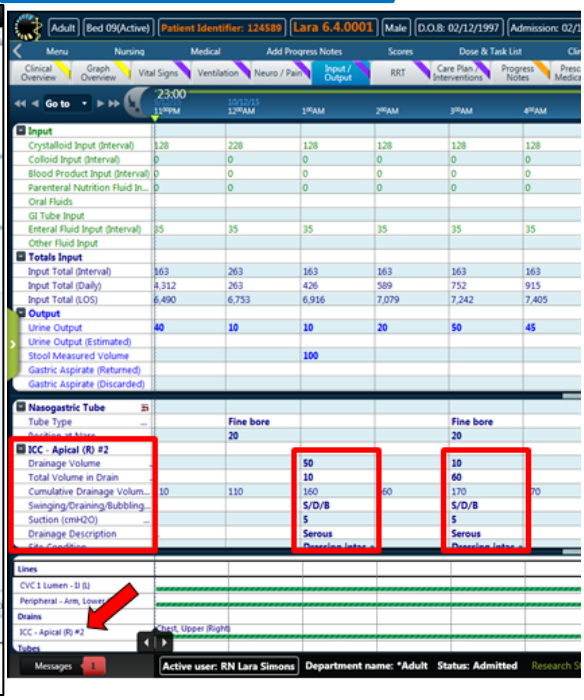
As with other forms in eRIC, there are certain fields that are mandatory on this form and need to be completed before the form can be saved. These mandatory fields are highlighted in **bold.**

In the following example, once this form is completed, it will populate data on the tabular view allowing a clinician to continue to record site observations on the drain directly in the tabular view.

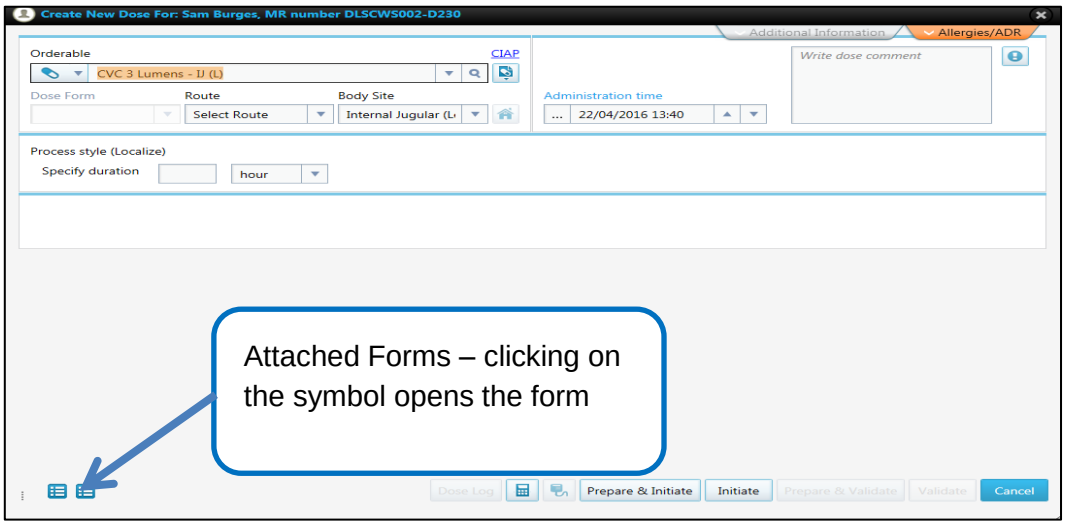
ICC Form



Input /Output tab view



Another example of a commonly used form is the **CVC Form.**



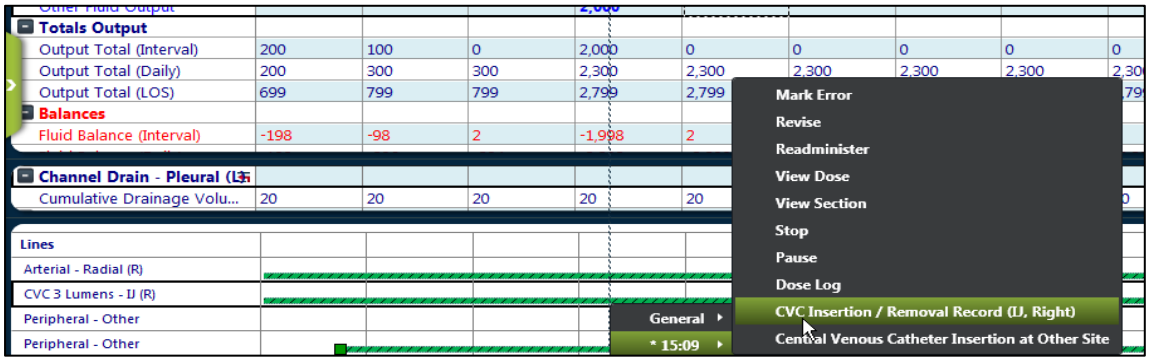
- **Nursing → Input / Output Devices and Observations → Lines → Central Venous Catheter → CVC 3 Lumen → CVC 3 Lumen –IJ (Left)**
- **Medical → Lines / Drains / Tubes → Lines → Central Venous Catheter → CVC 3 Lumen → CVC 3 Lumen –IJ (Left)**

The CVC lines all have attached forms - CVC Insertion / Removal Record. One CVC Insertion / Removal Record form is to be completed if the CVC is inserted in the ICU. The other form is used if a patient is admitted to the ICU with a CVC already insitu. These forms replicate the current state form for CVC (CVAD) surveillance. There are two tabs on the form Insertion and Removal.

When the CVC is inserted, the inserting clinician can complete this form and it will be saved and attached to this process parameter. When the CVC is removed, the second tab on this form (Removal Tab) is completed to document the removal. As with other forms in eRIC, there are certain fields that are mandatory on this form and must be completed before the form can be saved. These mandatory fields are highlighted in **bold**.

Once the forms have been completed, the process parameter is ready to start. This is done by selecting Initiate.

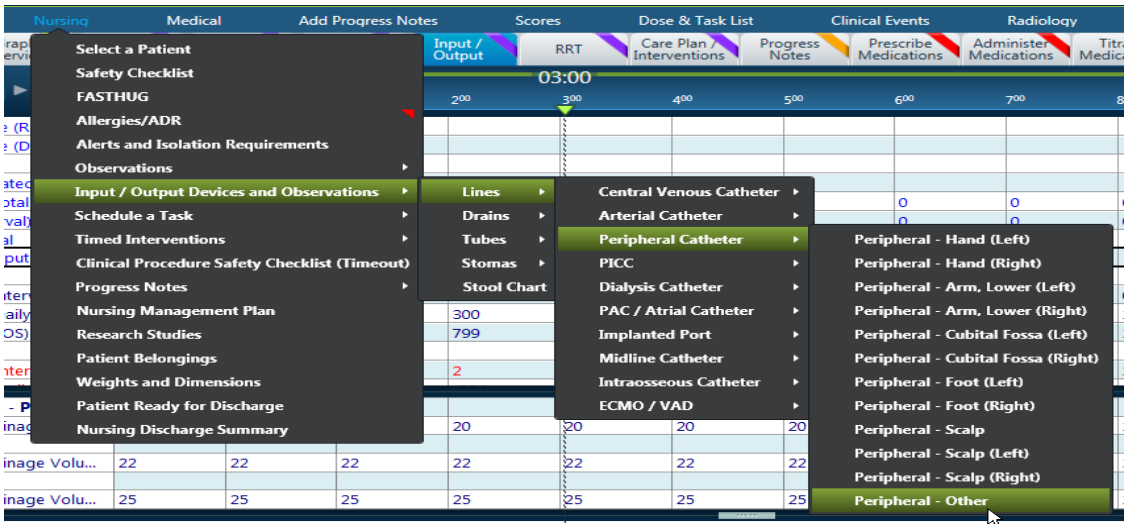
To view the form once the line has been initiated, right click anywhere along the running Lines/Drains/Tubes process parameter.



Select the process parameter (which will be identified as the starting time and not general). At the bottom of that menu are the forms attached to that process parameter, and select the one required to be viewed.

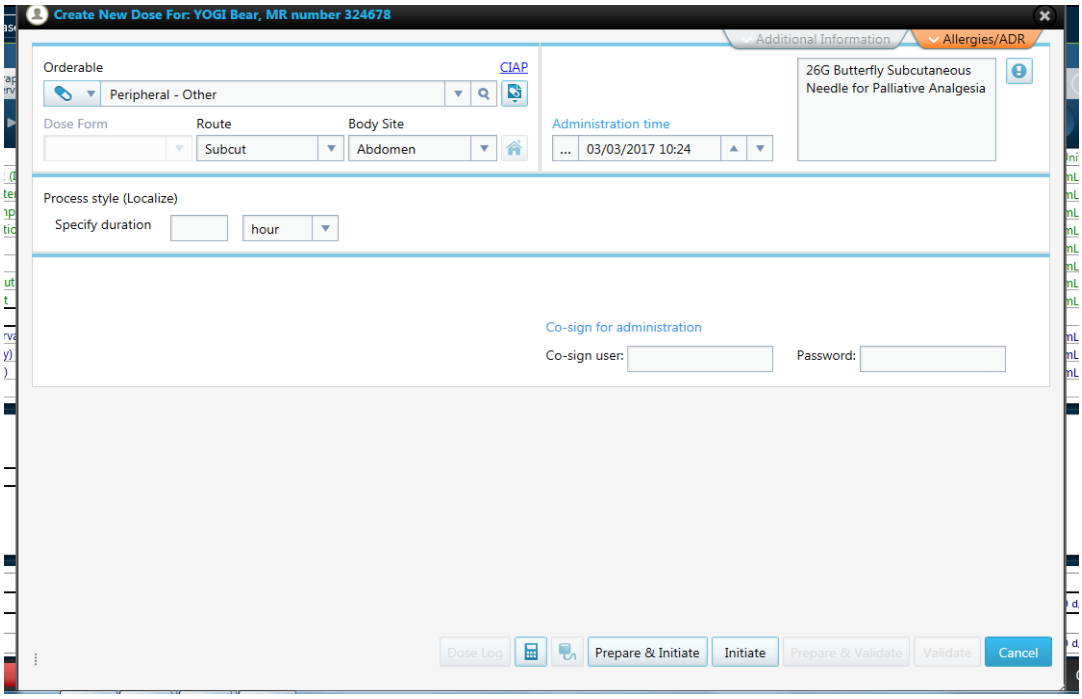
Recording Subcutaneous Line

Need to select Nursing → Lines → Peripheral Other

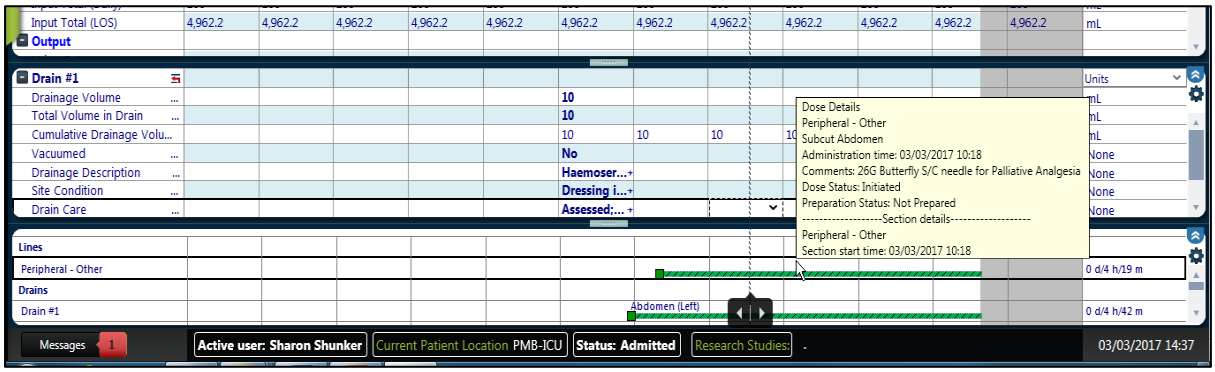


This then opens the Lines Orderable Form.

NOTE: In Route → specify 'subcutaneous' OR 'Regional Nerve Block' → specify body site e.g. 'Abdomen', add comments if necessary →click Initiate.



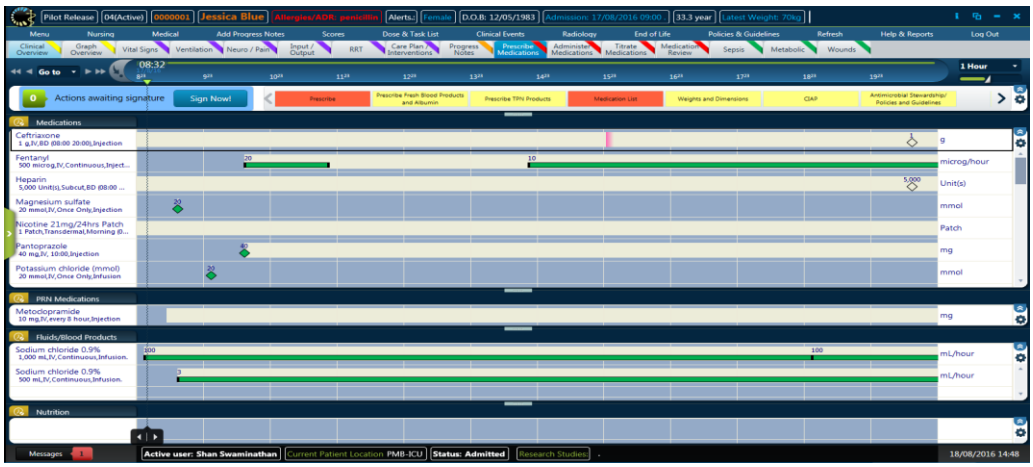
This then populates on the Input/ Output tab view as Peripheral Other, use the hover to bring up the yellow box with details.



8.1.7 Medications

Medications will be covered in detail in its own module. Part of the review of the patient will involve a review of the medication tabs.
Medications have four tab views as shown below:

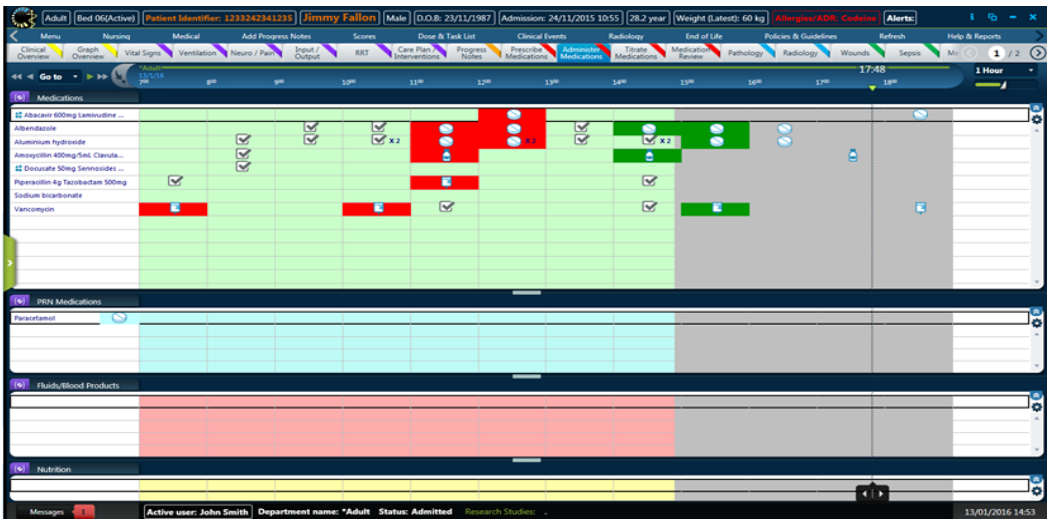
Prescribe Medication
ICU medical staff will use the 'Prescribe Medications' tab 'Order Timeline' view for prescribing all medications – this will include IV fluid orders and drugs that run as continuous infusions.



NOTE: The Medication List on the Prescribe Medication tab – is useful for reviewing the whole list of Patient medications. It needs to be set to a 7 day view so that weekly medications can be reviewed.

Administer Medication
The 'Administer Medication' tab is used to view medications that have been administered and medications that are due and when they are due (this is in a Cardex view). However it is better to use the 'Dose &Task List' to view medications that are due to be administered.

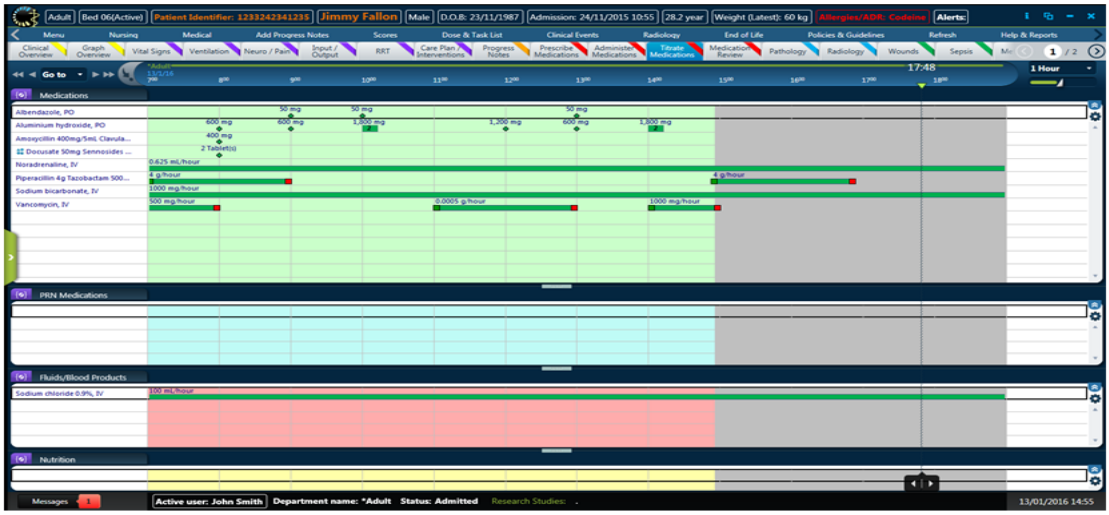
Cardex Dose view is a timeline display on the Flow sheet, showing the status of both planned and administered doses. The doses in the Cardex Dose view are displayed in different colours according to the time of their planned administration. This view will be covered in more detail in the medication module.



Titrate Medications

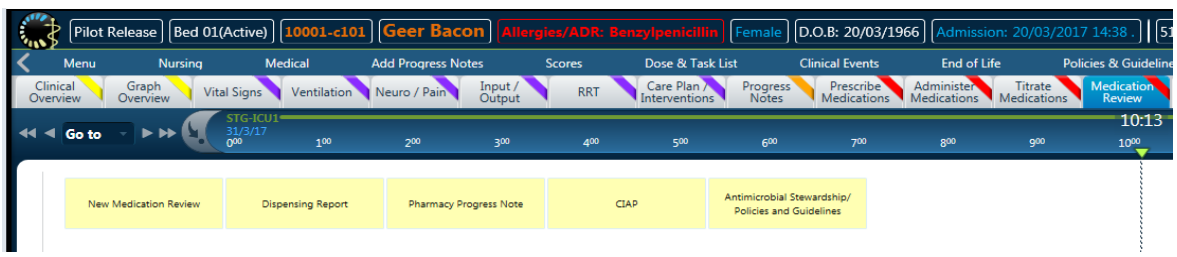
The ‘Titrate Medications’ tab is where you can view medications that are running and see the rate and performed actions. This is a ‘Gantt view’.

The Gantt Dose view is a timeline dose display, displaying doses as bars and diamond symbols. This view is useful for managing running doses. This view will be covered in more detail in the medication module.



Medication Review

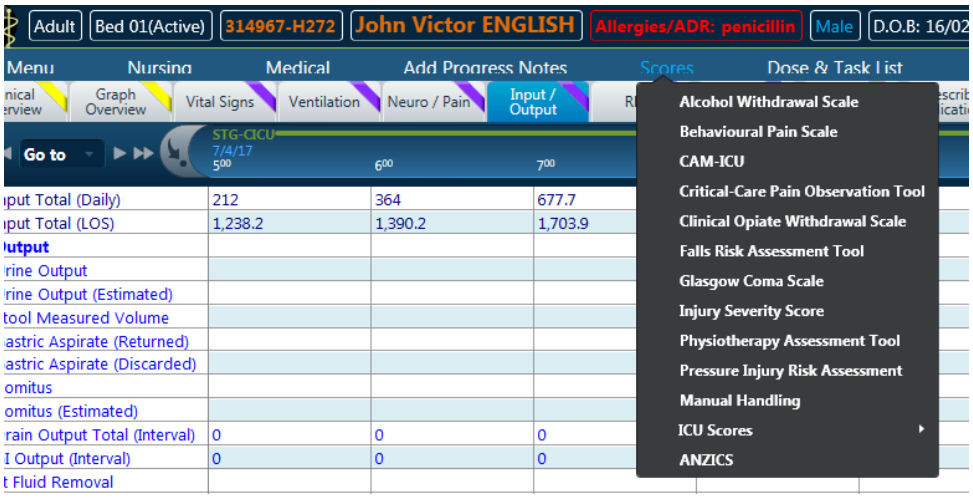
The ‘Medication Review’ tab has additional sub menus and forms for New Medication Review, Dispensing Report and Pharmacy Progress Notes. It provides access to CIAP and policies and guidelines. Medication Reviews that are written by the Pharmacist will appear as an alert in ‘Red’ at the top of the Medical Ward Round Note.



8.2 Assessment

Nursing and medical assessment of the ICU patient forms an essential part of the daily / shift routine. The forms for documenting the assessment findings can be found under the 'Nursing' menu, 'Medical' menu or the 'Add Progress Notes' menu.

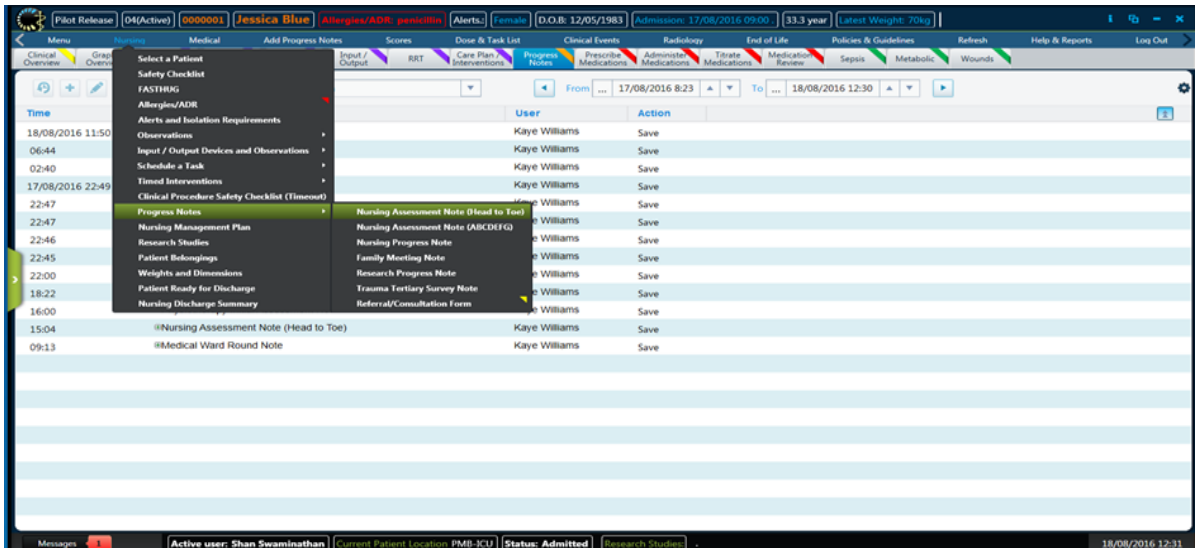
In addition, the scores for a patient, such as 'Falls Risk Assessment' and 'Pressure Injury Risk Assessment', will also need to be attended and documented.



8.2.1 Nursing Assessment

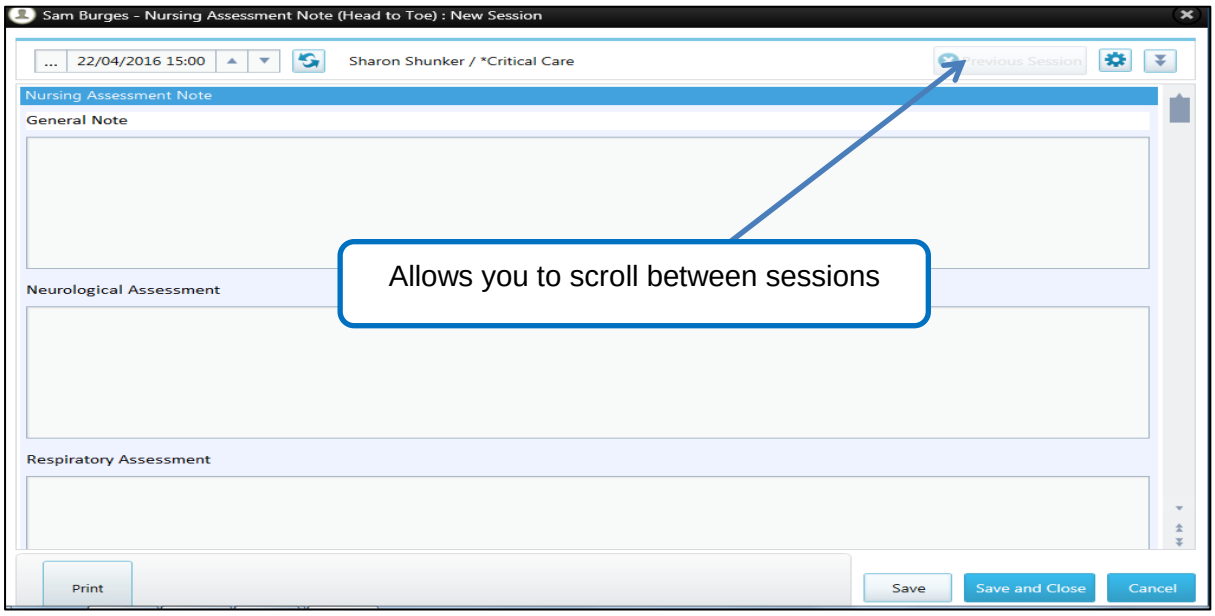
This occurs at the start of each shift and it can be documented as per local practice guidelines as a Nursing Assessment Note (Head to Toe) *OR* Nursing Assessment Note.

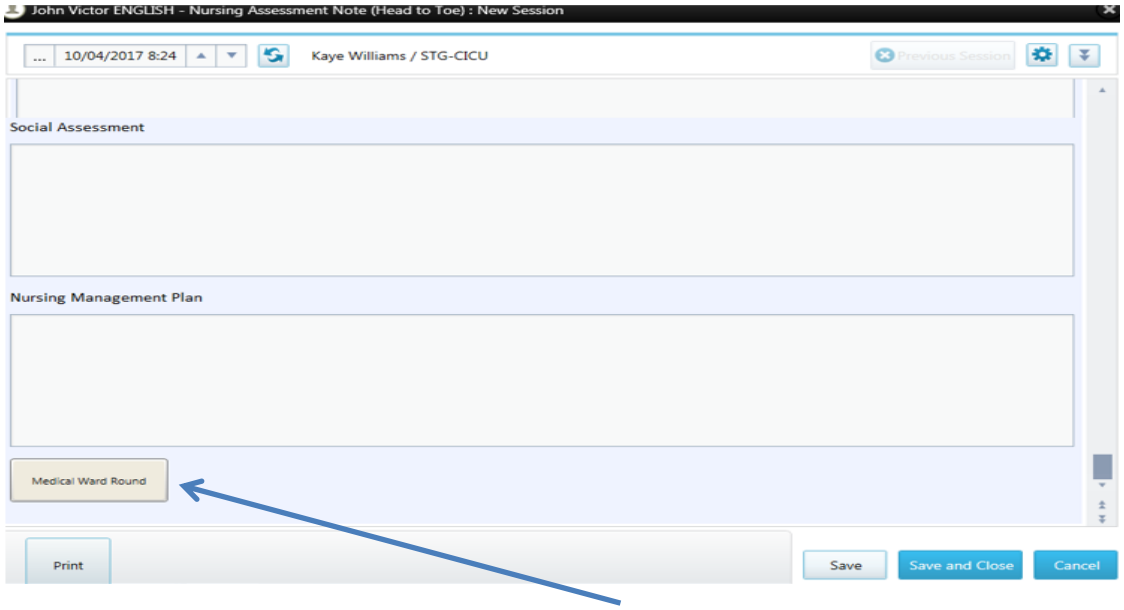
To access the forms via the 'Nursing' menu, go to:
Nursing → Progress Notes → Nursing Assessment Note (head to toe) *OR* Nursing Assessment Note (ABCDEFG).



Nursing Assessment Note (Head to Toe): this consists of free text boxes that need to be completed. Each time you open the assessment form it takes you to a new session. Previous session entries can be viewed and accessed from this form or from the 'Add Progress Notes' menu.

NOTE: When entering a new assessment always check that you are documenting in a new session and not overwriting someone else's session or adding to someone else's session. You can open and read a session that has been entered by someone else, but if you want to make an entry you need to open a new session.
Check the session user name, date and time.

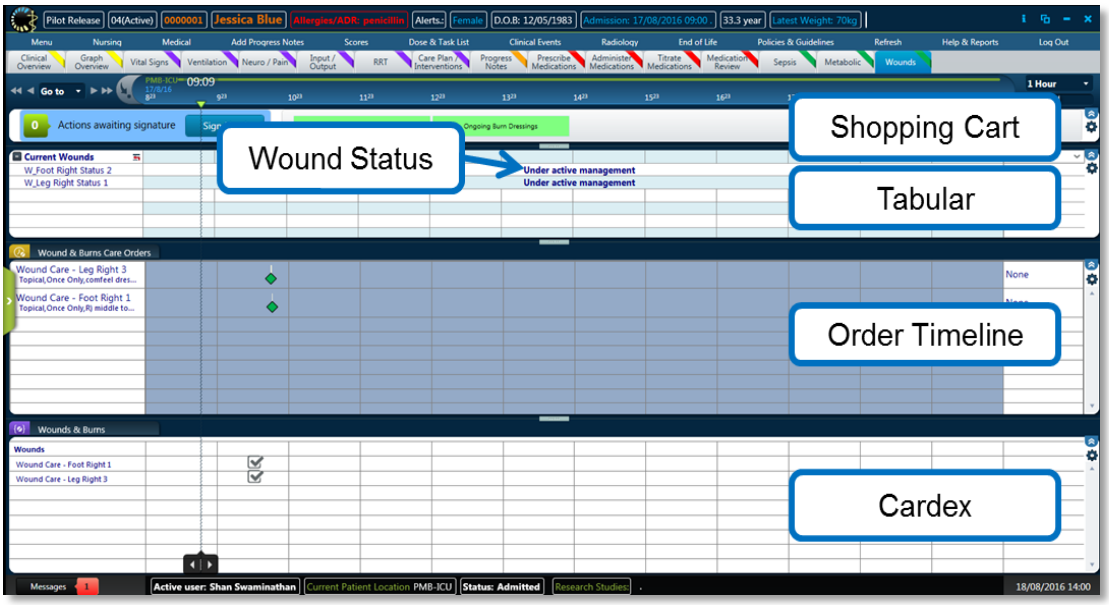




At the bottom of the Nursing Assessment form is the 'Medical Ward Round' button – clicking on this opens up the 'Medical Ward Round' form.

8.2.2 Wound Assessment

Wound Assessment forms part of the nursing and medical assessment. Detailed findings and description of wounds as well as the wound management plan is documented under the Wound tab view.



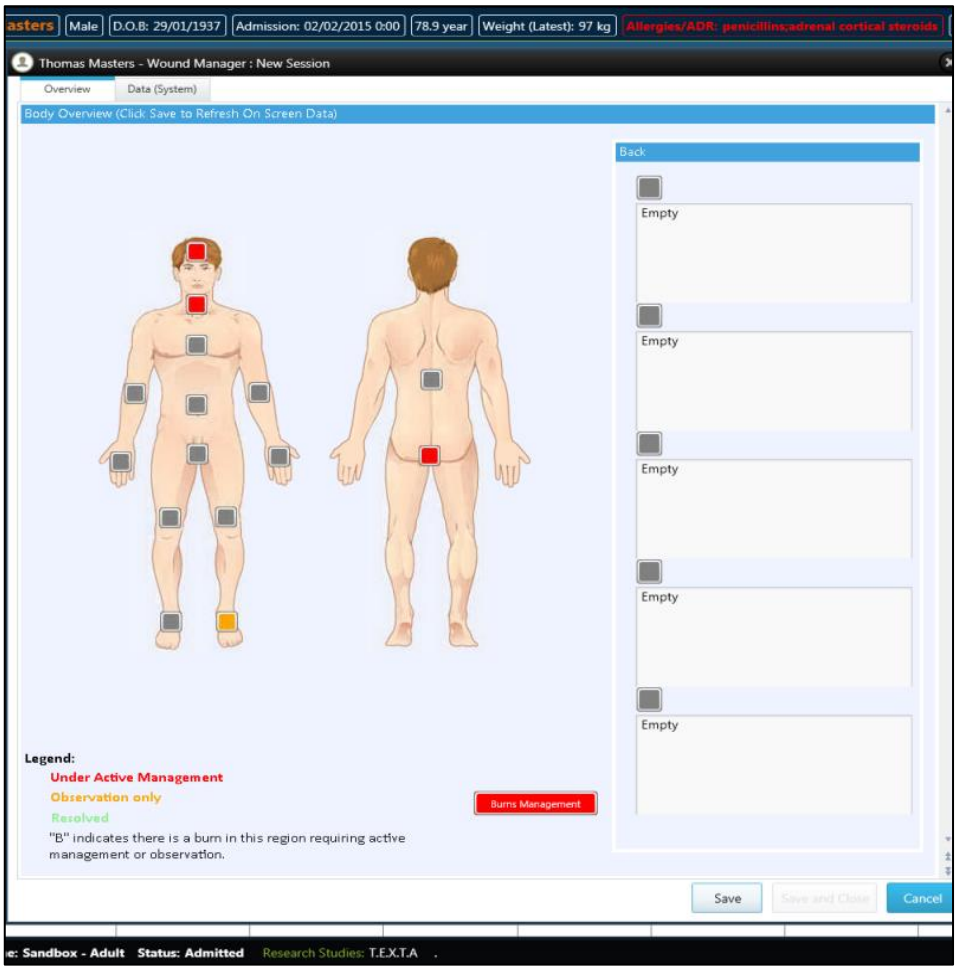
The tab is broken down into four views:

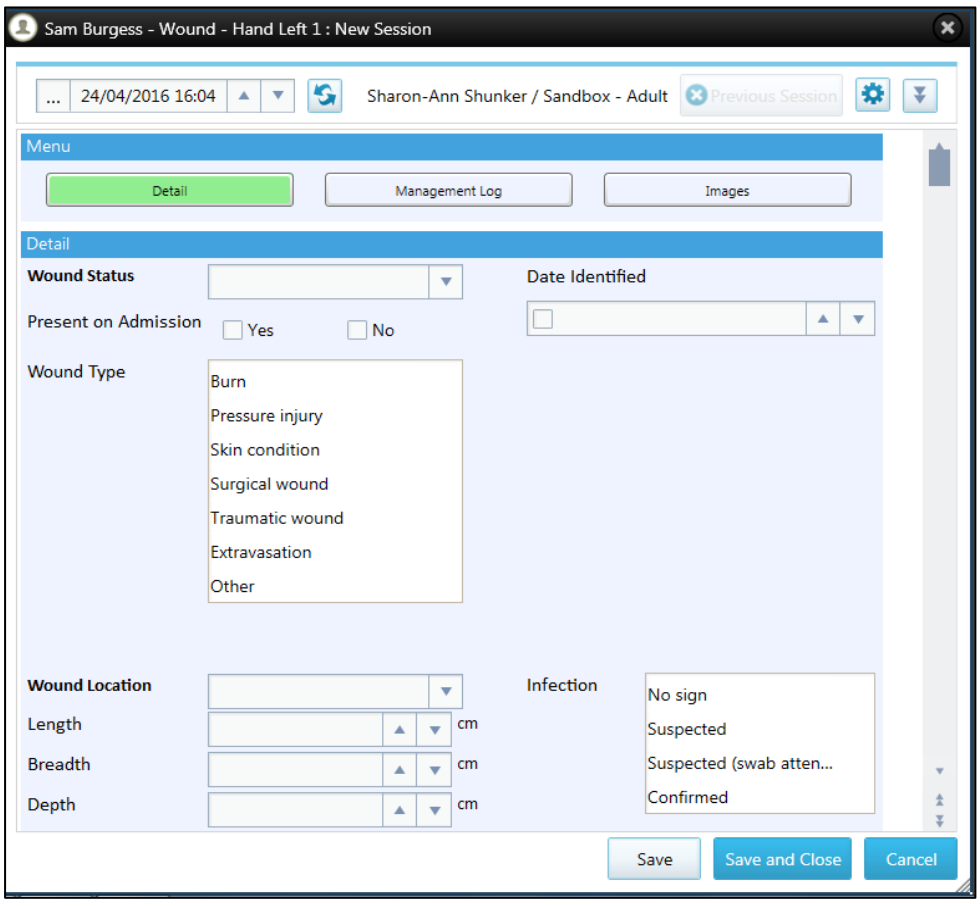
- **Wounds shopping cart -** this view contains a shopping cart to validate all wound treatments that are planned for the patient
- **Wounds tabular view -** from this view a user can see how many wounds the patient has and the current status of each
- **Wound care order timeline -** view of the treatment and the status of the care for the patient (this view will be talked about in more detail in the medications lesson)
- **Wounds cardex -** this view allows a user to see what treatment and medications are due and when they are due.

The Order timeline view enables a user to view and manage a patient's treatment plan and doses on a continuous timeline. It also displays all of the treatments that a patient is, was, or will be undergoing (the orders timeline view can also be utilised in the planning stage).

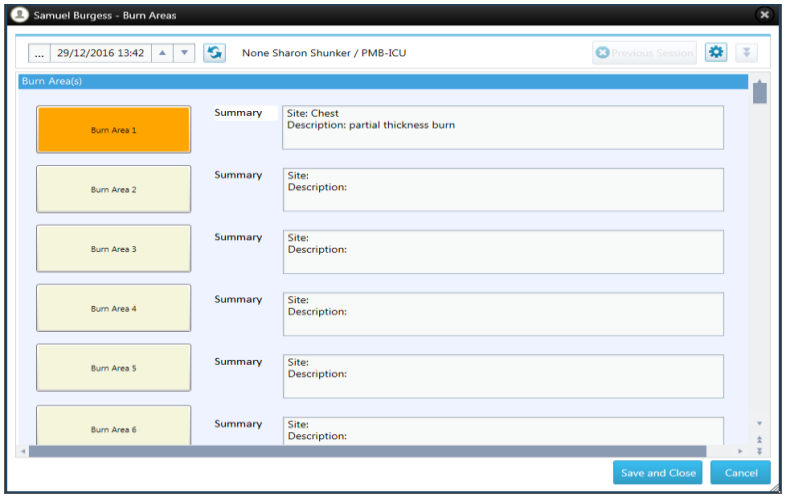
The shopping cart view has two buttons on it:

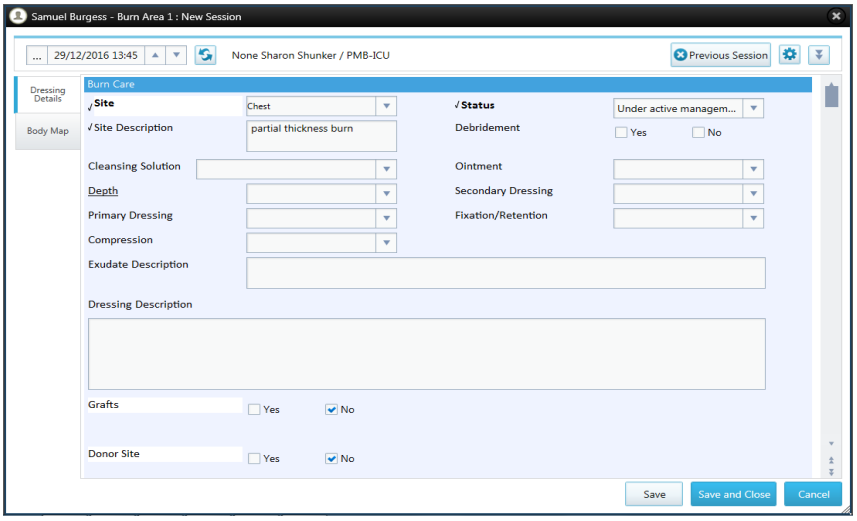
- **Body chart** (This button opens up the body chart → click on the area of the wound → this opens a new window that allows Wound Details, Management Log and images to be entered). The wound detail form is used for entering wound status, type, location, description, dressing, relevant wound details and treatment plan of the wound. The management log is used for documenting the wound care progress notes. The Images button allows scanned pictures / images of the wound to be uploaded.


asters
Male
D.O.B: 29/01/1937
Admission: 02/02/2015 0:00
78.9 year
Weight (Latest): 97 kg
Allergies/ADR: penicillins;adrenal cortical steroids
Thomas Masters - Wound Manager : New Session
Overview
Data (System)
Body Overview (Click Save to Refresh On Screen Data)
Back
Empty
Empty
Empty
Empty
Empty
Legend:
Under Active Management
Observation only
Resolved
"B" indicates there is a burn in this region requiring active management or observation.
Burns Management
Save
Save and Close
Cancel
e: Sandbox - Adult
Status: Admitted
Research Studies: T.E.X.T.A


Sam Burgess - Wound - Hand Left 1 : New Session
...
24/04/2016 16:04
Sharon-Ann Shunker / Sandbox - Adult
Previous Session
Menu
Detail
Management Log
Images
Detail
Wound Status
Date Identified
Present on Admission
Yes
No
Wound Type
Burn
Pressure injury
Skin condition
Surgical wound
Traumatic wound
Extravasation
Other
Wound Location
Infection
No sign
Suspected
Suspected (swab atten...
Confirmed
Length
Breadth
Depth
cm
Save
Save and Close
Cancel

- **Ongoing Burn Dressing** (This button opens up the Burns Area Form → click on the relevant Burn area → this allows you to enter details about the Burn wound and the management of the wound. The button at the bottom of this window 'Schedule Dressings' can be used to schedule ongoing dressings).

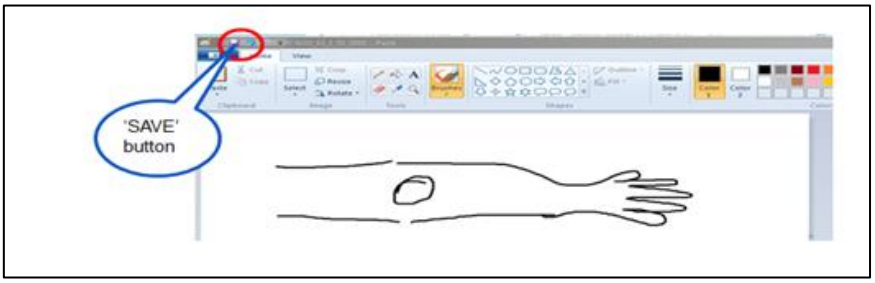




Saving Images

Images – Burns / Wounds or any other images:

- Users should choose the **Save** button to save images and not the 'Save As' button
- The **Save** button automatically saves the image in a central depository in the database that can be accessed by other users, whereas if the 'Save As' button is used, users may have the choice, and access rights, to save the image to another location
- This will be an issue for other users who logon and try to view the image as they will not have access to it



8.2.3 Medical Ward Round

The Medical Ward Round Note contains free text boxes used to document:

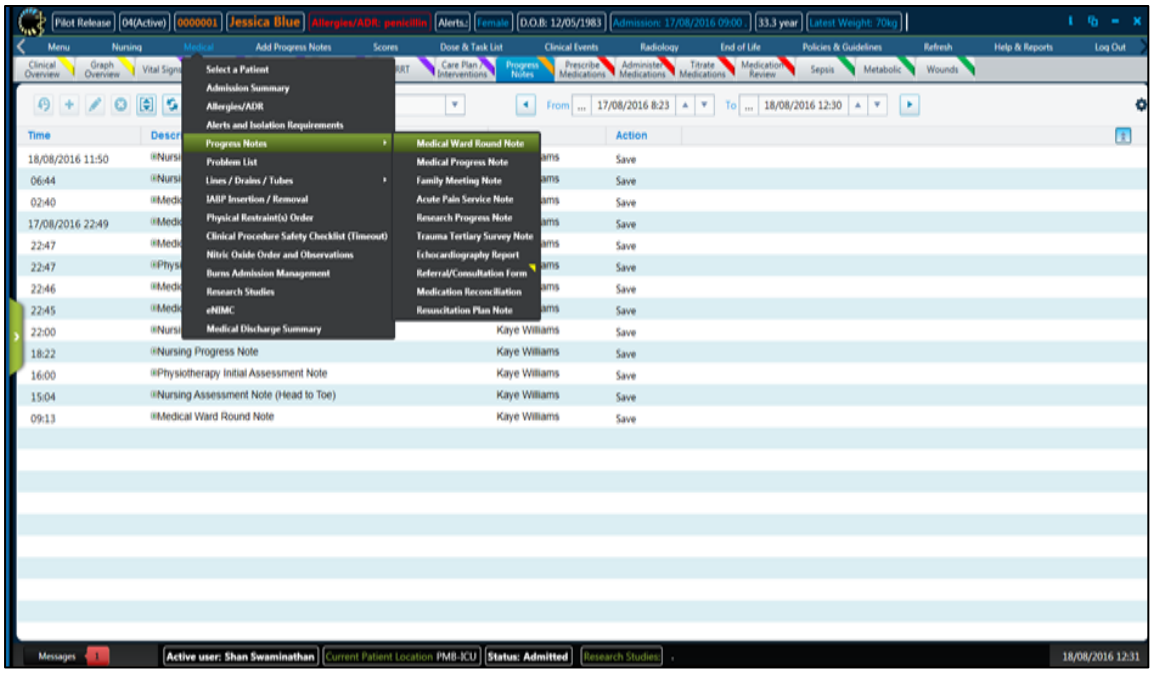
- Assessment / Examination (Option of Inserting Assessment Headings)
- Significant Interventions and Events (allows users to maintain an ongoing account of the significant interventions and events during a patients stay)
    - Data is cumulative, each previous record pulls into the new form
- Problem List (Active, Resolved, Chronic)
    - Data is cumulative, each previous record pulls into the new form
- Medical Management Plan
- Job List
- There is a tick box at the bottom of the form – Are end of Life Care discussions likely to occur in the next 24-hours?

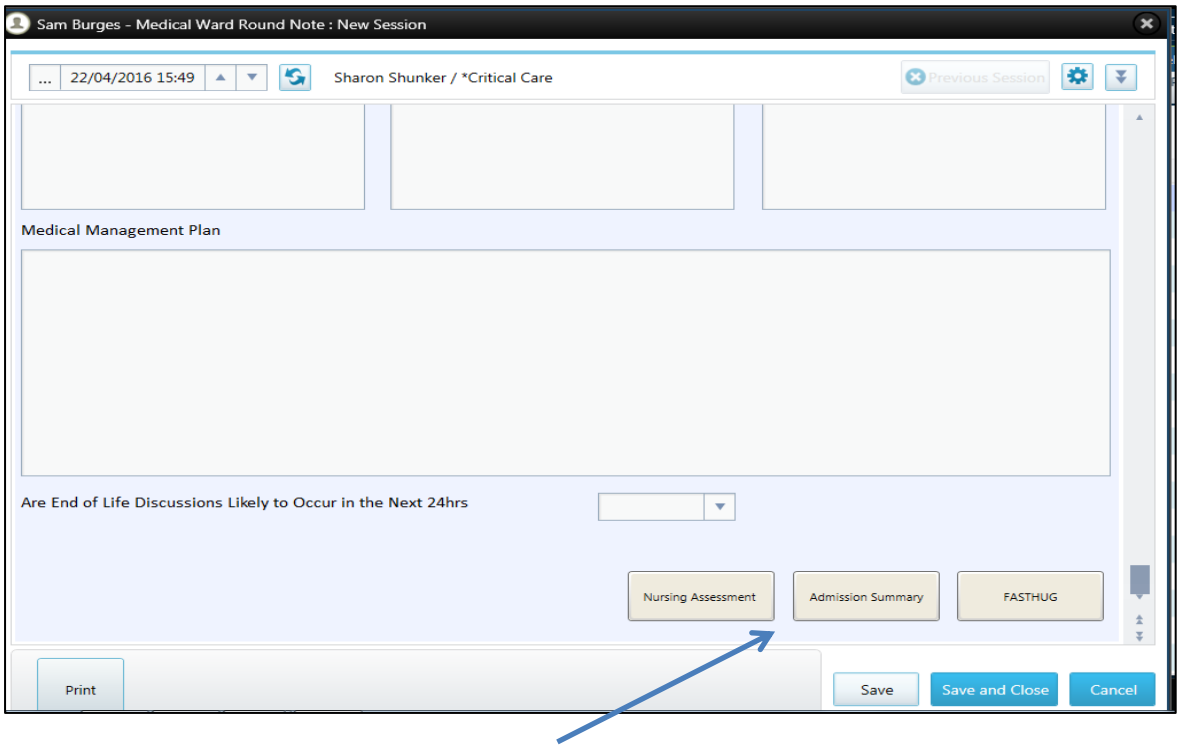
The Medical Ward Round field is very important as the data is cumulative, each previous record populates into a new form so a doctor can see and remember past events that have happened. Data from the medical ward round also feeds into the Medical Discharge Summary form.

If there is a medication review recommended by Pharmacist an alert for this appears on the Medical Ward Round note

Like all progress notes, each time you open the form it takes you to a new session. Previous session entries can be viewed and accessed from this form or from the 'Add Progress Notes' menu.

NOTE: Never open another person's note and add to it – ALWAYS open a NEW SESSION.



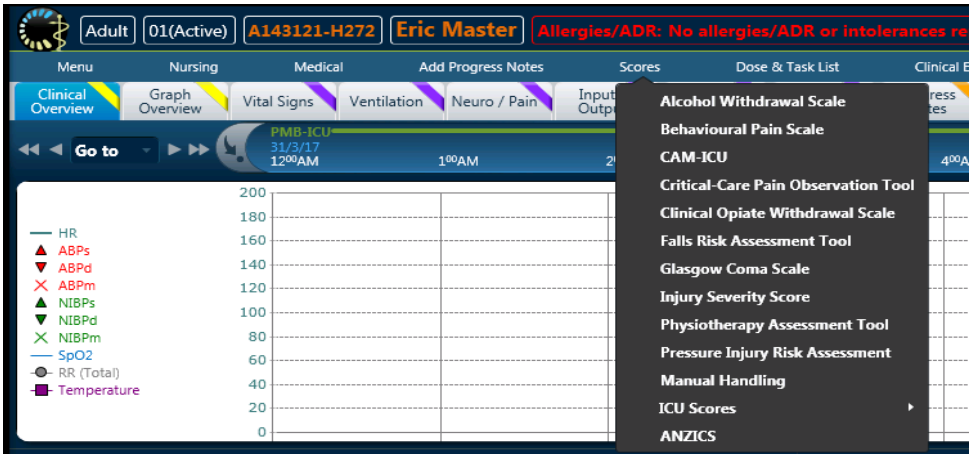


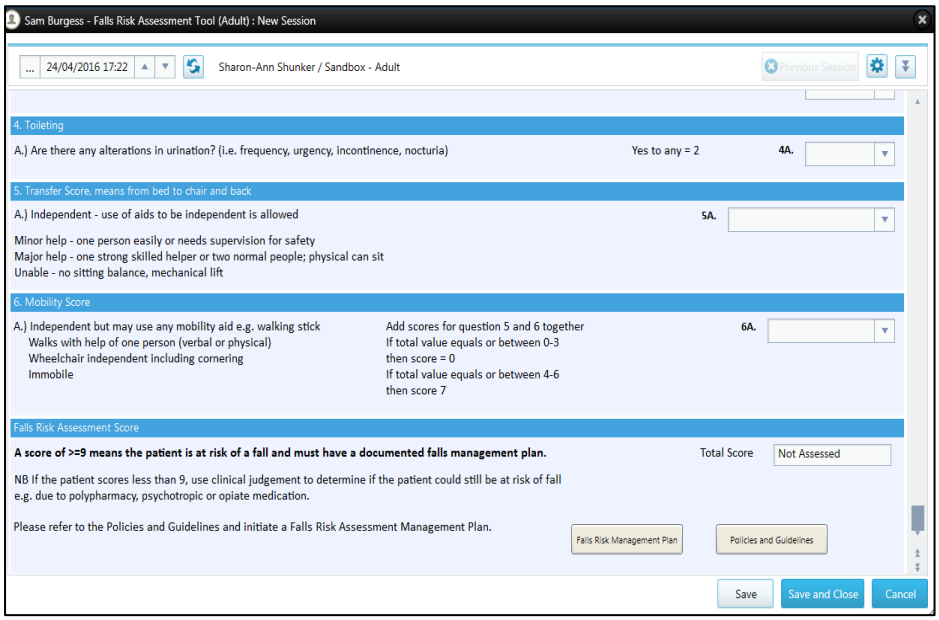
The buttons at the bottom of the form allow access to the 'Nursing Assessment' form, 'Admission Summary' form and 'FASTHUG' form.

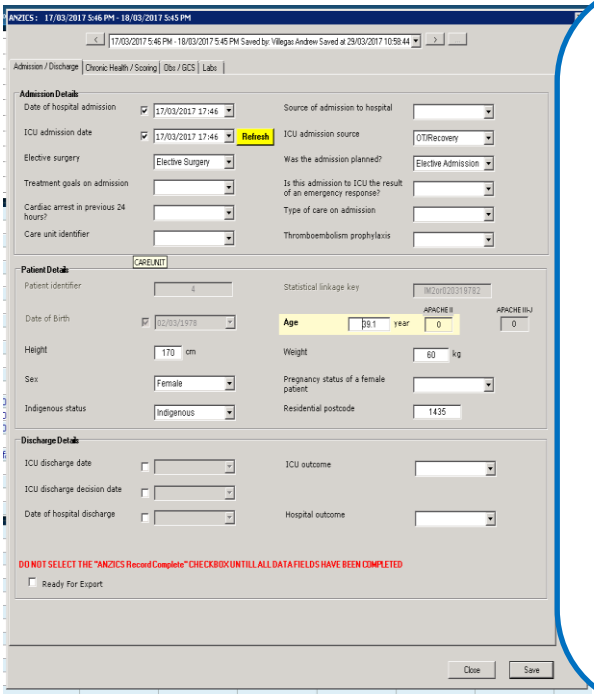
8.2.4 Scores

- The Scores for the patient such as 'Falls Risk Assessment' 'Pressure Injury Risk Assessment' will need to be attended and documented.
- These can be accessed from the 'Scores' menu → select desired score → click on it to open the form → complete requisite information → this will then populate the appropriate view (e.g. sedation score will appear in the Neuro/Pain tab view).

Some of the Score forms have buttons that open new forms. The 'Falls Risk Assessment Tool' (example below), has a button on the bottom of the form that opens the 'Falls Risk Management Plan' and also links to 'Policies and Guidelines'.







ANZICS Data Form

This form is located under the scores menu. It will be used to capture data required for the ANZICS Data submission.

- It captures the demographics and most of the information from the ANZICS tab within the admission summary.
- The APACHE III AND APACHE II Chronic conditions are captured
- Diagnosis is documented here.
- Most physiologic findings are going to be recorded at this tab. Majority of the items are automated However, some fields are manual like GCS and a few others.

8.3 Plan of Care / Interventions

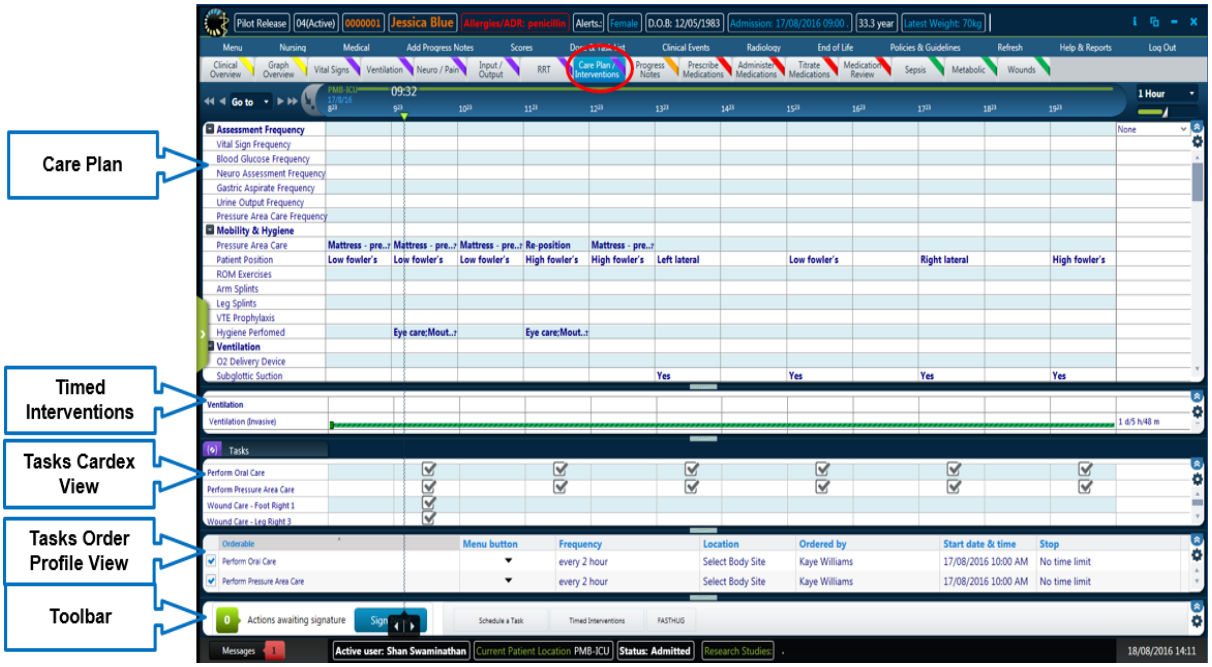
The 'Care Plan and Interventions' tab is where nurses plan the care for a patient.

Plan of Care

- Upon completion of the nursing assessment, nurses can develop a plan of care/interventions for the shift.
- This can be entered in the Nursing Management Plan (free text box) or can be entered as scheduled tasks and timed interventions. If entered as scheduled tasks and timed interventions, then as outlined above, they can be viewed in the 'Care Plan / Interventions' tab.
- On completion of the Medical Ward Round, medical staff can develop a Medical Management Plan. This is a free text box within the Medical Ward Round form.

Plan of care will include:

- Scheduled tasks
- FASTHUG check
- Review Pathology
- Review Radiology
- Document and review clinical events
- Complete progress notes – these are done contemporaneously – includes the daily / shift management plan for the patient
- Monitoring and management of special supportive therapies such as RRT, ECMO, IABP, pacing.



Care Plan – assessment frequency sub heading allows a nurse to plan when and the frequency of specific different care to be given to a patient, such as how often to perform eye care, oral care, and pressure area care. There is also a checklist subheading to help prompt the nurse of actions that they need to take.

Timed Interventions – a dose view showing what timed interventions that a patient is on and how long they have been on them for. These include the patient's ventilation status and interventions such as CRRT (Continuous renal replacement therapy), ECMO and VAD.

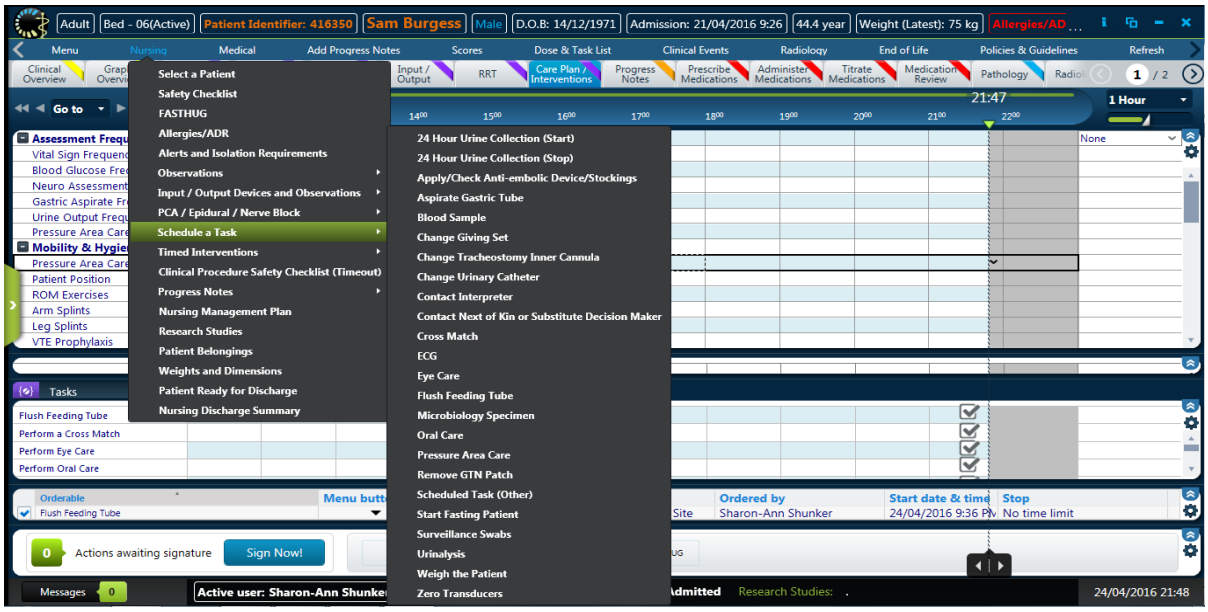
Tasks – a Cardex view of tasks that have to be performed on patients. These are tasks that a nurse has scheduled for patient care such as urine sample collection, when ECG's are to be performed, and when an updated patient weight is to be recorded. This view is the same as the Cardex view for medications.

Tasks – an order profile view is a list style view for viewing and managing a patient's treatment plan. All tasks that the patient has assigned to them can be edited, modified and stopped from this view.

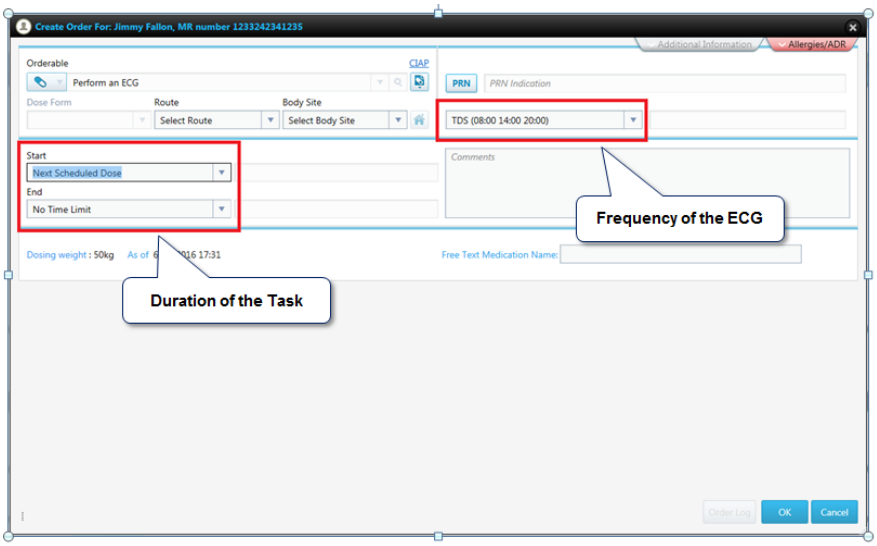
Toolbar – this final view has a shopping cart to sign off new tasks and treatments planned for the patient. There are several buttons that open floating toolbars with action buttons on them to schedule and perform tasks and treatments for a patient.

8.3.1 Schedule Tasks

Go to **Nursing** menu → select **Schedule a Task** → choose task that a nurse can assign to a patient → once task chosen this will open a new window to allow the nurse to set frequency of the task and the duration of the task.

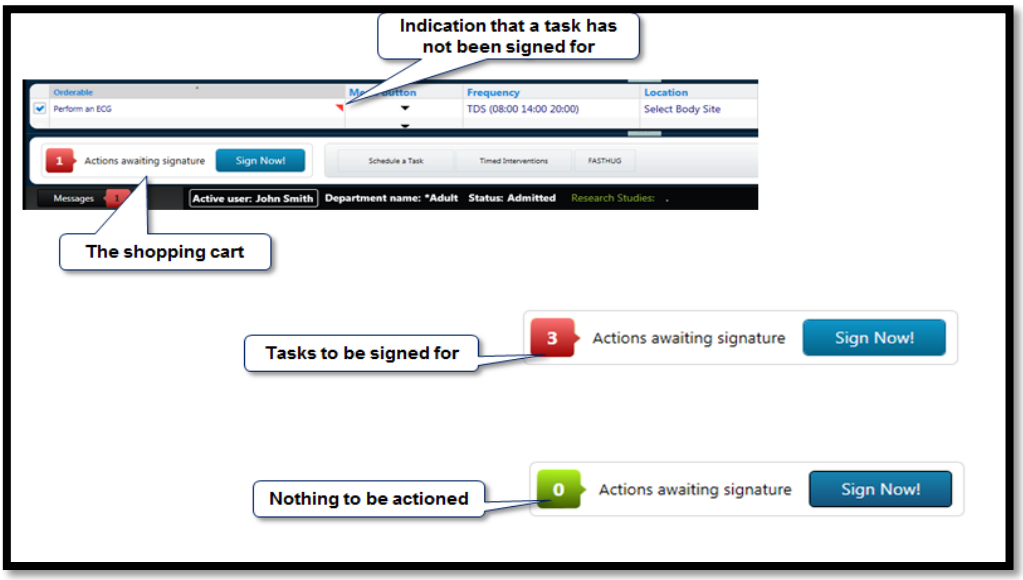


Example of scheduling a task – ECG

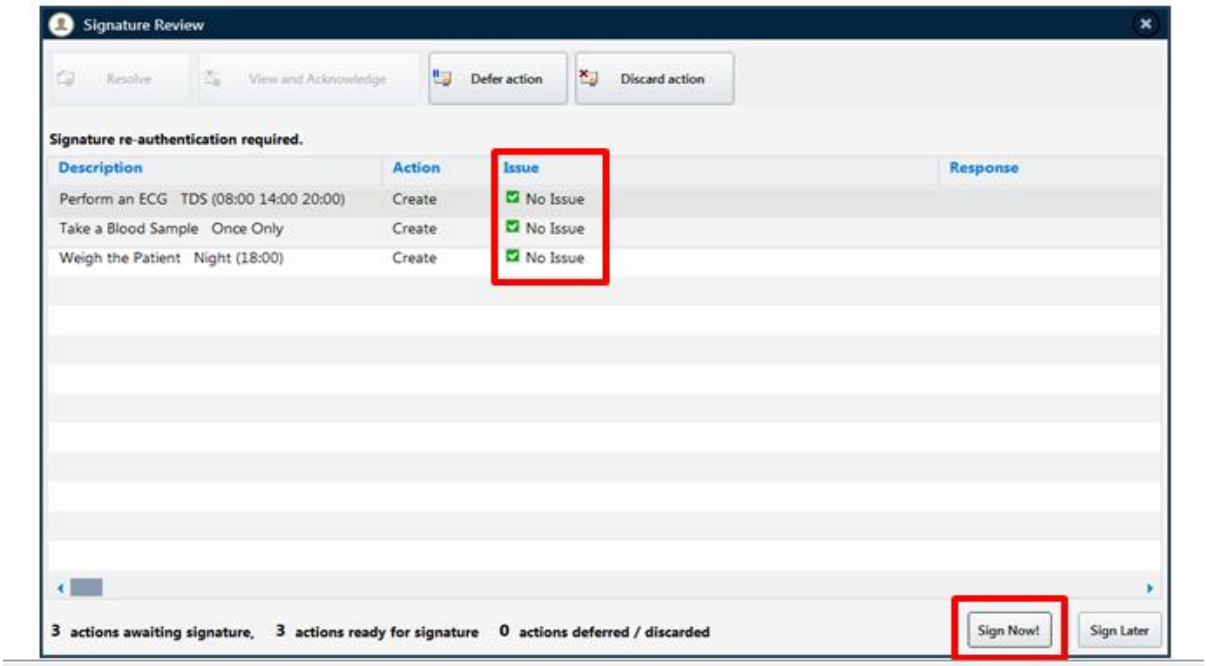


When an order of a task is created, a nurse can review and make changes to suit what is required for the task.

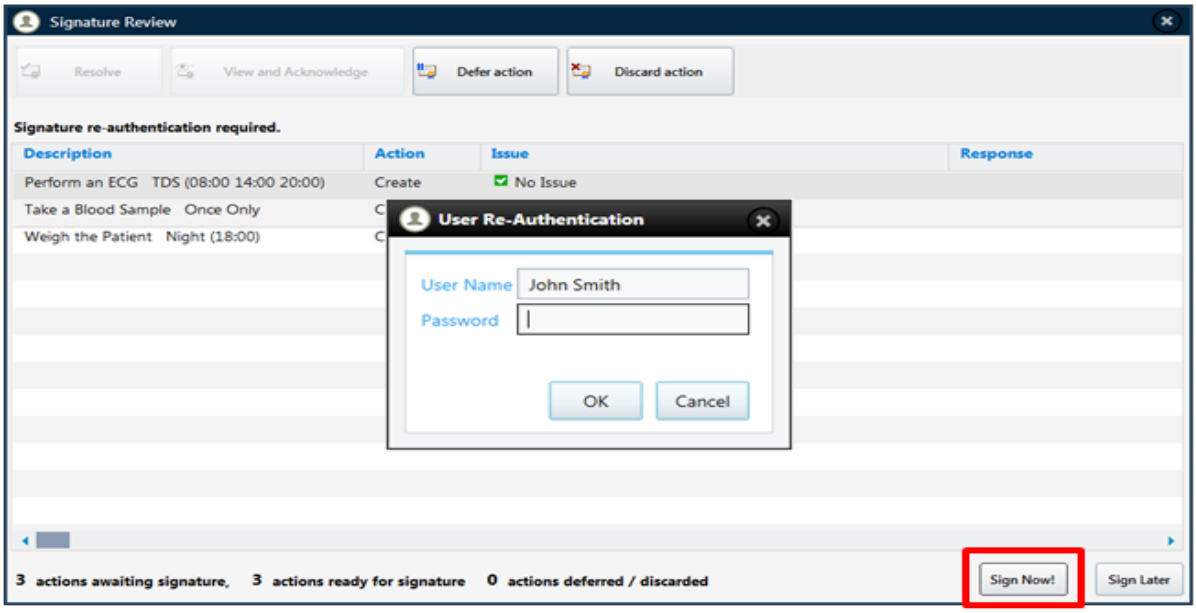
- The important fields are the Frequency and Time fields:
  - **Frequency**: this determines how often the task will be performed
  - **Time**: this is how long the task will be running for - select a start and end time. Another option is to start the task and leave it running until it is no longer required, at which point a nurse can stop it via the order profile view
  - Clicking ok confirms the task.



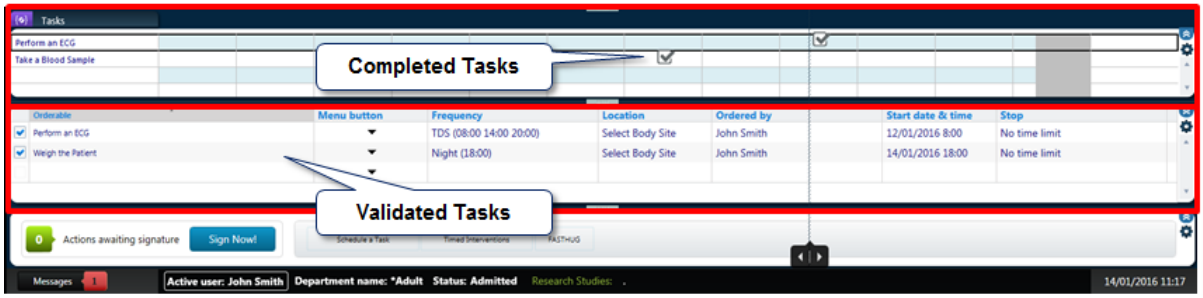
- Once a task has been scheduled, it has one further step before becoming active - it needs to be signed off.
- The task will go into the **shopping cart.** This allows a nurse to schedule several tasks and then sign them all off at once.
- To sign off all tasks in a nurse's shopping chart, click the Sign Now button. The number in the shopping cart indicates the number of tasks that are awaiting a signature.
- Another indication that a task has not been signed is when the order profile view has a small red arrow in the right corner of the task.

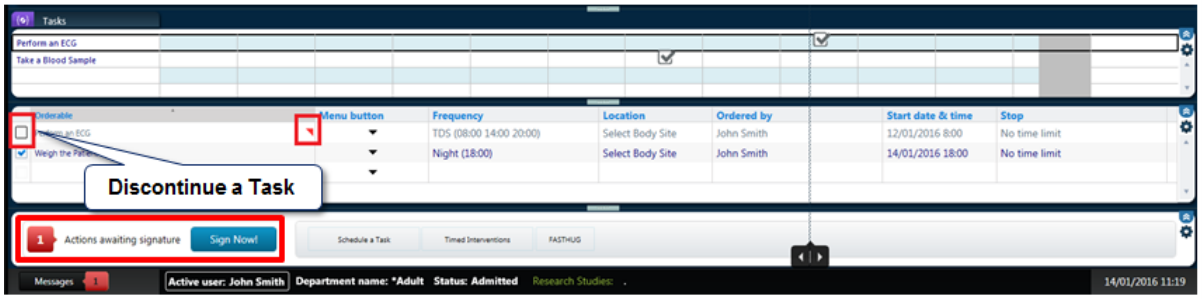


- Clicking the Sign Now button on the shopping cart brings up the Signature Review window. This window includes everything in the shopping cart that needs to be signed for.
- This window also reviews the task and checks for issues. If no issues are found, a nurse can sign for the tasks by clicking the Sign Now button.



- After clicking the Sign Now button, the User Re-Authentication window displays.
- A nurse re-enters their login password and selects OK.
- This validates the orders for the tasks and makes them active for the patient.

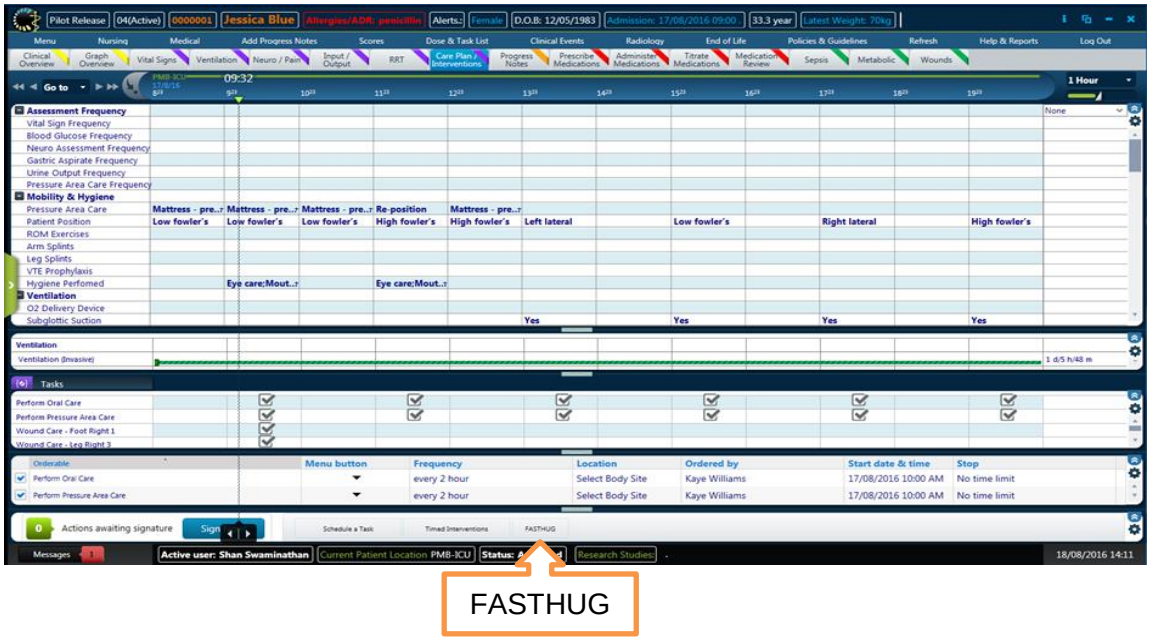




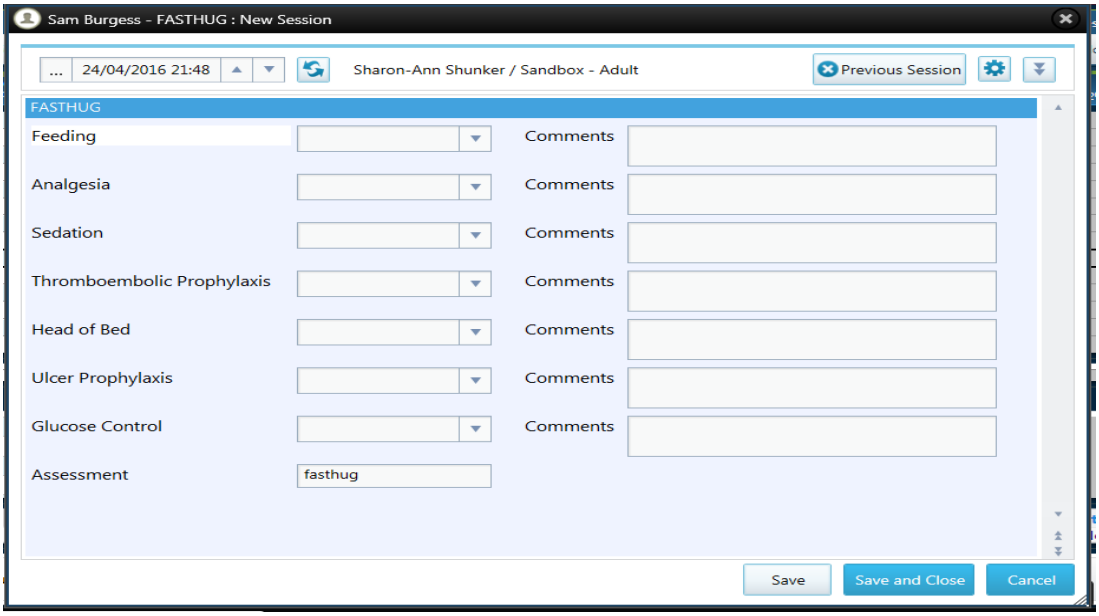
- To discontinue (stop) a task in the order profile view, uncheck the box next to the task.
- This uncheck action needs to be approved (validated, signed for) and therefore adds an action to a nurse's shopping cart.
- After clicking Sign Now, a similar signature window appears under the action column instead of **Create**, the action is **Discontinue.**

8.3.2 FASTHUG

Part of a shift routine is checking and validating that essential care has been attended for the ICU patient. The FASTHUG acronym is used to do this (Feeding, Analgesia, Sedation, Thromboembolic Prophylaxis, Head of Bed elevation, Ulcer Prophylaxis, Glucose Control). The FASTHUG button is located at the bottom of the 'Care Plan / Interventions' tab view.



- Clicking on this button opens up a new session for entering the FASTHUG. A clinician can use the 'Previous Session' button to view previous sessions.
- Once each area is reviewed the alphabet changes from lowercase to uppercase and this is displayed on the 'Care Plan / Interventions' tab view. It can also be viewed in the Work List view.
- For example, if it displays as 'FAStHug', this indicates that Thromboembolic Prophylaxis, Ulcer Prophylaxis and Glucose Control have not been reviewed.
- After 24 hours the acronym automatically changes back to lowercase



8.3.3 Alerts and Isolation Requirements

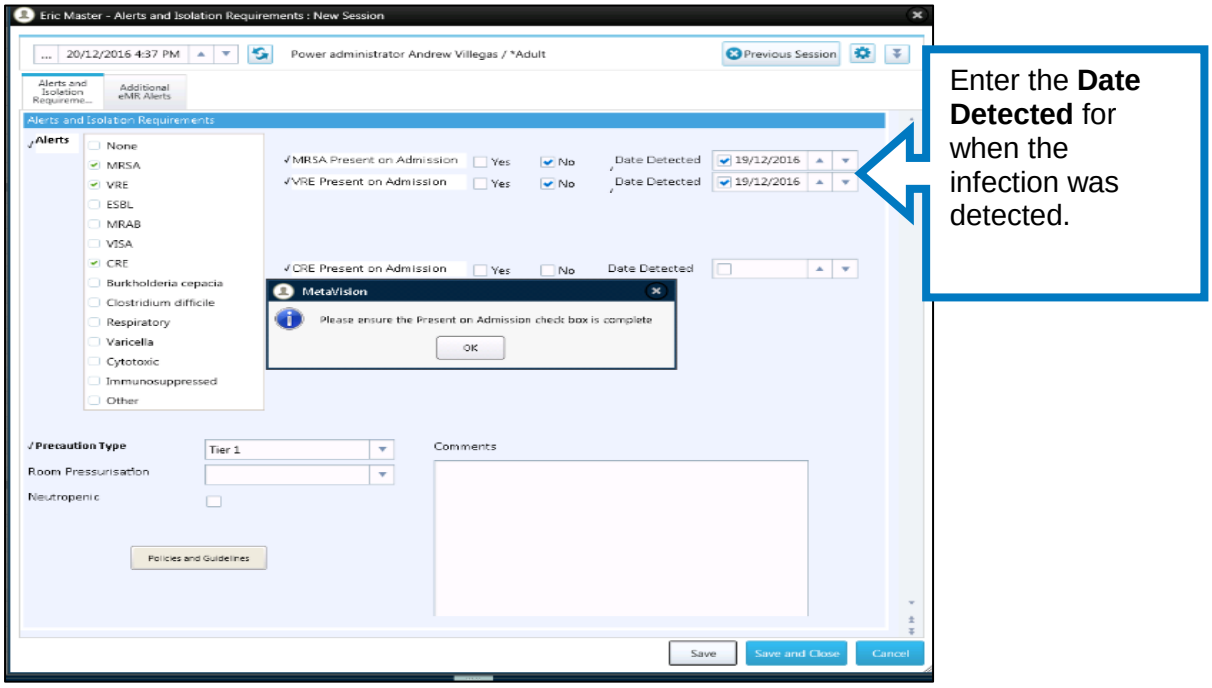
The Alerts and Isolation Requirements Form is accessed from the 'Nursing' menu:
Nursing → Alerts and Isolation Requirements
Alerts for Infection / MRO's may be known on admission or maybe acquired as part of the ICU stay. If known and present on admission – enter this at the time of admission. If they are acquired during the ICU stay – enter the date detected. This is important for generating accurate information on the MRO Operational Report.

The clinician needs to enter 'Name of Infection' & if it was 'Present on Admission' for each MRO infection – MRSA, VRE, ESBL, MRAB, VISA, and CRE.

As a clinician selects each MRO infection from the Alerts selection, they will see the box to enter 'Present on Admission' and 'Date Detected'.

The form will be saved if you click 'Yes' to present on admission. While clicking 'No' will have another pop-up requiring you to place the 'Date Detected' for when the infection was detected.

The option 'Other Infection (Comment)' is available under Alerts. This parameter is intended to capture other MROs that are not mentioned within the Alerts Selection.



8.3.4 Review Pathology

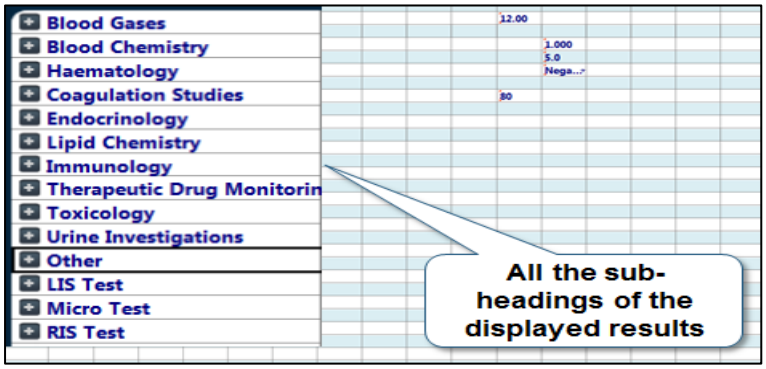
All of a patient's pathology data will automatically populate in eRIC – this can be viewed via the 'Pathology' tab. Some of this data can also be viewed via other tabs, e.g. ABG will also be viewable on 'Ventilation' tab and lactate on 'Sepsis' tab.

Tabs will only display results when there is data in the results column.

Data Driven: in this mode, only columns that contain values are displayed. For example, if you apply Data Driven mode to a Flow sheet tab displaying lab data, the Flow sheet displays only those columns where at least one lab result has been included.

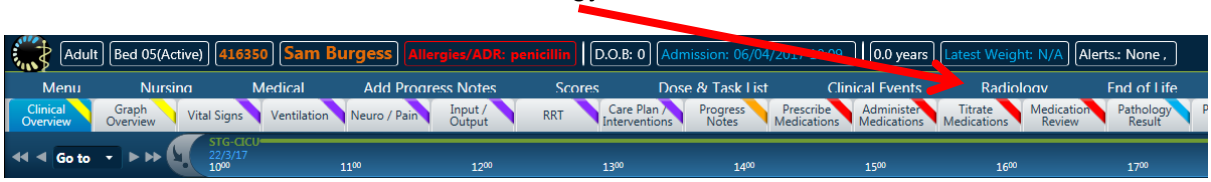
NOTE: In data driven mode, different intervals can be displayed simultaneously on the Flow sheet. For example, some columns can be one day apart, and others just one minute apart, as a function of the data being presented.

NOTE: **for people who are colour blind and cannot see the colour RED**. When there is an abnormal result in Pathology, only the colour red indicates that it is abnormal in the eRIC pathology Flow Sheet. A user can use the tool tip (hover with mouse) to see the details of the abnormal result. Hence, if a user is colour blind and unable to see the colour 'RED', they need to hover over results with the mouse to see abnormal results.

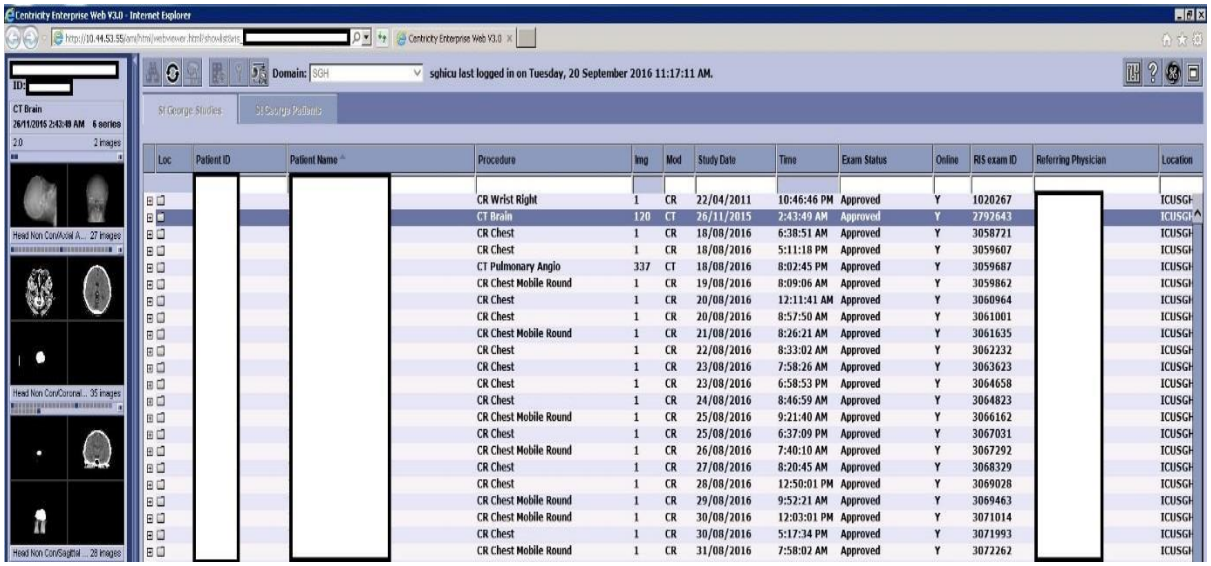


8.3.5 Review Radiology

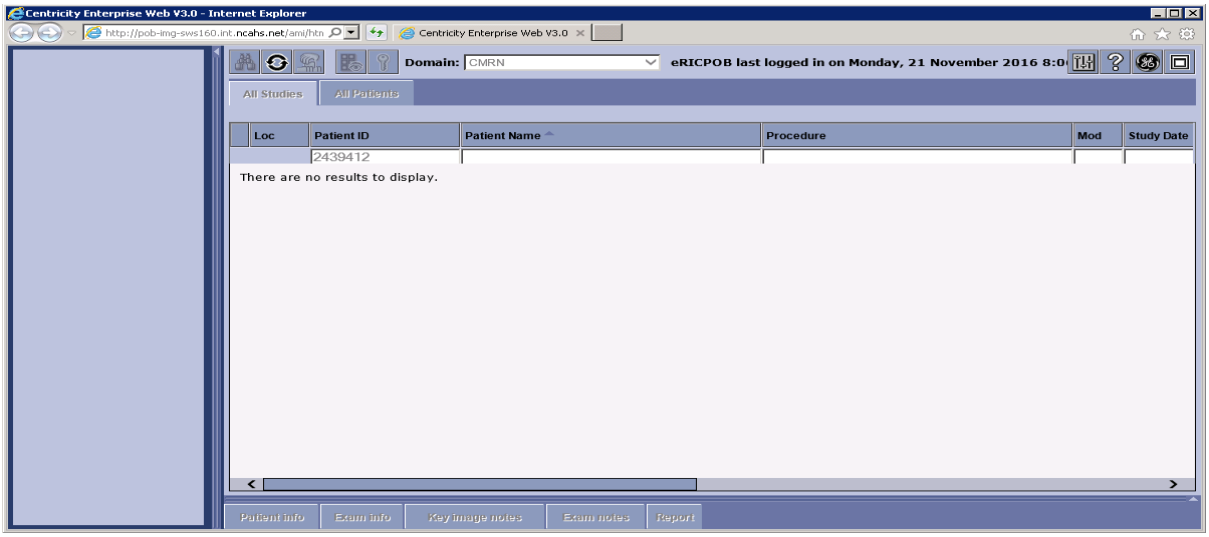
- eRIC will provide an interface with the local radiology information system, which will allow radiology reports to be viewed in eRIC by ICU clinicians at the bedside
- After the patient is in the ICU, using eRIC' clinicians can view the Radiology Images and Reports of the patient
- On the eRIC main screen select 'Radiology' from the Menu



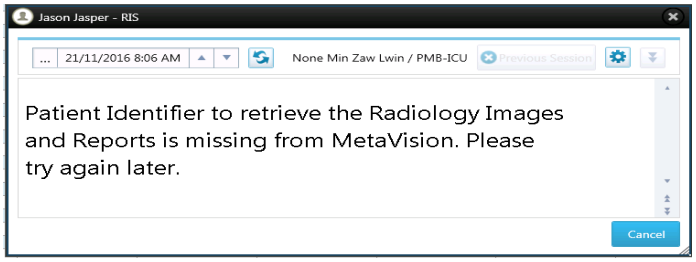
- The PACS Application will appear in the Internet Browser
- If the patient has radiology result, the PACS Application with the respective result will be displayed (always check to make sure you are reviewing the correct patient's results).

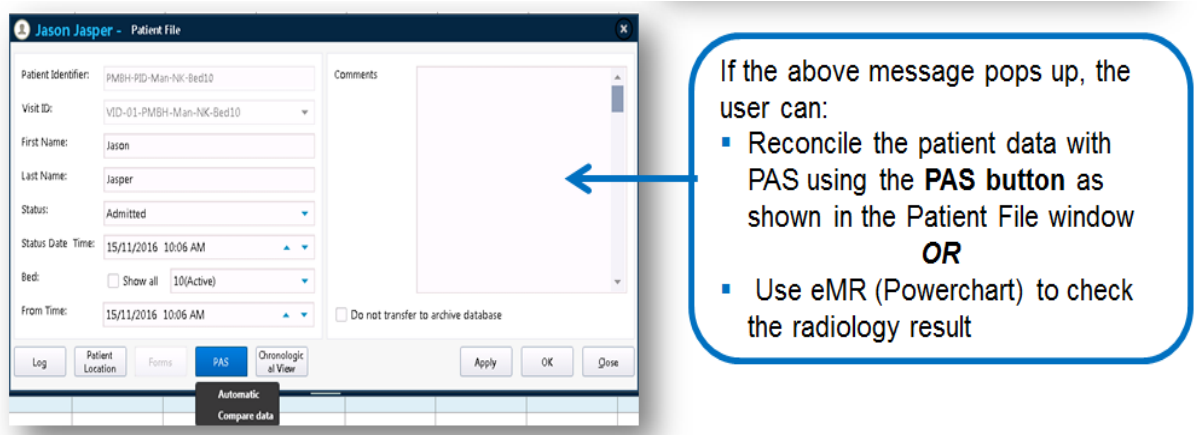


If the patient doesn't have any radiology result, the following screen message will be displayed:

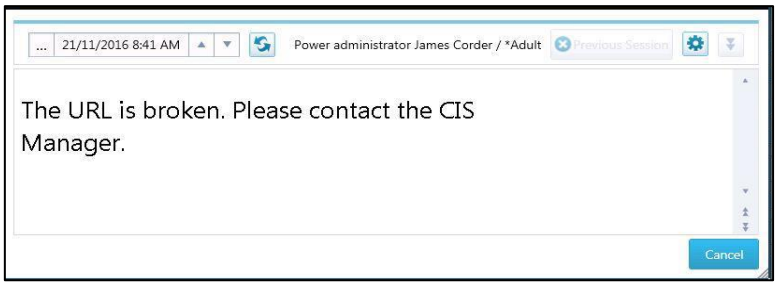


If the patient record in eRIC is created manually, without using the PAS integration (as in downtime registration), the following message will pop up:



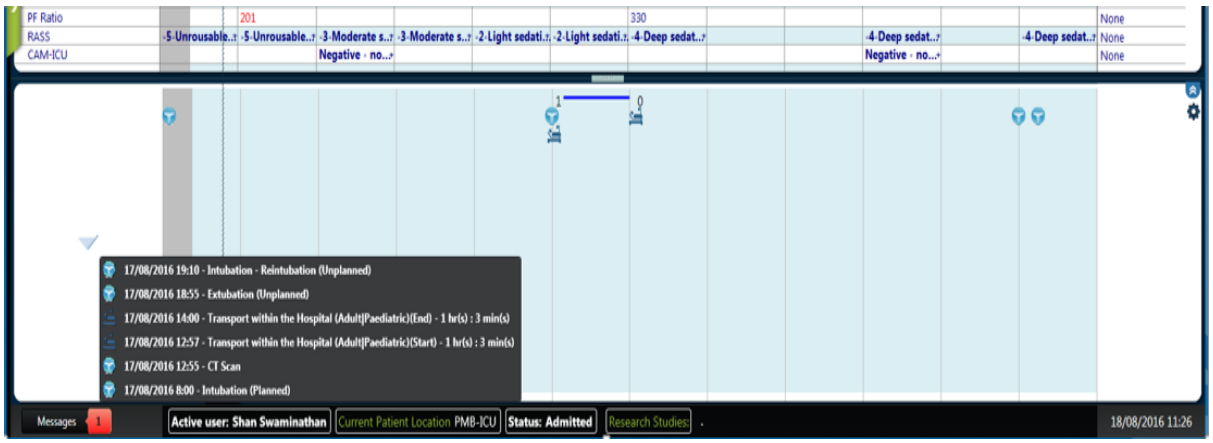


If the configuration within eRIC for Radiology is not configured properly, the following message will pop up. In this case, please contact the CIS Manager:



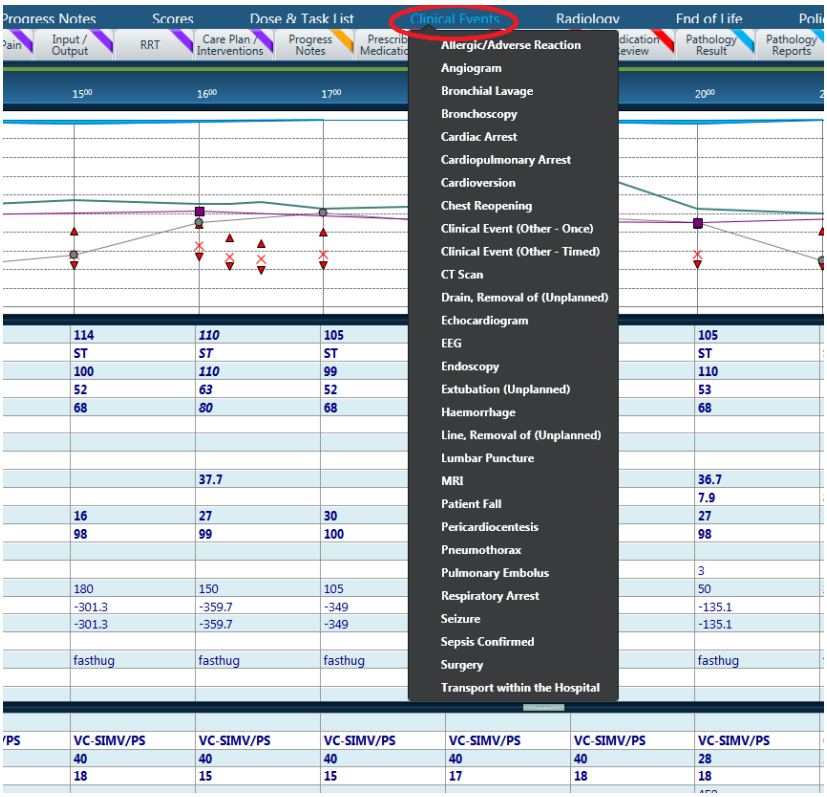
8.3.6 Clinical Events

The clinical events view is at the bottom of the 'Clinical Overview' tab. This is used to enter new clinical events and to track previous events that have happened to the patient. This view keeps a record of all the previous clinical events that have occurred and can be viewed by clicking on the down arrow on the left hand side of the view. A list of past clinical events with a date and time can also be viewed. Selecting a past event a clinician is provided with further details of the event.



The list of clinical events is located on the title bar under the menu **Clinical Events.** Some common examples of clinical events are:

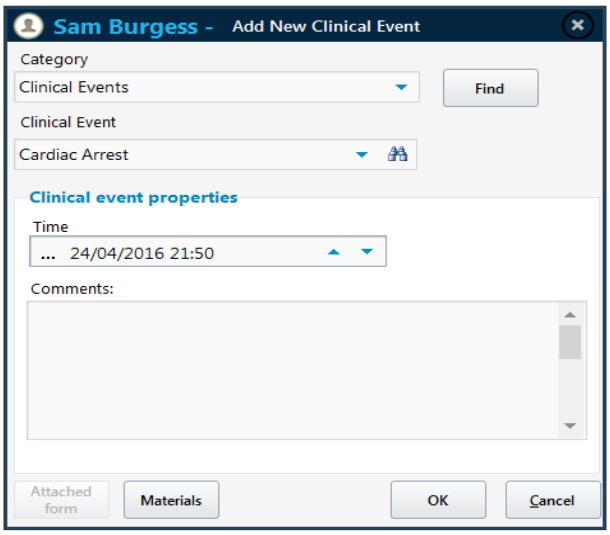
- Cardiac Arrest
- CT Scan
- Patient Fall



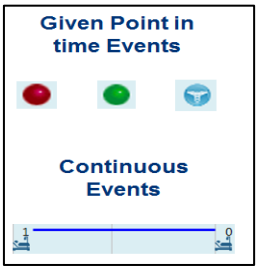
Selecting the **Clinical Event** that needs to be recorded will open up a new window. In this window, confirm the **Clinical Event** under the Clinical Event heading. If a user selects the wrong event it can be changed by using the drop down arrow to open a list to scroll through, or by selecting the binoculars icon. This will brings up the list with a clear field to type the event name. Selecting **Cancel** on the window and starting again is another option.

In the **Clinical Event Properties** there are two fields:

- Time: this is where the time of the event is entered
- Comments: any notes or information of the event can be entered. These notes can be viewed anytime the event is viewed



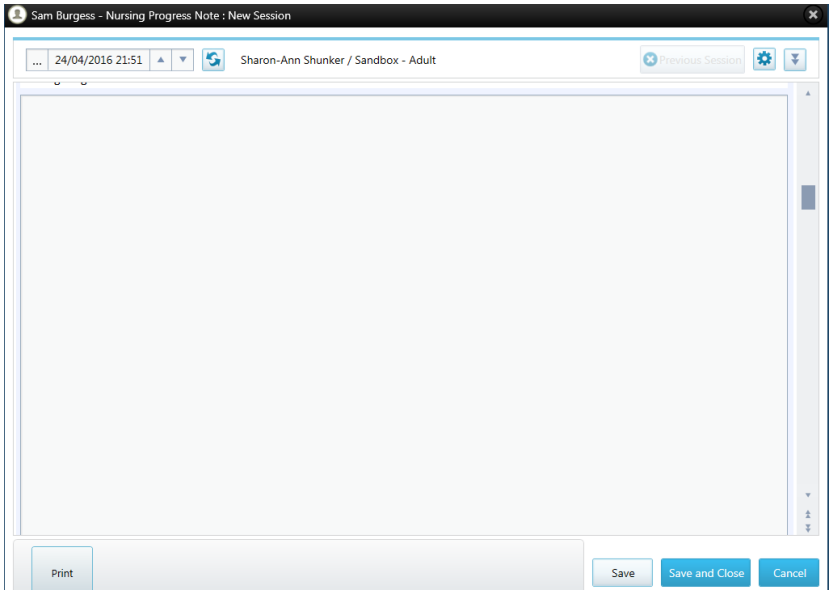
- There are two types of clinical events - events that can occur at any given point in time, or over a period time (Continuous events)
- The **Initiated** check box is selected – this is an indication that the event has started and the end time is unknown e.g. Transport of patient
- Continuous events are displayed differently on the Clinical events view. Given point in time events are displayed using a variety of different dots.



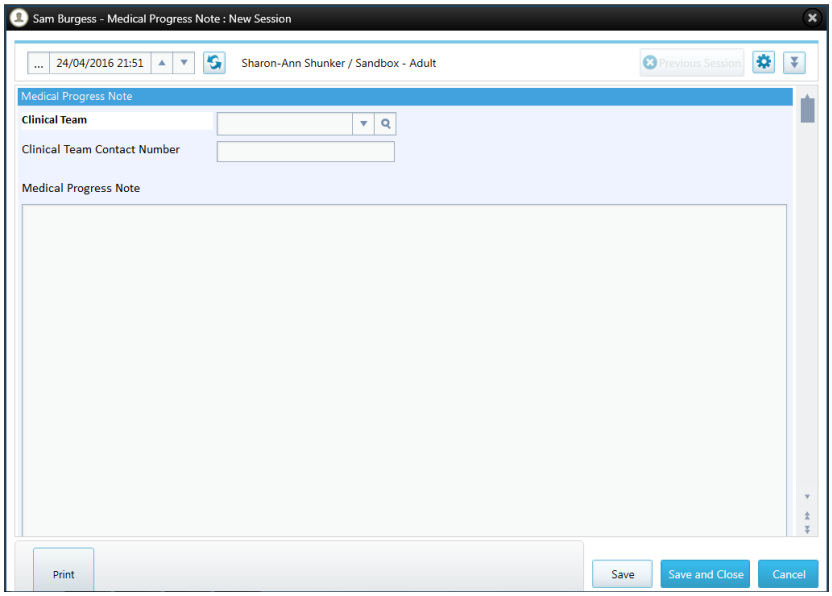
8.3.7 Progress Notes

All clinicians need to document progress notes for an ICU patient into eRIC. Progress notes are documented contemporaneously.

To select Nursing Progress Notes go to:
Add Progress Notes → Nursing Notes → this will open a new session



To select Medical Progress Notes go to:
Add Progress Notes → Medical Notes → this will open a new session

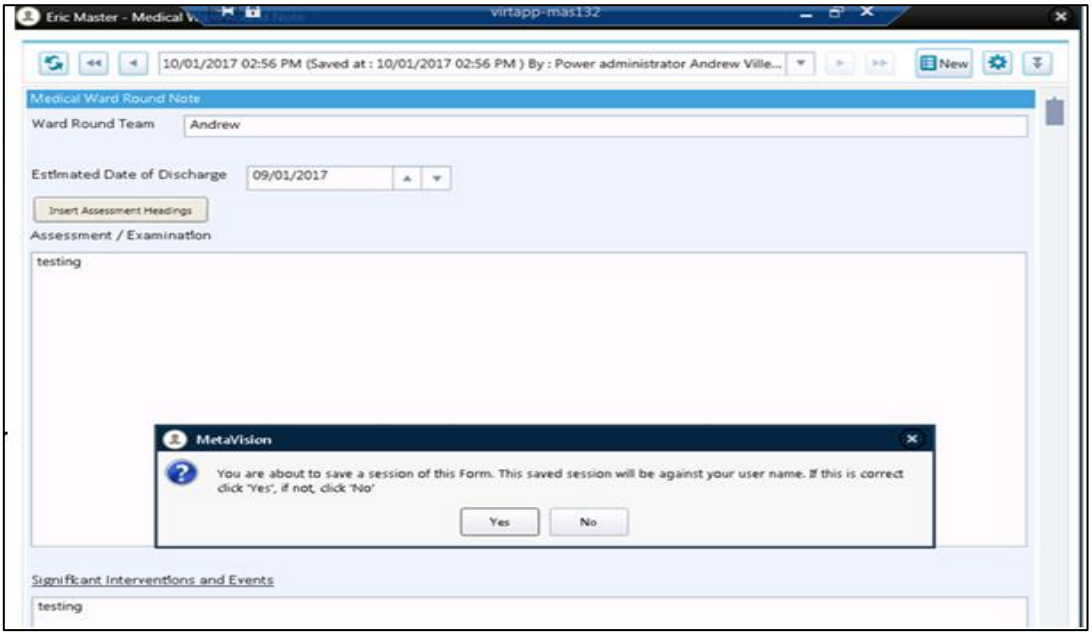


NOTE: Always ensure that you are making entries as a 'new session' (**do not write over *another* user's session**)

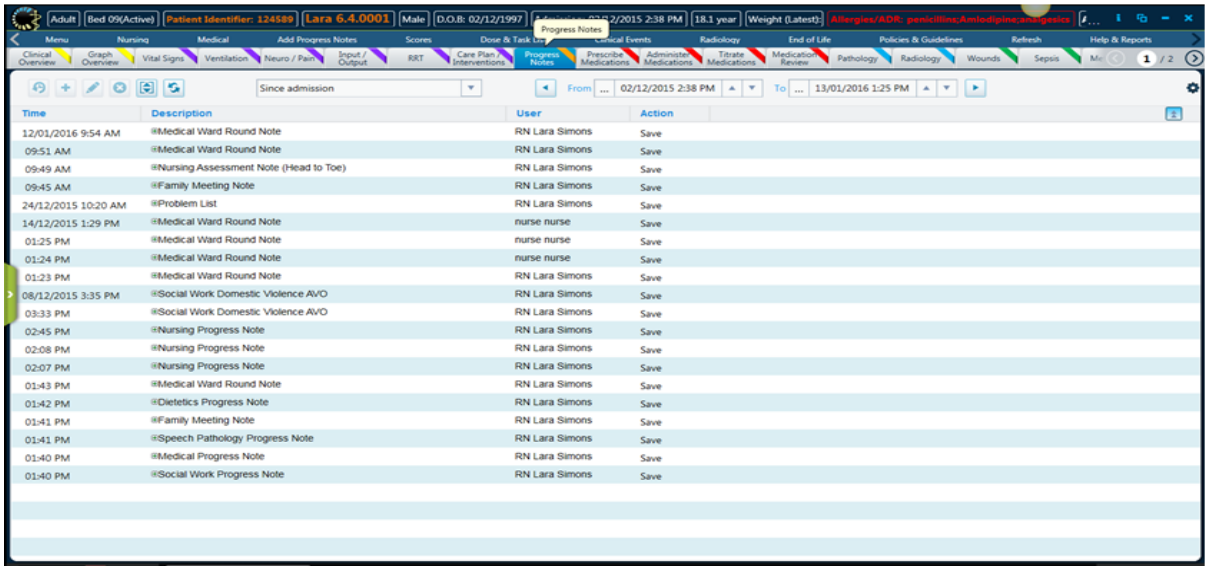
- Check the user name, patient name, date and time
- Use the drop down arrow or the scroll to scroll between sessions. You can open and read a session that has been entered by someone else – but if you want to make an entry – you need to open a new session
- Select 'Save and Close' to save and close your session.

Note Lock

- There is a code snippet on all 'Notes' (Progress Notes, Medical Ward Round Notes, Assessment Notes, Echocardiogram Report)
- The code snippet shows a dialog box notifying the 'currently logged in user' that clicking 'Save' on a saved note will create another session and save it under their user name
- The dialog box will show for all new sessions regardless whether the user is reviewing or intentionally creating a new note.



The Progress Notes tab is entirely made up of a list view. This is where a user can review all the progress notes for a patient.

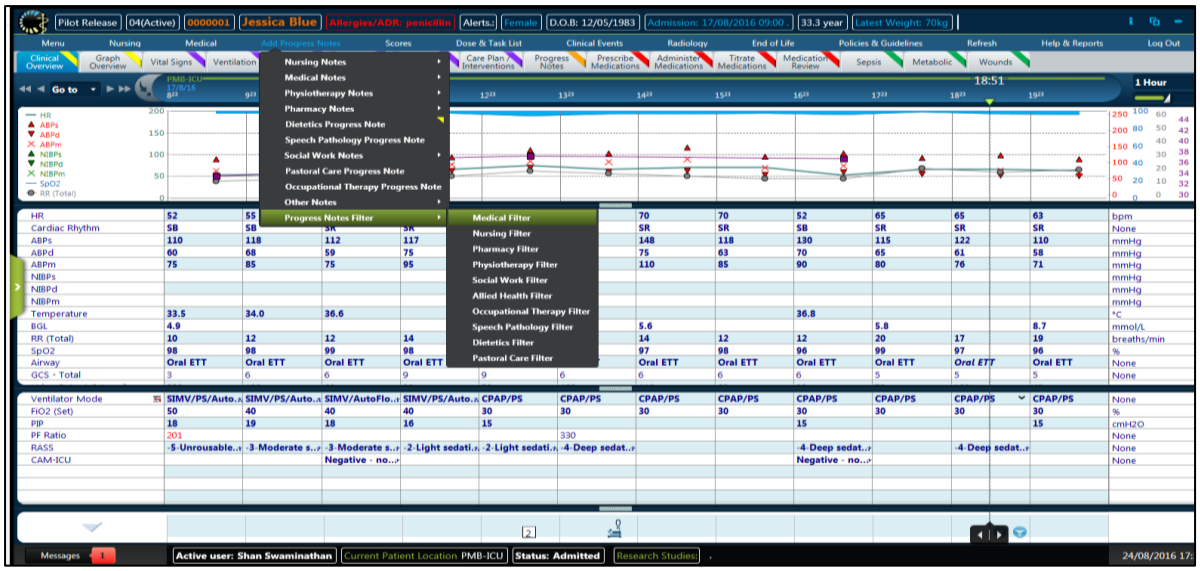


Ways to read Progress Notes

There are two different ways to view Progress Notes:

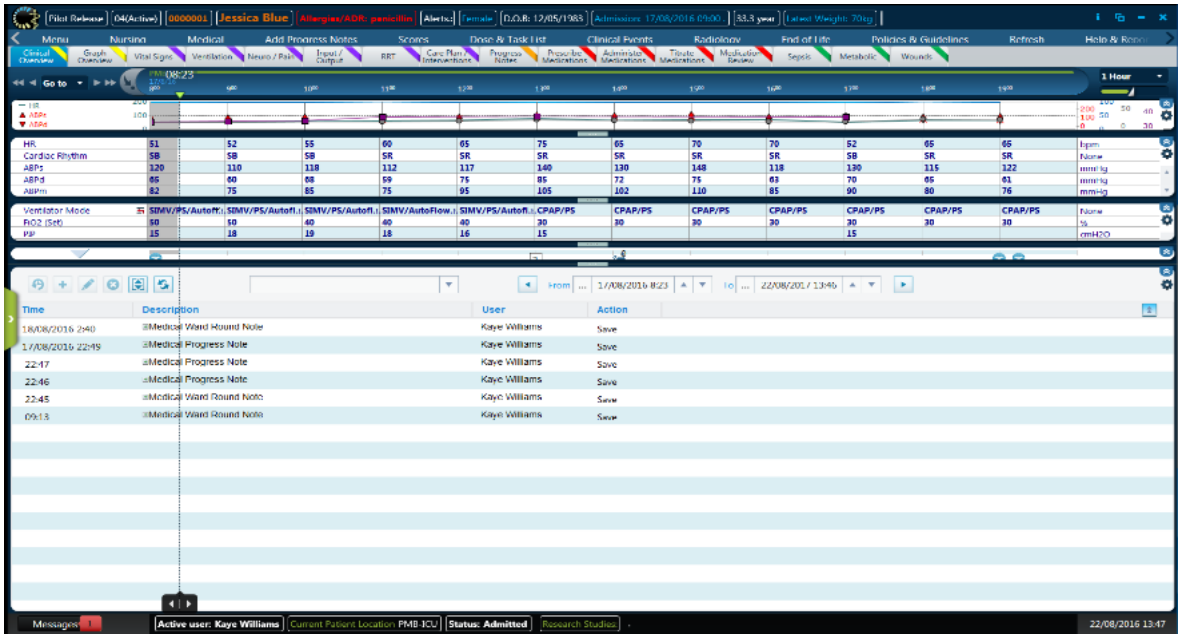
1. Clicking the '+' symbol next to the Progress Note to be read - this expands the note.
   Clicking the '–'symbol will collapse the note and return it back to normal.
   Clicking the will open and close all entries
2. Expanding the note to be read and then double clicking the text. This will open the form in which the progress note was recorded.

If a clinician is on a specific tab and they want to review some progress notes, they can do so without switching between tabs and by the using the preselected progress note filters. This action adds a list view to the tab currently selected.
Navigate to **Add Progress Notes → Progress Notes Filters →** *select the filter required*



This new view automatically compresses the other views on this tab.

NOTE: this view is not permanent - it is an on-the-fly change and can be reset by refreshing eRIC.



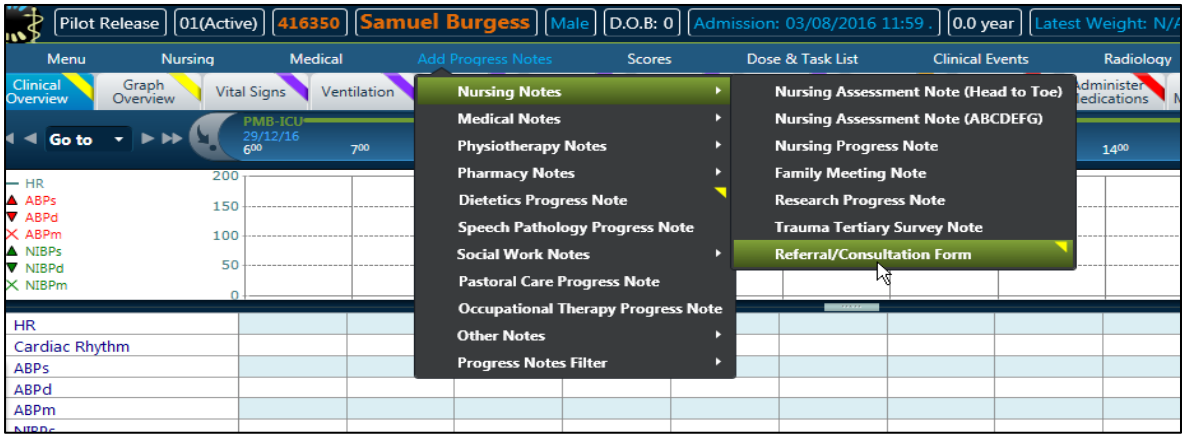
Progress Notes for Referrals to Specialist Teams

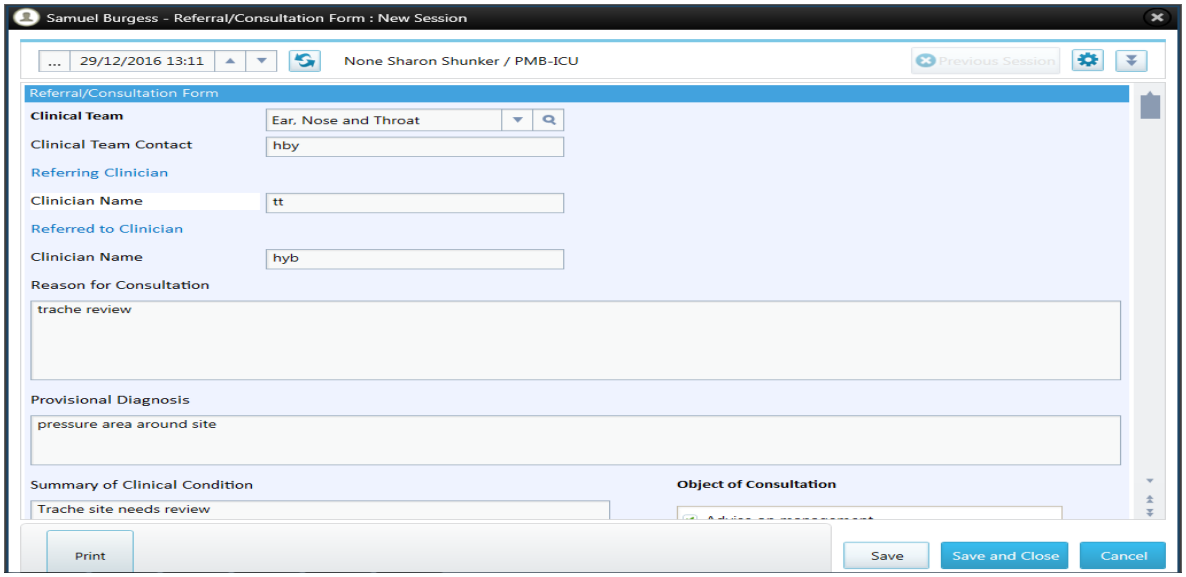
There is a Referral / Consultation Form for a referral to be made to a specialist team – e.g. 'Wound Care CNC' or 'Stoma Therapist Nurse' OR a medical specialist team referral such as 'Mental Health Team' or 'Plastics Team'.

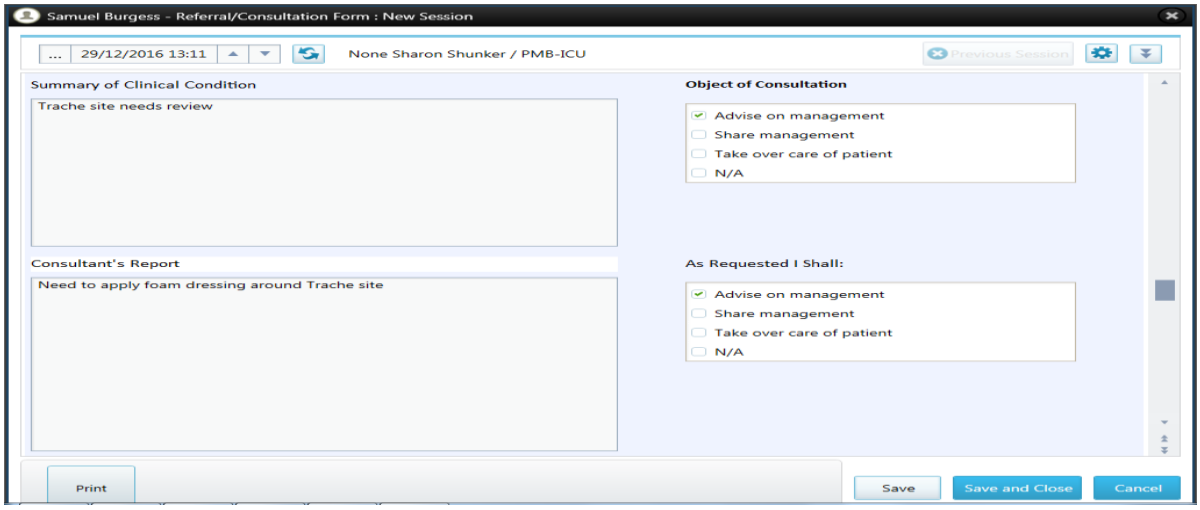
This form is located under **Add Progress Notes → Nursing Notes** → select **Referral/Consultation Form:** *OR*

Add Progress Notes → Medical Notes → Referral/Consultation Form.

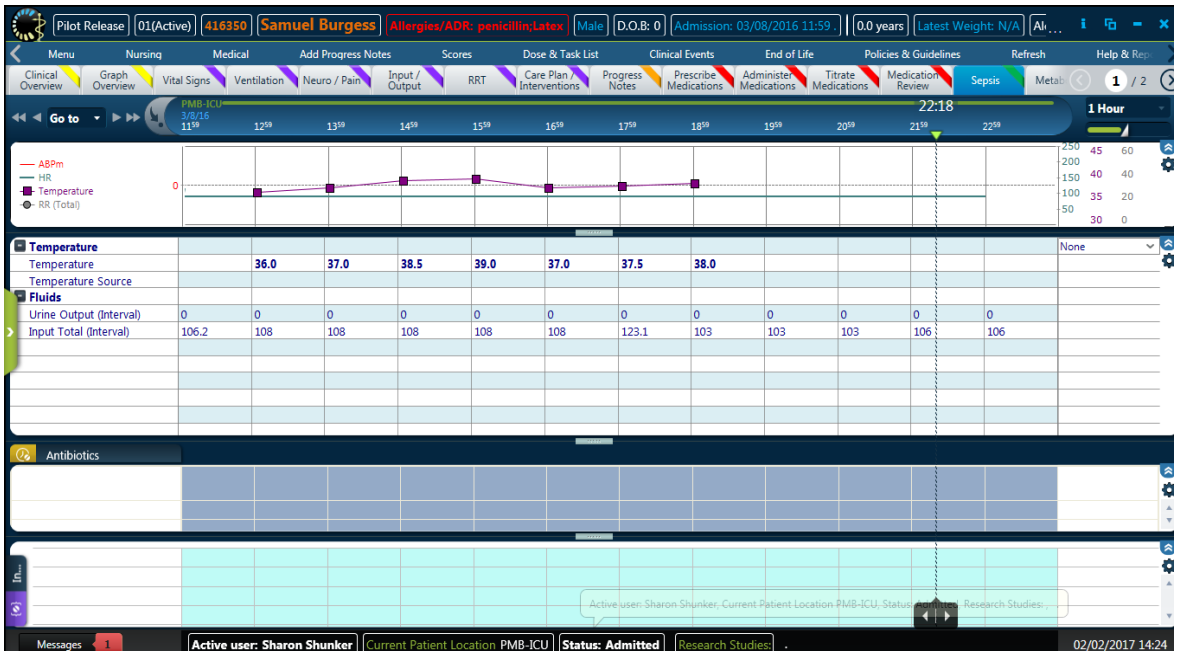
The Referral is made using this form and the team when they review the patient can write into the 'Consultants Report' section of the form. This then appears under the 'Progress Notes' tab view.
NOTE: In addition to completing the Referral /Consultation form in eRIC **-** The normal process for requesting a consult should still be adhered to i.e. referral through eMR consult request or phone consult request.







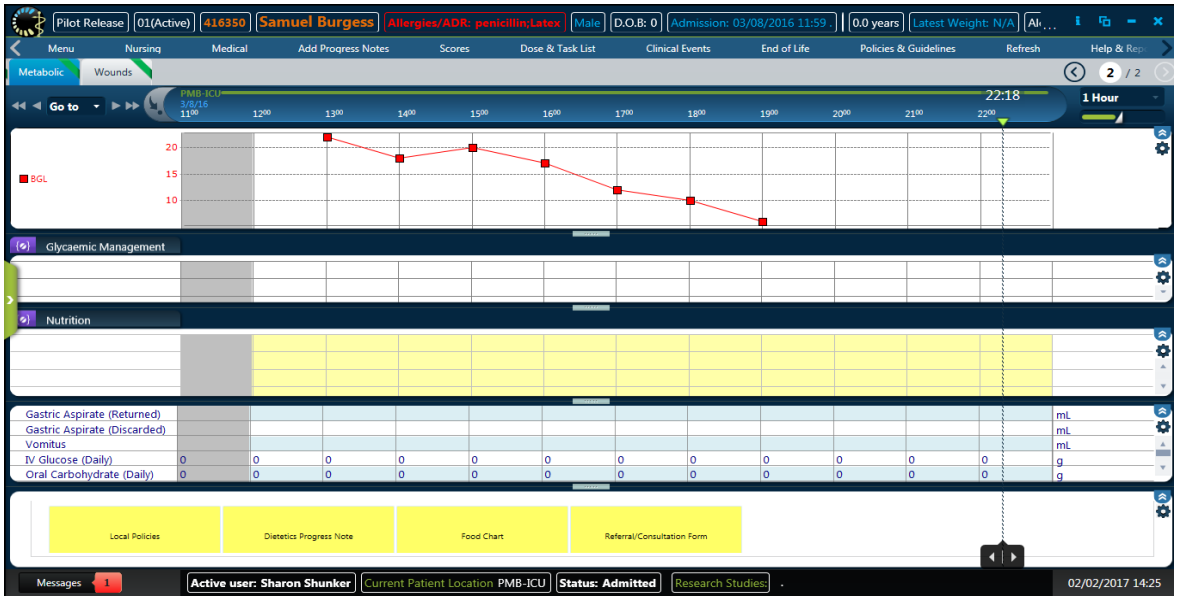
8.3.8 Sepsis Tab



This tab can be used to review data relating to Sepsis, such as:

- Vital Signs
- Fluid Management
- Antibiotic Therapy
- Inotropes and vasopressor support

8.3.9 Metabolic Tab Review



This tab can be used to review Metabolic data, such as:

- BGL
- Glycemic control
- Nutrition
- Gastric output / aspirate / losses
- IV Glucose therapy

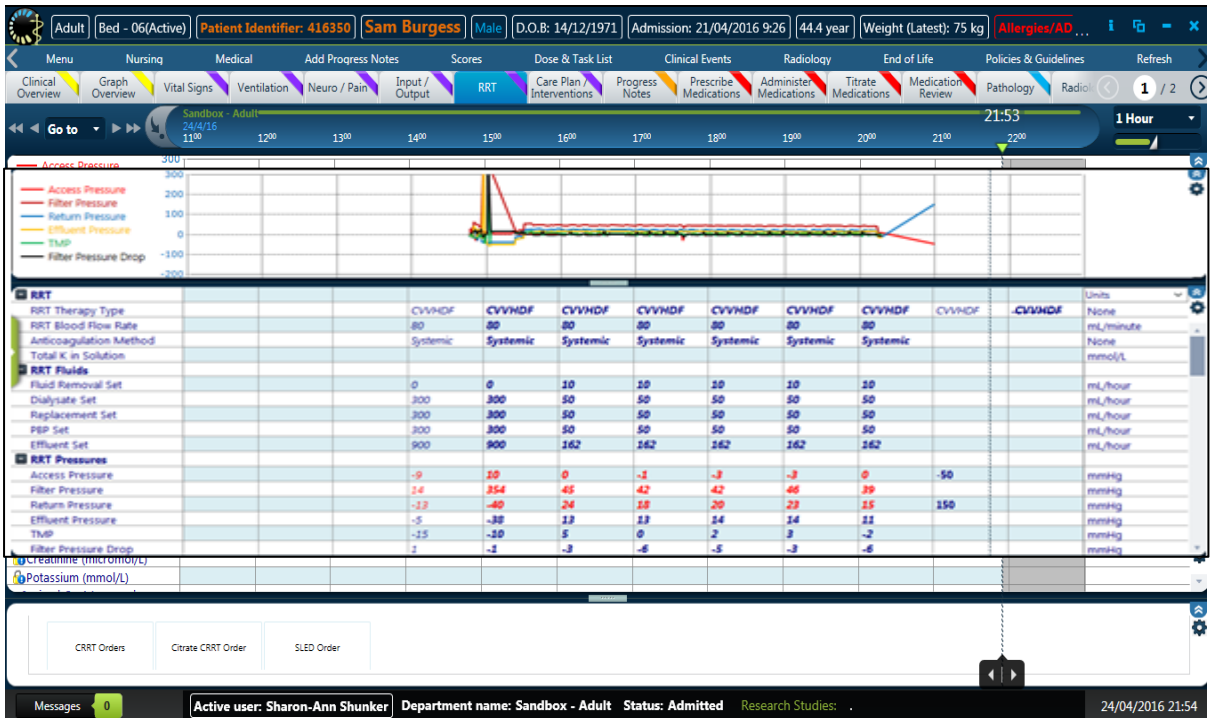
8.4 Special Therapies

8.4.1 RRT (Renal Replacement Therapy)

The RRT tab is used when prescribing and monitoring **Renal Replacement Therapy,** and will be used by both nurses and doctors.

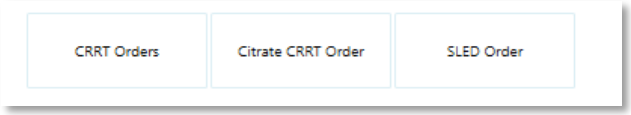
The tab is broken down in to four sections:

1. **Graph view** - to review different pressures relating to the Renal Replacement Therapy
2. **Tabular view** - contains some parameters that will be auto populated via the dialysis machines – all auto populated data MUST be checked and validated. There will also be observation parameters that the nurses will complete during Renal Replacement Therapy that may need to be manually entered, e.g. Patient fluid removal per hour
3. **Second tabular view** - contains pathology parameters and will populate data from lab results that relate to Renal Replacement Therapy
4. **RRT toolbar** – contains buttons with forms to:
   - CRRT orders
   - Citrate CRRT order
   - SLED order



RRT Prescription

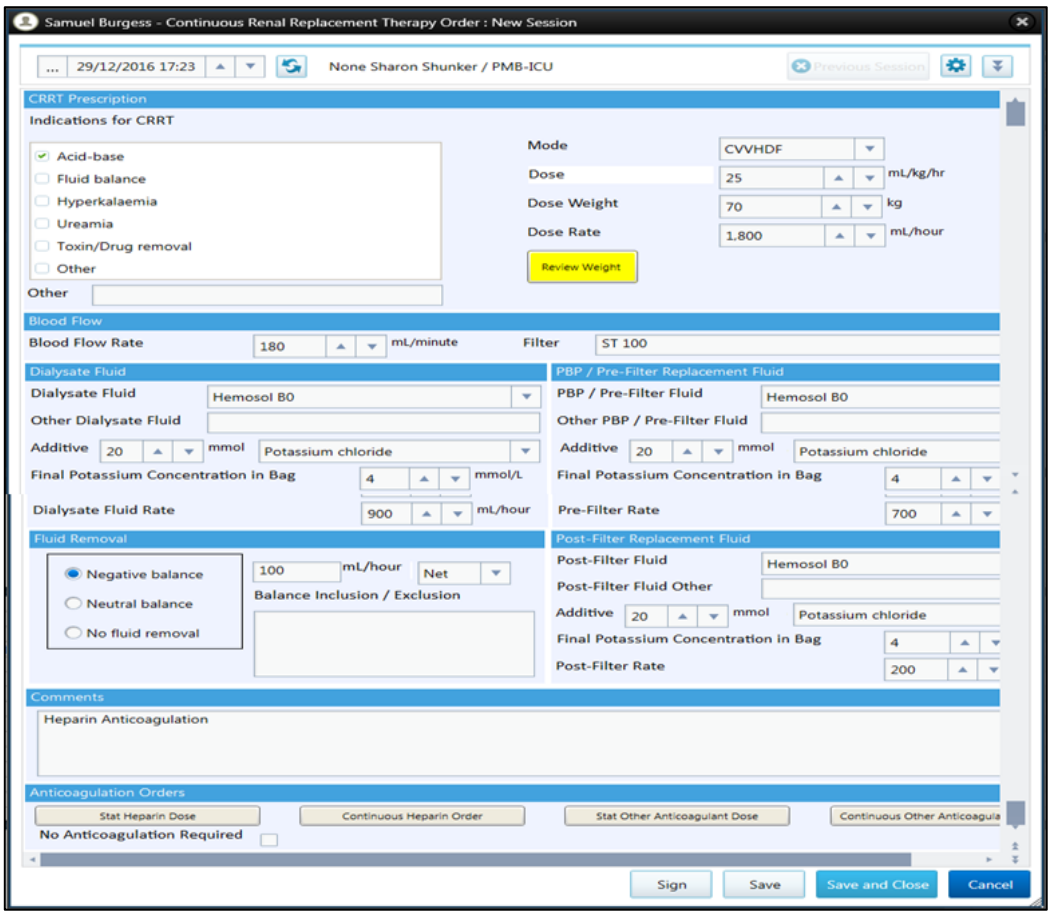
There are three available RRT Prescription Forms:



Complete the Prescription Form for CRRT:

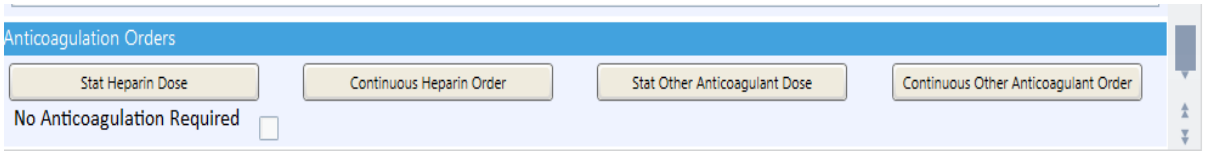
- Below is an example of CRRT order form for CVVHDF with effluent dose 25ml/kg/hr with Hemosol BD for Dialysate, PBP and Replacement Fluid and Heparin Anticoagulation

- The prescribing Doctor needs to click the 'Sign' button and choose 'Save and Sign' → enter their 'Password' → click 'Ok' (this saves and closes the form)
- Any modifications to the CRRT Order form must be entered as a 'New Session'.



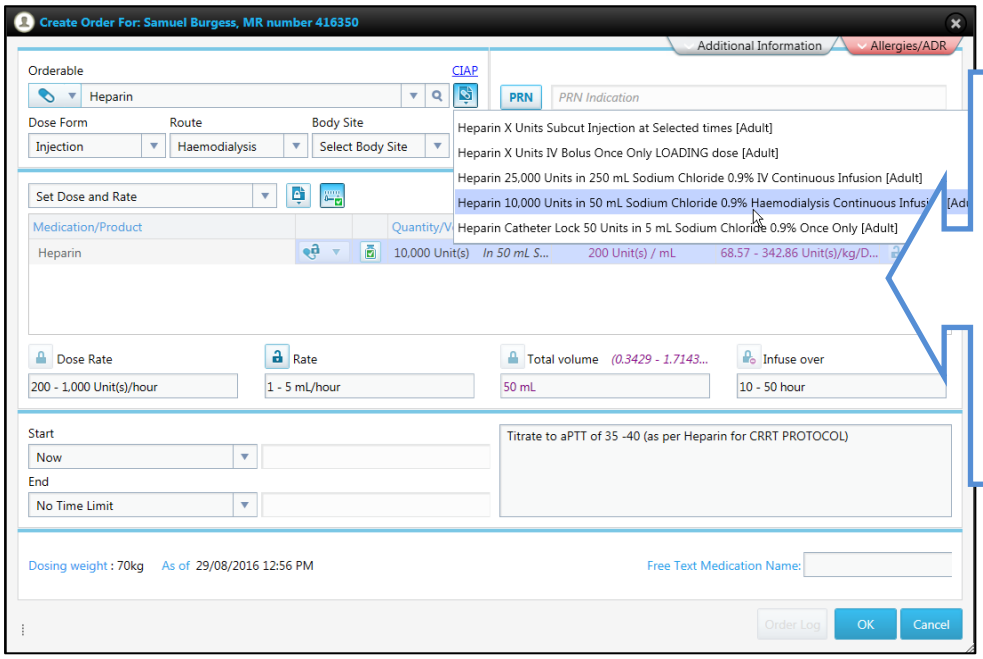
Anticoagulation for RRT

Anticoagulation Options and link to order forms – are located at the bottom of the CRRT Order Form and SLED Form



The anticoagulation prescription for CRRT will depend on the patient and the ICU CRRT Guidelines. The choice maybe No Anticoagulation required, Stat Heparin Dose, Continuous Heparin Order, Stat Other Anticoagulation Dose or Continuous Other Anticoagulation Order.

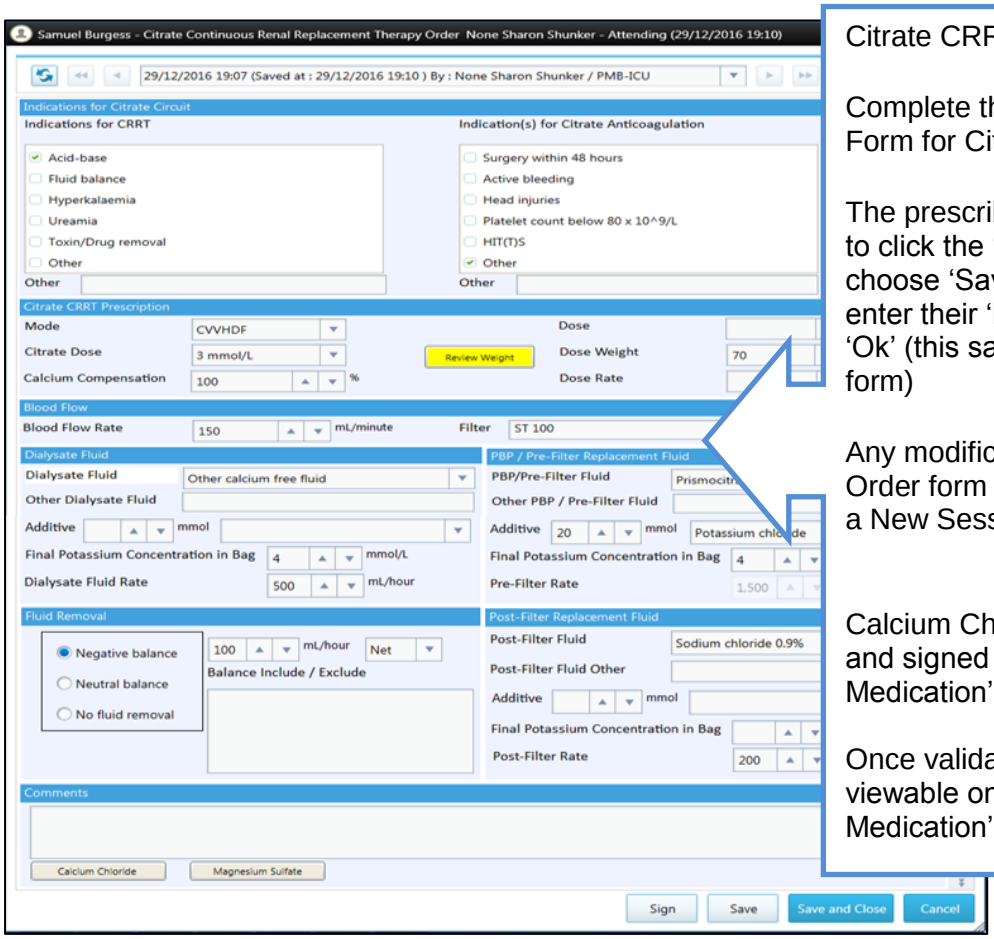
- Heparin needs to be prescribed using the appropriate template. Use the comments section to document the desired APTT. Pre built heparin templates for CRRT will not have an attached mandatory form. If a bolus is required use the medication workflow for 'Continuous Infusions with Bolus Loading Dose'
- The Heparin Prescription needs to be signed as per other medications from the 'Prescribe Medication' Tab.
- The Heparin infusion will be viewable on the 'Prescribe Medication' and 'Titrate Medication' Tab and not on the RRT Tab.



E.g. Heparin anticoagulation – Prescribed and signed from 'Prescribe Medication' tab.

Once validated will be viewable on the 'Titrate Medication' tab.

Citrate Anticoagulation



Citrate CRRT Order Form.

Complete the Prescription Form for Citrate CRRT

The prescribing Doctor needs to click the 'Sign' button and choose 'Save and Sign' → enter their 'Password' → click 'Ok' (this saves and closes the form)

Any modifications to the CRRT Order form must be entered as a New Session

Calcium Chloride is Prescribed and signed from 'Prescribe Medication' tab.

Once validated will be viewable on the 'Titrate Medication' tab.

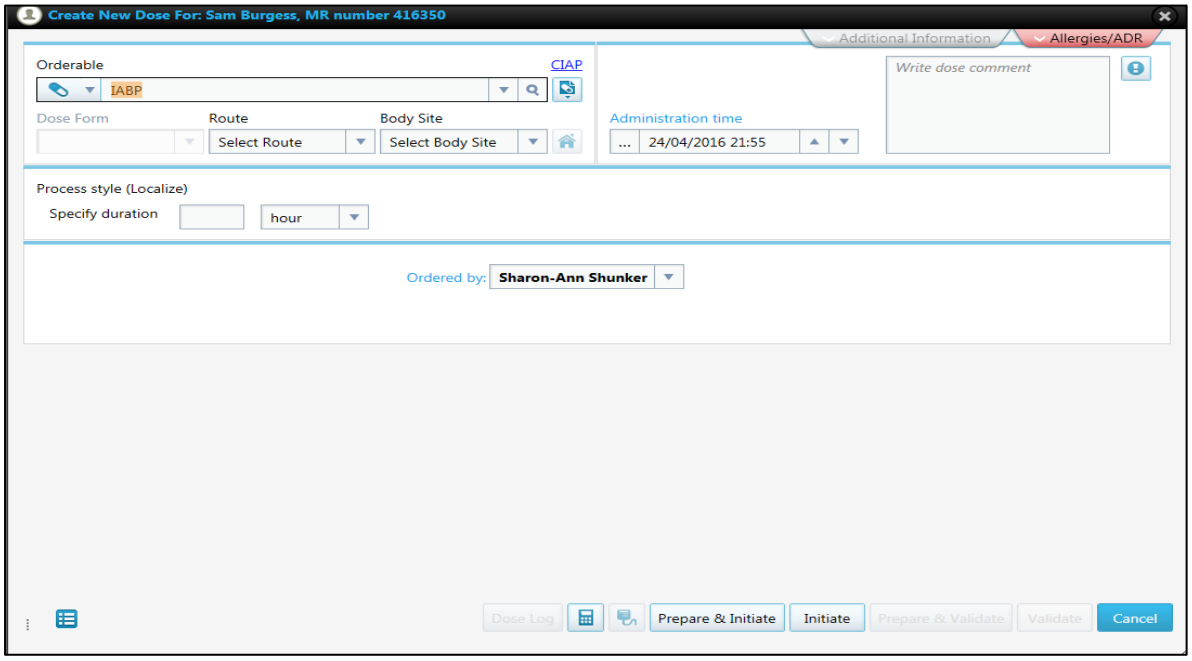
8.4.2 Extracorporeal Membrane Oxygenation & Ventricular Assist Devices

ECMO / VAD tab is for prescribing and monitoring **Extracorporeal Membrane Oxygenation** and **Ventricular Assist Devices**. This tab will be used by both nurses and doctors, and is broken down in to four sections:

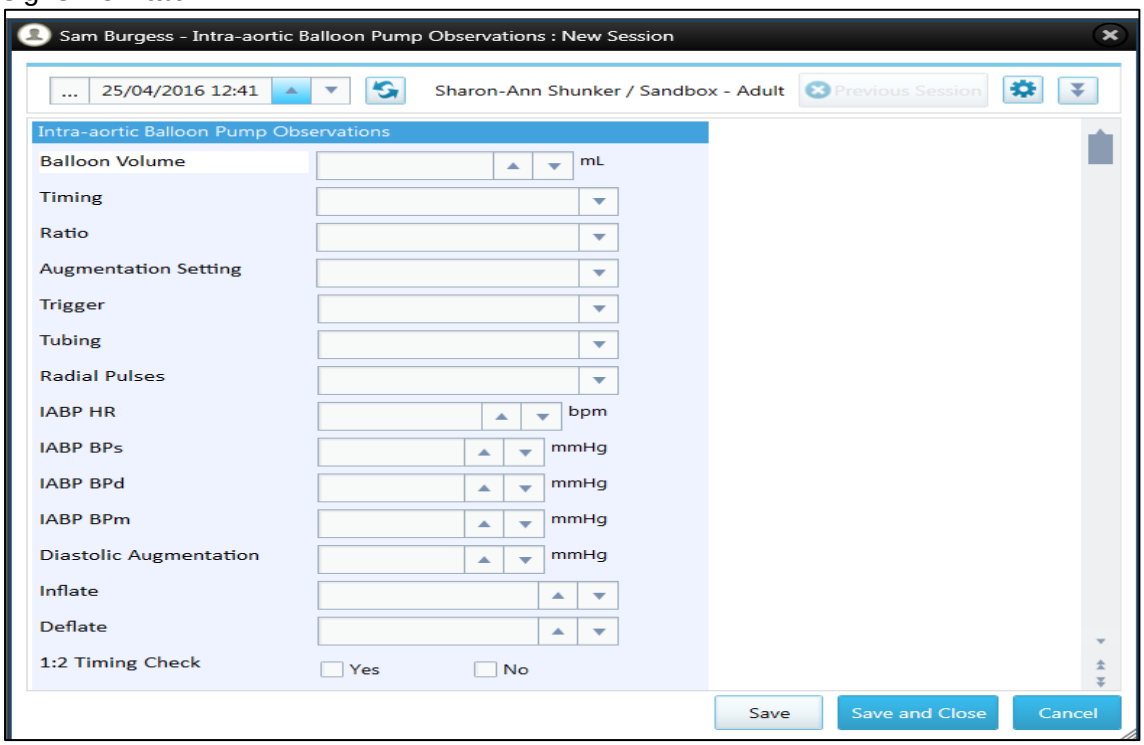
1. **Two graph views** (VAD and ECMO - Pressures) - record the pressure required of the devices to filter the blood
2. **Tabular view** - contains observation parameters, some of which will be auto populated via the machine. There will also be other observation parameters that nurses will fill out throughout the treatment
3. **ECMO toolbar** – contains buttons with forms to complete:
   - ECMO orders
   - Checklist
   - Risk Assessment Checklist
4. **ECMO orders** - area where doctors prescribe ECMO treatment for a patient. From this toolbar, nurses will open two forms
   a) The **Checklist** - to be performed regularly throughout the ECMO treatment
   b) The **Risk Assessment Checklist** - to be performed before the treatment commences to help evaluate the risks associated with the treatment.

8.4.3 IABP (Intra-Aortic Balloon Pump)

This is another special therapy that an ICU patient may require. A medical officer completes the IABP insertion form and a nurse sets it up as a timed intervention as checks will need to be done regularly.



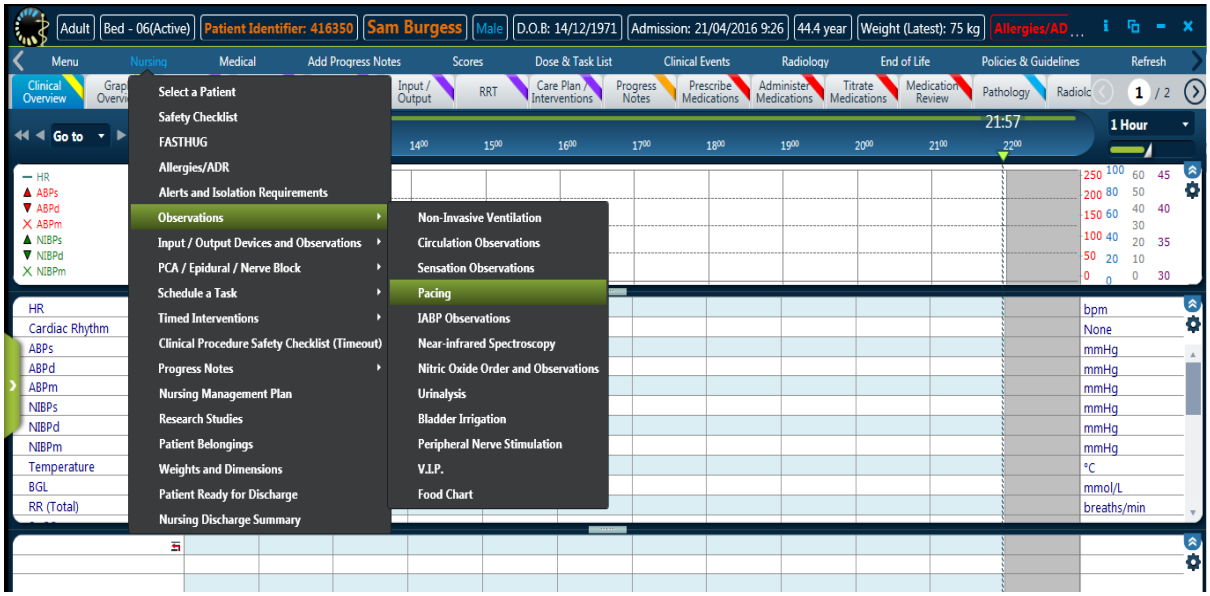
Under **Nursing → Observations → IABP** – the IABP Observation Form is located and can be completed. These observations will then populate in the 'Cardiovascular' view on the vital signs view tab.

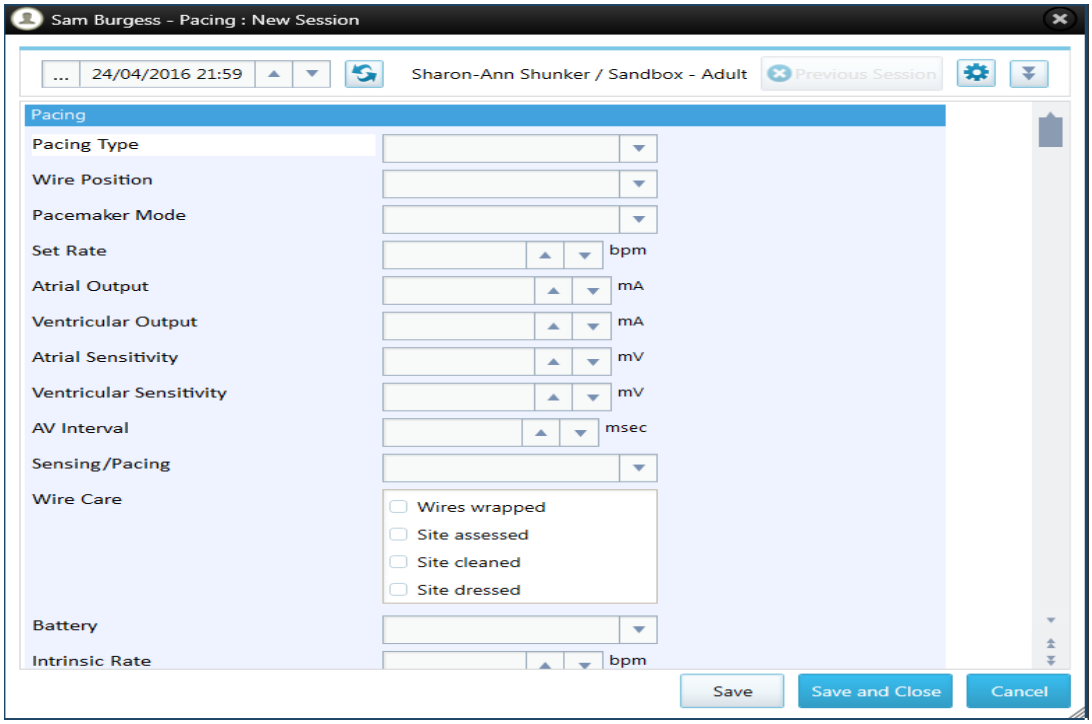


8.4.4 Pacing

Pacing is another common ICU therapy. To attend observations - complete the Pacing Observations Form:

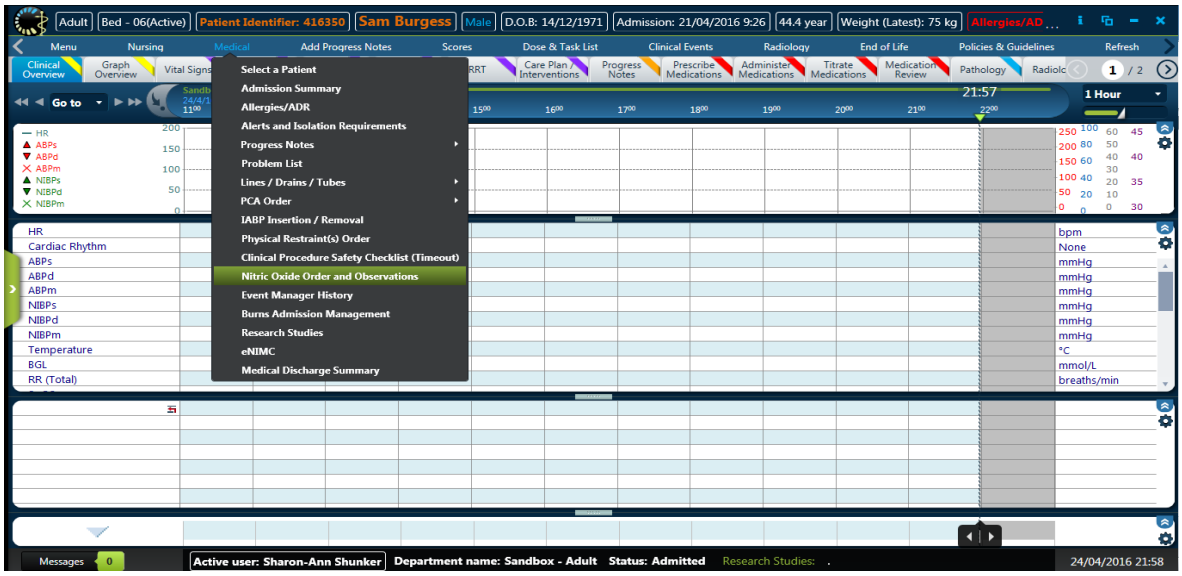
Under **Nursing → Observations → Pacing** – the Pacing Observation Form is located and can be completed. These observations will then populate in the 'Cardiovascular' view on the vital signs view tab.

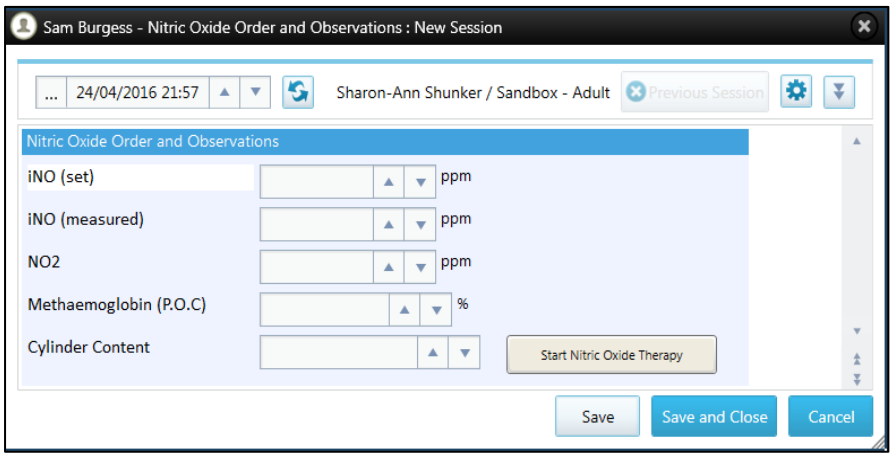




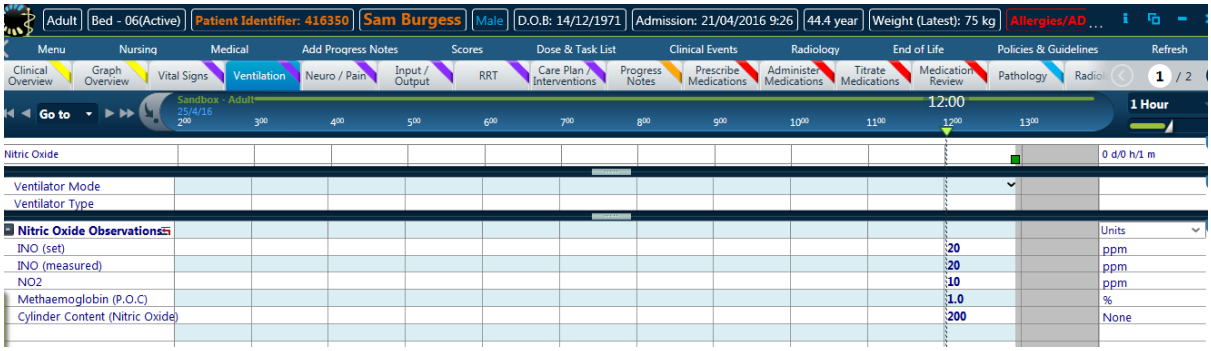
8.4.5 Nitric Oxide

The ‘Nitric Oxide Order and Observation’ form can be accessed from either the ‘Nursing’ or ‘Medical’ menu. For the ‘Nursing’ menu it’s located under observations.





Once the form is completed and Nitric Oxide Therapy commenced, the information can be found under the ‘Ventilation’ tab view.



8.5 Handover

On completion of a shift medical and nursing staff can handover patient care by using the local handover process. The relevant ‘tab’ views (e.g. Clinical Overview, Graph Overview, Ventilation, Medication, Progress Notes) can be used to facilitate handover.

9. Daylight Savings

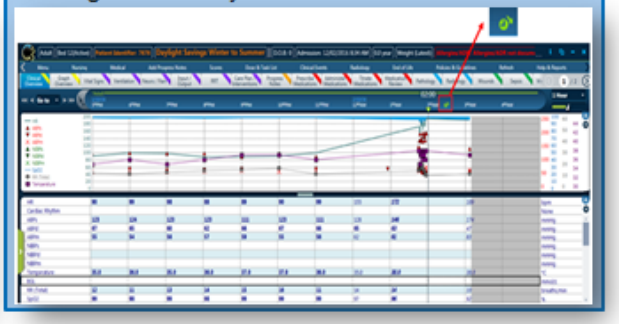
Summer to winter clock changes is set to match Australian Eastern Daylight Savings Time. An icon appears on the time bar on eRIC indicating the change in the clock.

Summer to Winter:
- The clock retreats by an hour
- On the first Sunday in April at 3:00 a.m.

appears on the 2:00 a.m. to 3:00 a.m. column on the time bar indicating that the clock is moving backwards by an hour

Winter to Summer
- The clock moves forward by an hour
- On the first Sunday in October at 2:00 a.m.

appears on the 2:00 a.m. to 3:00 a.m. column on the time bar indicating that the clock is moving forwards by an hour

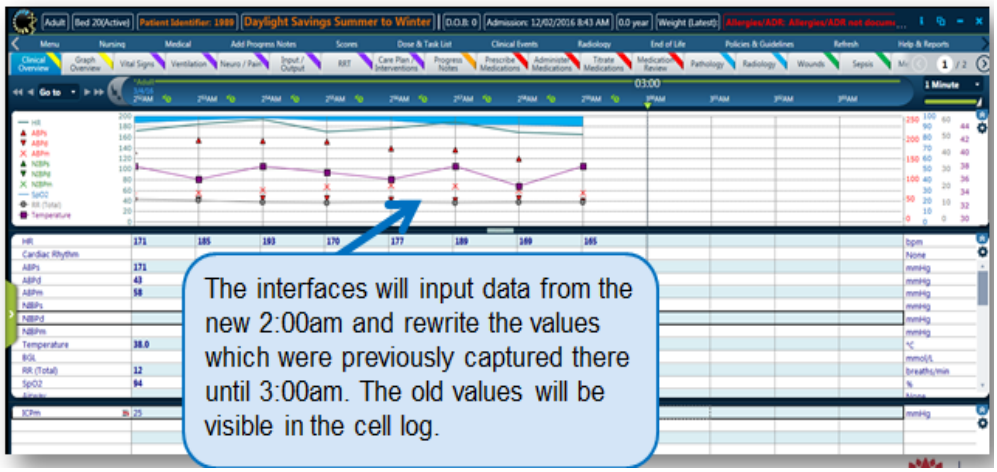


9.1 Daylight Savings – Summer to Winter

The clocks will move BACKWARDS 1 hour when the daylight saving summer to winter change occurs.

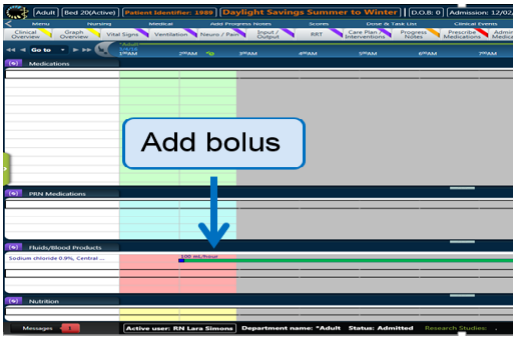
Flow sheet:
- At DST, the time will move from 3:00am to 2:00am, the interfaces will input data from 2:00am and re-write the values, previously captured there until 3:00am. The old values will be visible in the cell log.
- **Recommended Specialised Process**: Add comments to the affected cells indicating that these values occurred during DST.
- As the application can only display one data item per interval, data flowing from devices during the second instance of that same hour will not be seen with out checking the cell history/log.
- **Laboratory and pathology results:** Potential for lab results not to display in correct order, which may lead to an incorrect impression of patient condition. Double check results for this hour in eMR.

The Repeated Column



Running Infusions:

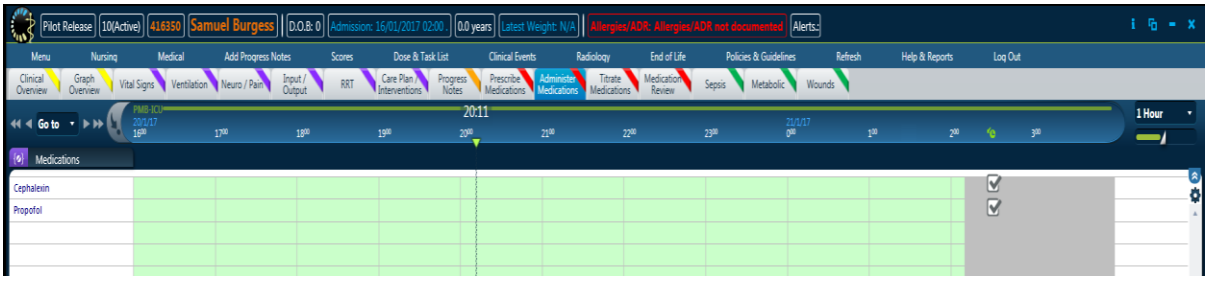
- The record of fluids entered into the patient during the DST hour will be missing. Only one hour of fluid is recorded on the flow sheet when two hours of fluid have entered the patient.
- **Recommended Specialised Process:** Add boluses to account for the missing recorded fluid for all running infusion and ensure the Fluid Balance Chart (FBC) is accurate.



Medication Orders:

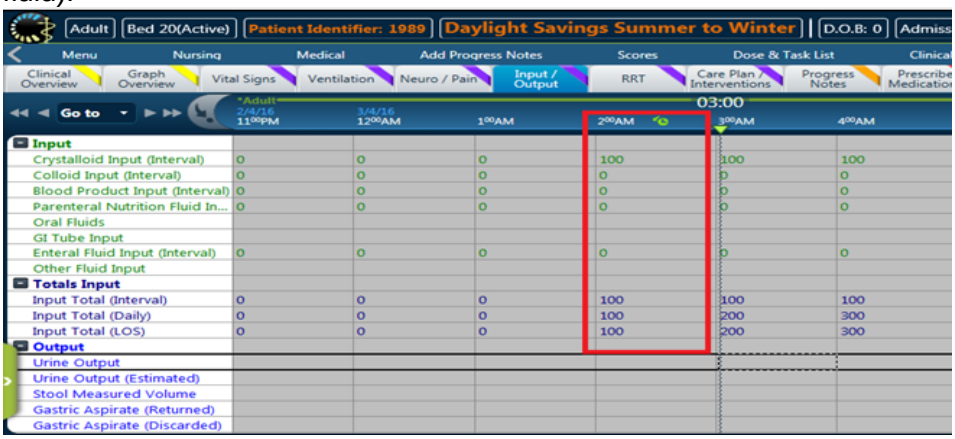
- Individual doses due at 3:00am will be in 'immediate' status form 2:00am until 4:00am, it will display as 'Late' form 4:01am. (as per the NSW Grace Period customisation)
- The 'Immediate' period will be lengthened by 1 hour.
- The dose will remain due at 3:00am, however as 2:00am is repeated it will remain within the 'Grace period' for longer.
- Medications given between the 2:00am to 3:00am period before the DST change will appear to have occurred in the future when the clock changes at 3am

Recommended Specialised Process: At the time of validation of the medication add a comment to say if they were validated 'Pre' or 'Post' DST.



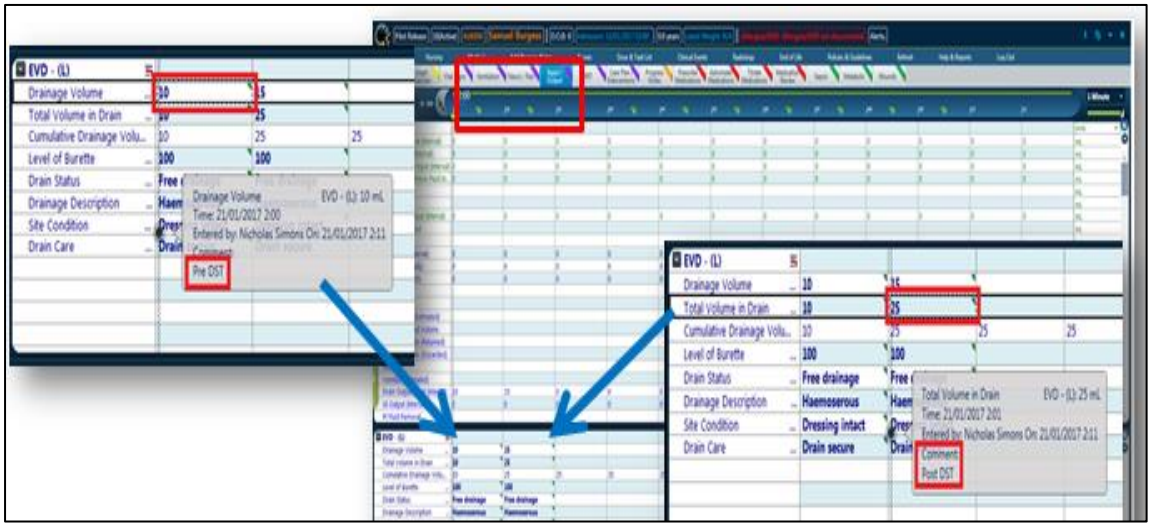
Fluid Balance:

- Add missing fluid to a manually entered 'Other Fluid Input' (**NOTE:** This is not to be done if a bolus is already added to running infusions, as this will automatically account for the missing fluid).



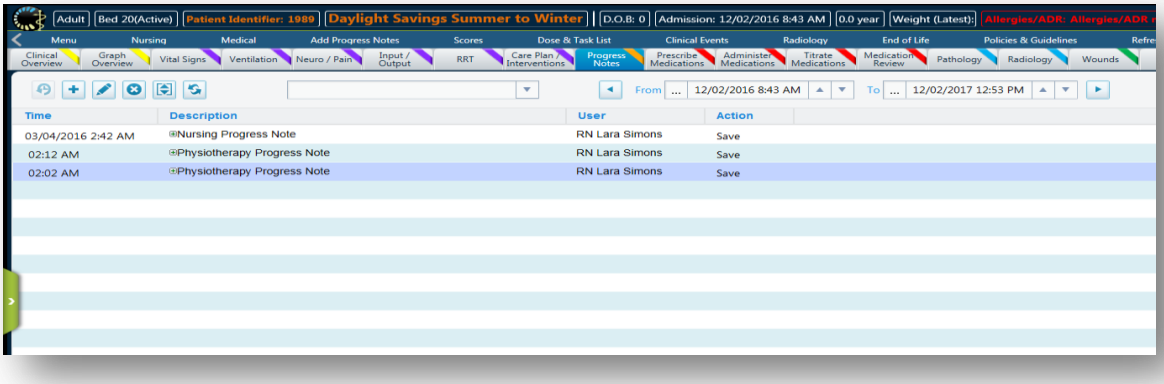
Drain Output:

- Add a comment detailing whether it was documented 'Pre' OR 'Post' DST for all Drainage output recorded in the 02:00 to 03:00 time period
  - For example: The drainage output at 02:00 'Pre' DST is recorded at 02:00 with comment 'Pre' DST. The drainage output at 03:00 when DST changes (which will now be the second 02:00) will be recorded at 02:01 with a comment that this was the output 'Post' DST. This is because this data is contained in a 'Repeated Column'.



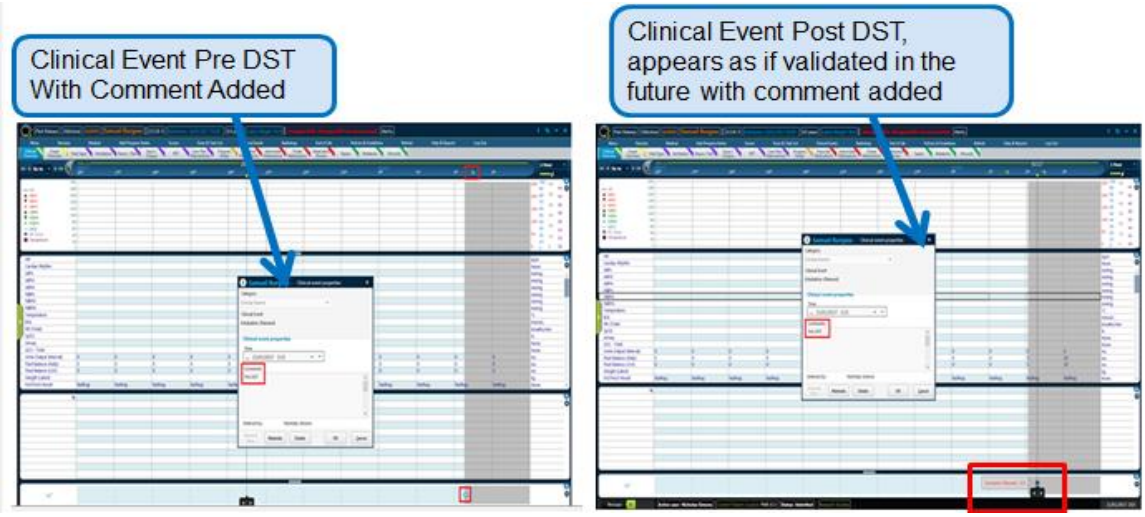
Form Sessions:

- All forms will carry the same timestamp which is the actual local time at the point of saving (e.g. two or more forms can be stored at 02:00).
- A form saved at 2:12am BEFORE daylight savings, and then a form saved at 2:02am AFTER daylight savings will be displayed in descending order, therefore the 2:02am will display as the after the 2:12am form in the progress notes list view.
- Which is incorrect as the actual events of the patient happened in the reverse order.
- **Recommended Specialised Workflow Process:** Record on each session if it is was documented pre and post DST for any notes in that hour.



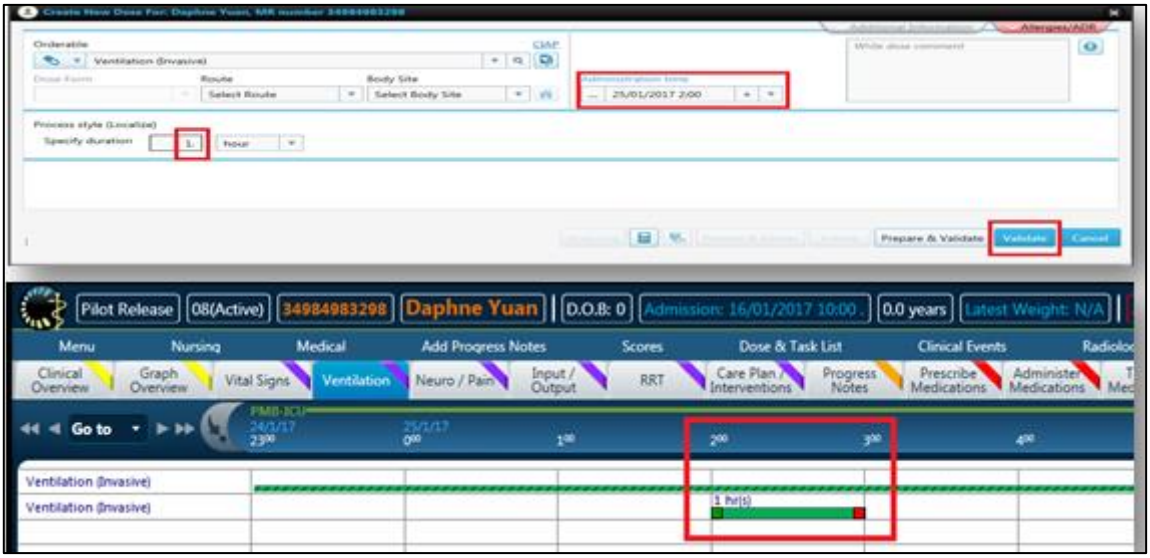
Clinical Events:

- Any events that occur in the 2:00am to 3:00am period will need a comment to indicate if this occurred 'Pre' OR 'Post' DST.



Timed Interventions

- During the Summer to Winter additional hour that is missing in the timed intervention record, 'Validate' the process again with a specific duration of 1 hour.



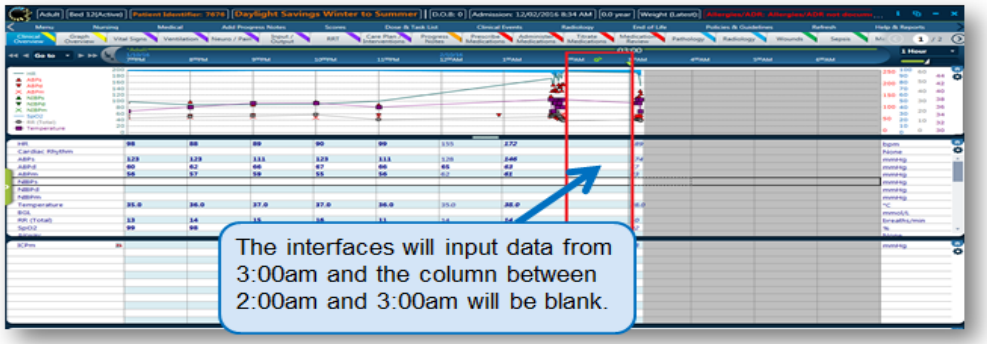
9.2 Daylight Savings – Winter to Summer

The clocks will move FORWARDS 1 hour when the daylight savings winter to summer change occurs

Flow Chart:

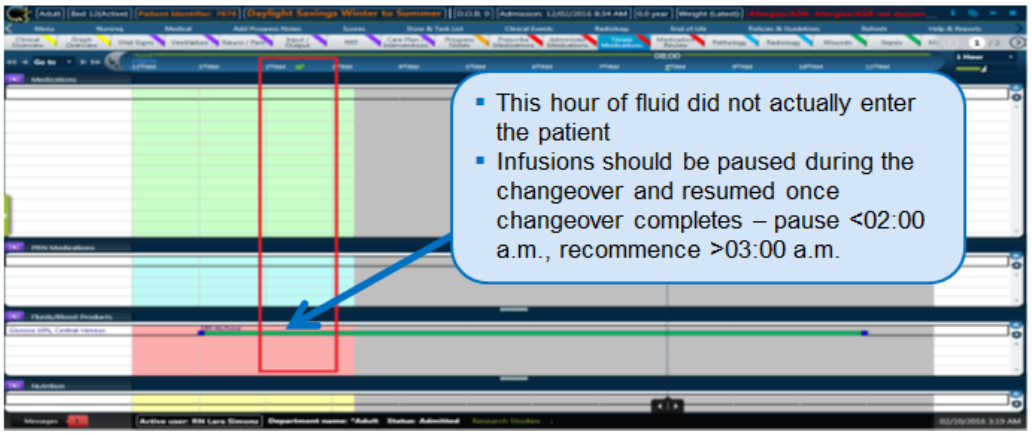
- The interfaces will input data from 3:00 a.m. leaving the 2:00 a.m. to 3:00 a.m. column blank. The column is NOT disabled; the user could manually enter data here. It would however be tracked that it was not coming from a device, that it was manually entered.
- **Recommended Workaround**: Add comments to the affected cells indicating that these values occurred during DST.
- There should be no effect on laboratory and pathology results.

The Empty Column



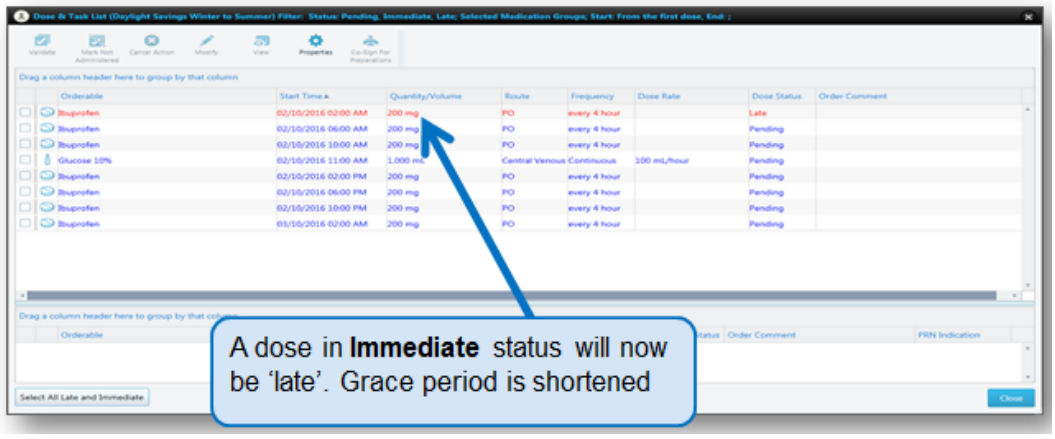
Running Infusions:

- When the clock moves forwards from 2:00 a.m. to 3:00 a.m. the record of fluids entered into the patient would indicate an extra hour of volume than what was actually infused into the patient.
- **Recommended Workaround**: Infusions are paused during the changeover and resumed once changeover completes – pause <02:00 a.m., recommence >03:00 a.m.



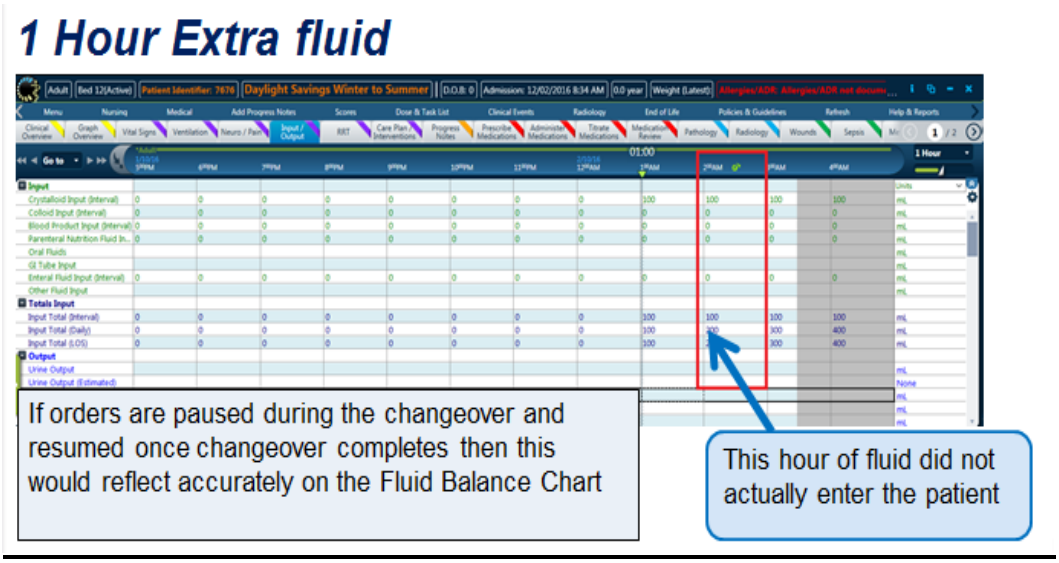
Medication Orders:

- Individual doses due at 2:00 am, will be in 'immediate' status from 1:00am until 3:00am, it will display as 'Late' from 3:01am.
- The 'Immediate' period will be shortened by 1 hour.
- The dose will remain due at 2:00am, however be in a late status from 3:01am onwards.
- Medications will appear to be in 'Late' status because the grace period is shortened.
- **Recommended Specialised Process:** At the time of validation of the medication add a comment to say if they were validated 'Pre' or 'Post' DST.



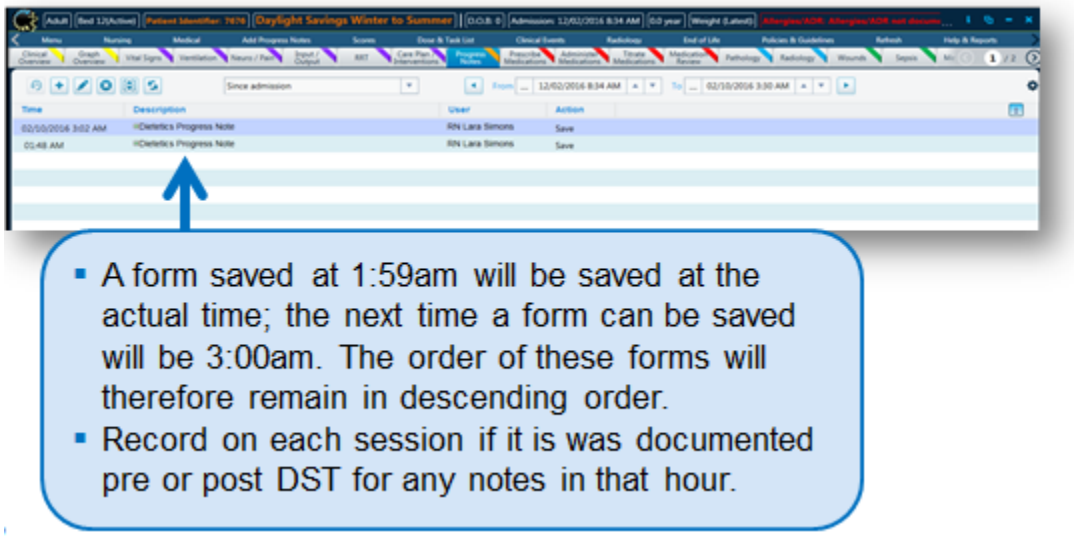
Fluid Balance:

- If orders are paused during the changeover and resumed once changeover completes then this would reflect accurately on the Fluid Balance Chart



Form Sessions:

- The list of notes is sorted in descending order showing the latest time first and at the top of the list. In this example the 3:02AM note will show above the 1:48AM note. Which is correct.
- Record on each session if it is was documented pre and post DST for any notes in that hour.



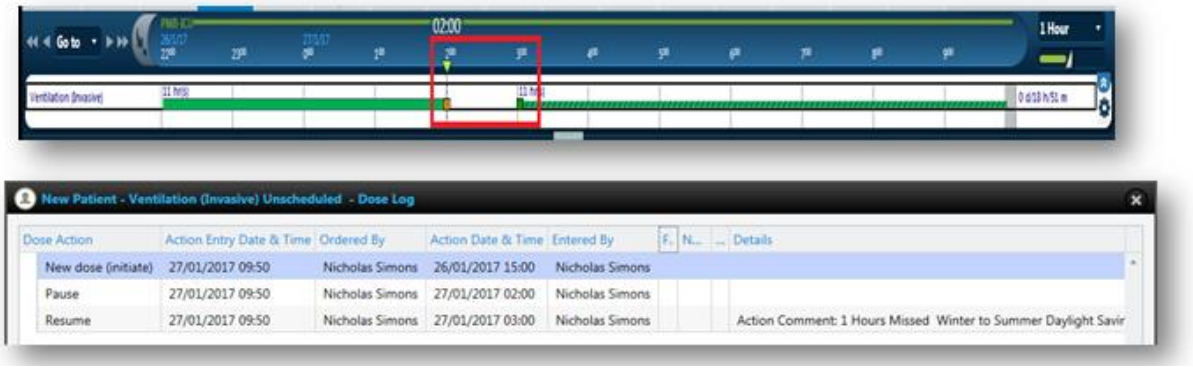
NOTE: A progress note should be entered at 03:30 to reflect all changes / events / medication administration that occurred in the DST hour.

Clinical Events:

- Any events that occur from 02:00 will reflect the DST, as at 02:00 the clock changes forward to 03:00.

Timed Interventions

- During the Winter to Summer additional hour that is added in the timed intervention record, a user could 'Pause' the process for 1 hour**.**



10. Daily Routine Module Specialised Workflow Processes

- Under Clinical events – Cardiac Arrest – there is no functionality to record all the detailed information, documentation and notes of a cardiac arrest. All this information will need to be documented in the Progress Notes
- Reports such as the ECHO report cannot be scanned and uploaded - they will need to be viewed in 'Powerchart'.

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eRIC User Guide

Module 4: Medication

Medication

11. Overview of Medication Module

This module will provide the users with requisite knowledge and skills to review, prescribe, administer and discontinue medications, blood and blood products, enteral feeds and Total Parenteral Nutrition in eRIC.

12. Medication Terminology

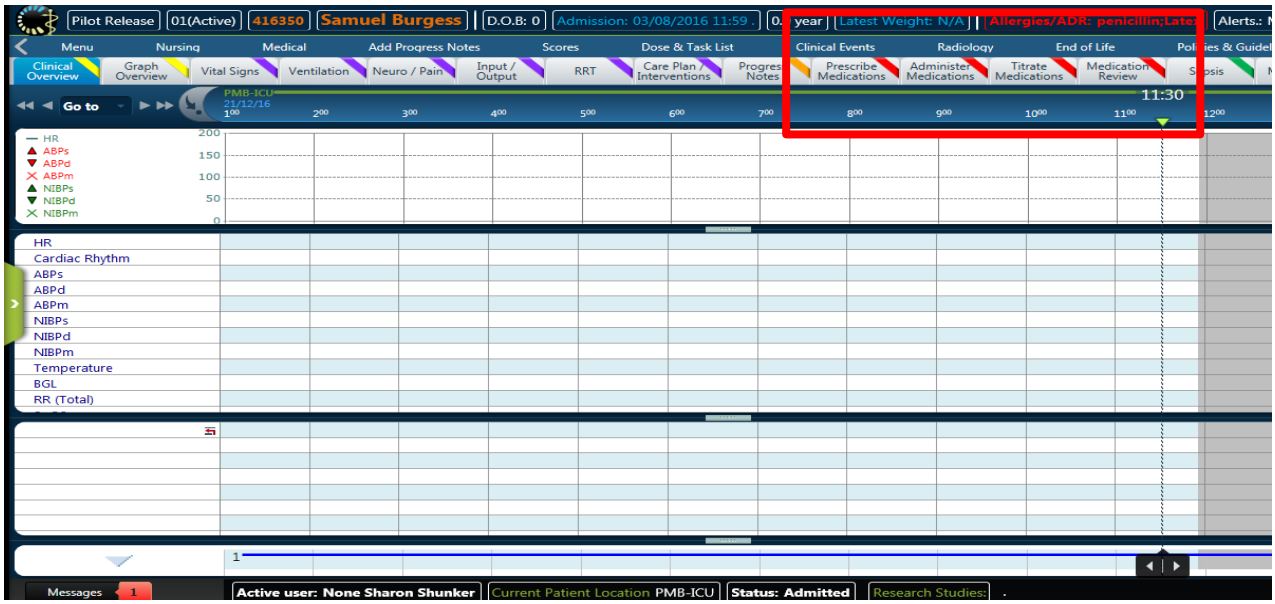
There is certain terminology for medications that is specific to eRIC that you need to familiarise yourself with.

TERMINOLOGY	DEFINITIONS
Parent Order	A Parent Order creates individual doses that belong to that order plan, which is the prescription.
Orphan Dose	An orphan dose refers to an unplanned, once only dose of a medication. Orphan doses are applicable only to those medications which have an 'orphan dose template' attached. For example Nurse Initiated Medications and Telephone Orders. They are prescribed via the Administration tab (by the nurse right clicking 'new dose' on the left-hand side of the view).
Orderable	The treatment (medication, infusion, task) that is being ordered which needs to be given to the patient.
Order Entry Window	This refers to the order entry window used to create the order for medications and tasks for the patient. Contains fields such as: Name of medication, quantity, rate, duration, route of administration, frequency, etc.
Medication Group	Medications belong to different medication groups (e.g. Enteral feeds displayed under nutrition, 0.9% sodium chloride under fluids).
Complex Medication	A medication containing 2 or more medications such as Sulfamethoxazole/Trimethoprim.
Ingredients	The component parts of a complex medication.
Medication	This can be any type of medication with any unit including mass and volume units. Blood Products, fluids, enteral feeds and TPN are all customised as medications.
Additives	A mass or volume based medication that can be added to medications/diluents.
Diluent	A volume based medication / fluid that can be added to dilute medications.
Dose	A single instance of a medication that can be administered to the patient. It can result from an order or as a stand-alone orphan dose.
Brand	The brand name of a specific medication. Multiple brands may be available for a single medication. Usually a single manufacturer has a single brand for the same medication with active ingredients, e.g. The medication with the active ingredient Paracetamol is supplied as multiple brands: Panadol, Panamax.

Dose Form	The form in which pharmaceutical products are marketed for use, typically comprising a mixture of active drug components and non-drug components. Depending on the method of administration they come in several types. E.g. for the oral administration method, common dose forms include tablet, capsule, or oral suspension. Various dose forms may exist for a single particular medication and brand, since different medical conditions can warrant different routes of administration.
Product	The combination of brand name, dose form and strength, for example, Panadol 500mg Tablet, Perfalgan1000mg Injection.
Pending Dose	This is a dose which is due in the future. It is a non-validated dose whose grace period has not started yet.
Immediate Dose	A dose is **Immediate** during the grace period (one hour before and after the scheduled time)
Late Dose	A dose is **Late** when the current time is later than the end of the grace period
Expired Dose	Doses become expired if the parent order is discontinued or marked as error

12.1 Medication Tab Views

There are four Medication tab views: 'Prescribe Medications' 'Administer Medications' 'Titrate Medications' and Medication Review'.

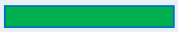


13. Legends / Symbols

Several legends / symbols relating to medication are found in eRIC.

13.1 Prescribe Medication Tab - Orders Timeline View

Continuous Frequency e.g. IV infusion

Status	Symbol
Prescribed - but not Validated	
Validated	
Started/Stopped	
Rate Change	
Pause/Resumed	
Bolus	

Medications without an Infusion time

Meaning	Symbol
Not Yet Validated	
Validated	
Validated - but with a Modification or Problem	
Given without an Order Plan	
Withheld	
Ordered - but marked as Not Administered	

Continuous Frequency:

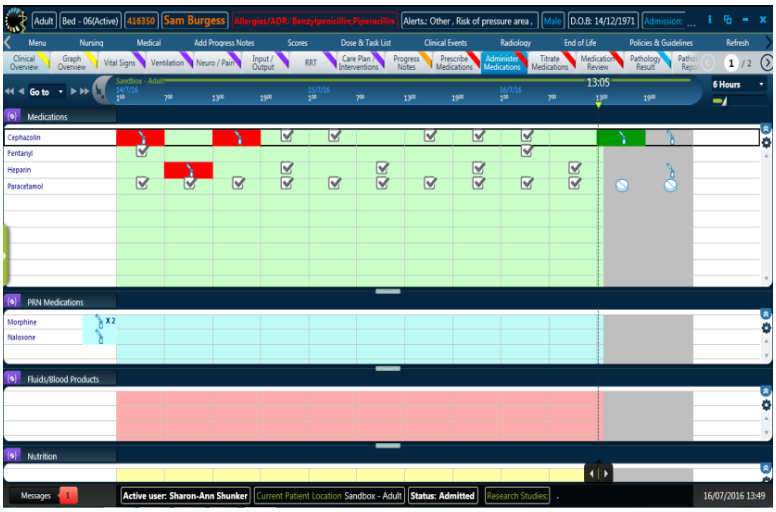
Prescribed – but not Validated (Expected): For each minute where there is a dose with status not validated (Pending, Immediate, Late), the system displays an unfilled 'hatched' bar. Displays from first dose start until stop or until the time horizon is reached.
Validated (Administered): For each minute where there is a dose with status running or initiated and reported, the system displays a solid bar.
Started/Stopped: A black thick vertical line shall be at the beginning and at the end of the infusion bar to indicate the starting and stopping time.
Rate Change: For the rate change action on a running dose, an up arrow or down arrow (according to the direction of the change), filled with yellow colour, is displayed at the planned action time.
Paused/Resumed: For each dose that has been paused and then resumed, The solid bar will have a gap. An orange block indicates the action time of the pause and a blue block indicates the action time of the resume.
Bolus: Two yellow triangles tightly together on the running dose document a bolus was administered at that action time.

Non Continuous / Medications without an Infusion Time:

Not Yet Validated: If the dose status is Pending / Immediate / Late / Expired (no information has been reported about the dose), an unfilled diamond is displayed.
Validated: If the dose was validated as expected, a filled diamond is displayed.
Validated with a Modification / difference to plan made: If the dose was given differently to the original order plan- it will display as a half-filled diamond. This Includes TBD or a dose validated at a time different to the order (such as early in the grace period).
Given Without a Plan: If the dose was validated and no planned order exists (unplanned dose), a filled diamond with an unfilled circle in the centre is displayed. (unscheduled doses not yet covered). They are referred to orphan doses in eRIC. This will occur with telephone orders and nurse initiated doses.
Withheld: If the dose status is withheld, an unfilled diamond with a 'X' in the centre is displayed.
Ordered but not administered: If the dose status is made Not Administered, an unfilled diamond with a filled centre is displayed.

13.2 Administer Medication Tab – Cardex View

Status	Symbol & Color
Pending	
Immediate	
Initiated	
Validated (Done)	
Late	
Expired	
Withheld	
Not Administered	
PRN	



The Cardex dose view that is seen on the 'Administer Medication' tab is a timeline display of doses in the patient's medical record, showing both planned and administered/validated doses. All doses are shown in a tabular format. Each dose is displayed in an individual cell as an icon with a distinctive background colour. The Start Time of the dose sets the time interval in which the dose appears.

Grace Period is a defined time period within which a dose or dose action should be executed. When a dose is within its grace period, it will display with 'Immediate' status (see the above Legend about Statuses).Green is used to indicate the 'Immediate' status.
The grace period currently set is 60 minutes before and 60 minutes after the prescribed time. A dose should be validated within the grace period. For example, if the dose is planned to start at 06:00; a clinician will be able to validate the dose at any time from 05:00 and it will be in an (Green) Immediate status until 07:00.

Status of a dose is indicated in the Cardex view and gives clinicians valuable information about medication administration.

The following status definitions can be seen in both the Cardex Dose view and Dose & Task Reminder.

- **Pending** – a non-validated dose whose grace period has not started yet. A pending dose can be viewed in the Cardex view but cannot be validated (since you cannot validate future doses).
- **Immediate** – a dose is **Immediate** when the Grace Period of the dose has started.
- **Done/Validated** – These are doses that have been documented as administered or commenced.
- **Late** – a dose has not yet been validated and the Grace Period has expired.
- **Expired** – late doses change to expired status after being late for an extended period of time (7 days)
- **Withheld** – The Clinician has selected Withheld for that dose.
- **Not Administered** – a dose that wasn't administered and is no longer expected.
- **PRN** – this status indicates the drug will be given on as needed basis (pro re nata –'as the situation demands').

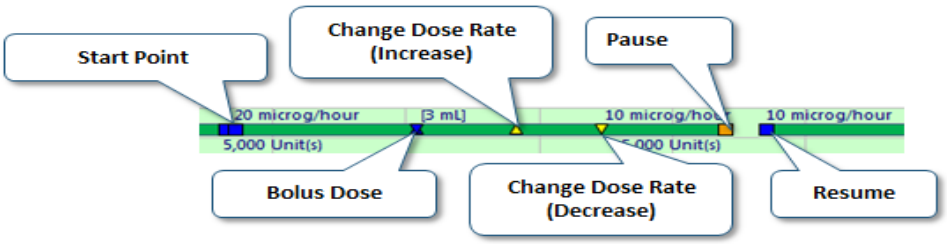
13.3 Titrate Medications Tab - Gantt View Running Orders

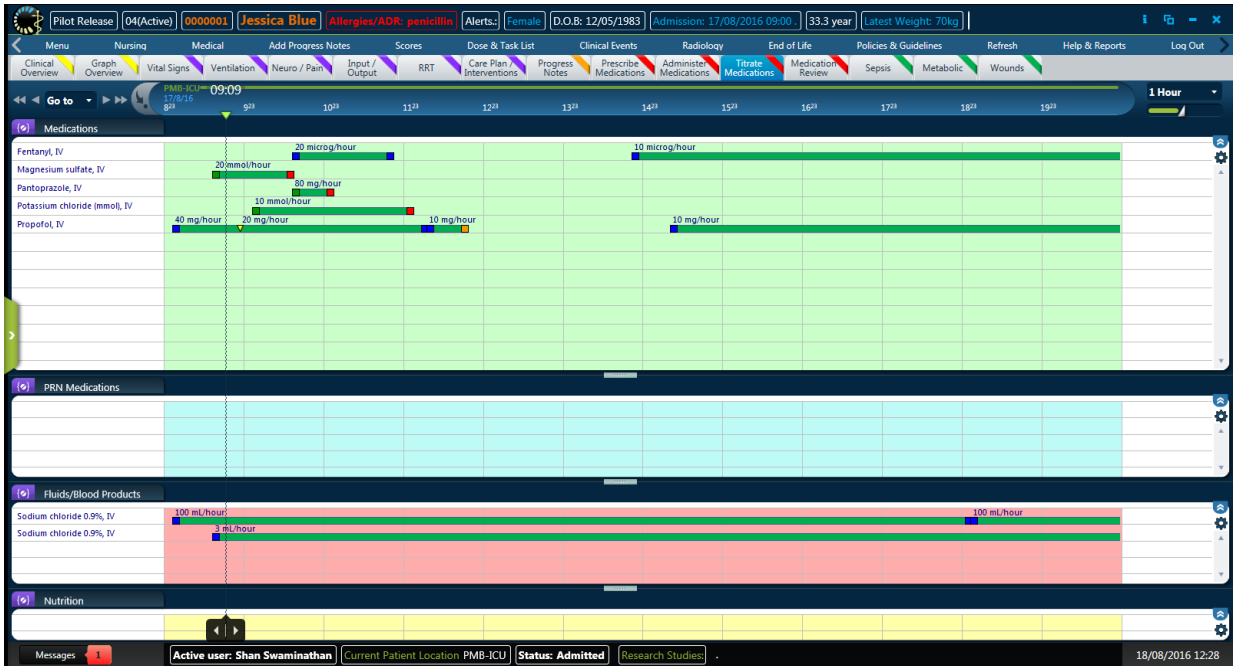
Gantt dose view is a timeline dose display, displaying doses as bars and diamond symbols. This view is useful for managing running doses (infusions). Therefore, it is used only for administered doses. You cannot administer or see pending doses from this view.

Gantt doses, unlike Cardex doses, contain values rather than colour codes. This enables the user to monitor the amount of medication administered per time period (depending on the time interval set).

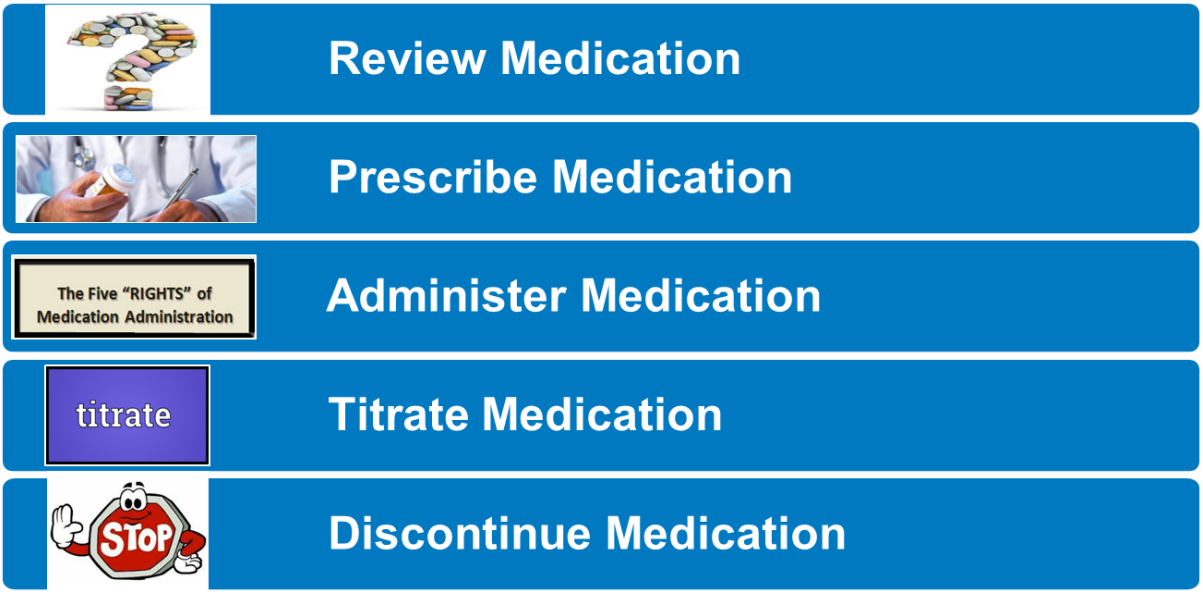
Status	Symbol
Prescribed - but not Validated	
Validated	
Started/Stopped	
Rate Change	
Pause/Resumed	
Bolus	

Gantt View Symbols





14. Medication Workflow



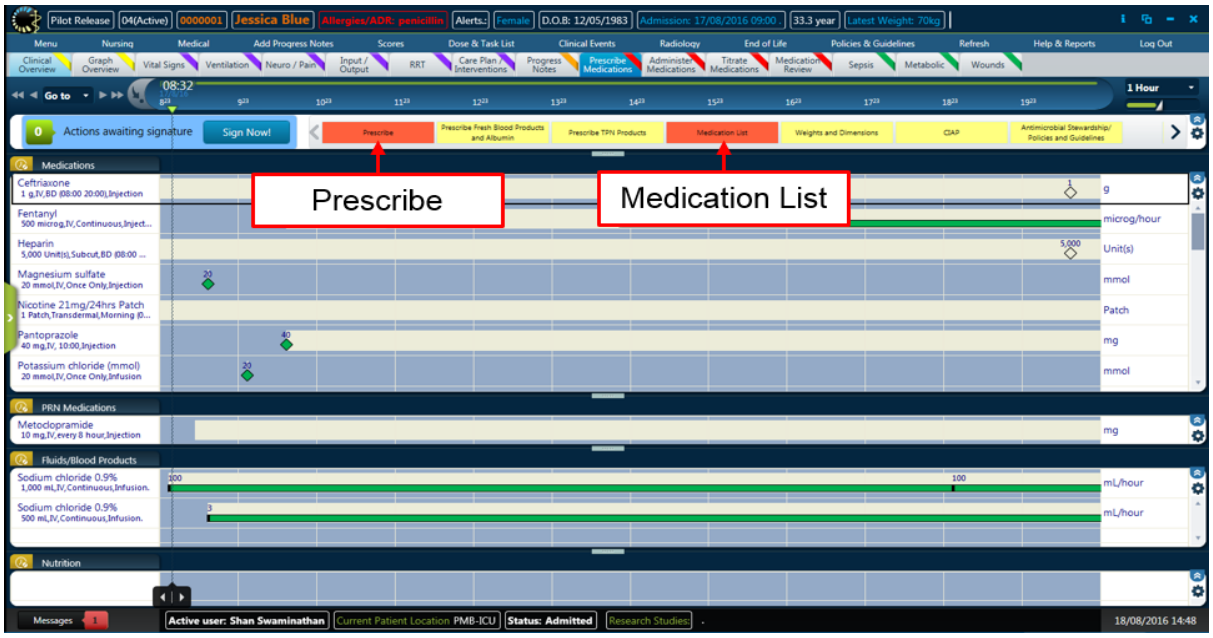
This constitutes the workflow around medication. Medication tabs and views will be used by both Medical and Nursing staff. Pharmacists will also utilise these tabs.

Medications include:

- Medications that are regular orders with scheduled doses, TBD doses (To be decided = Variable dose), PRN medication orders, and once only medications.
- Medication Infusions
- Fluids
- Blood and Blood Products
- TPN (Total Parenteral Nutrition)
- Enteral Nutrition

14.1 Review Medication

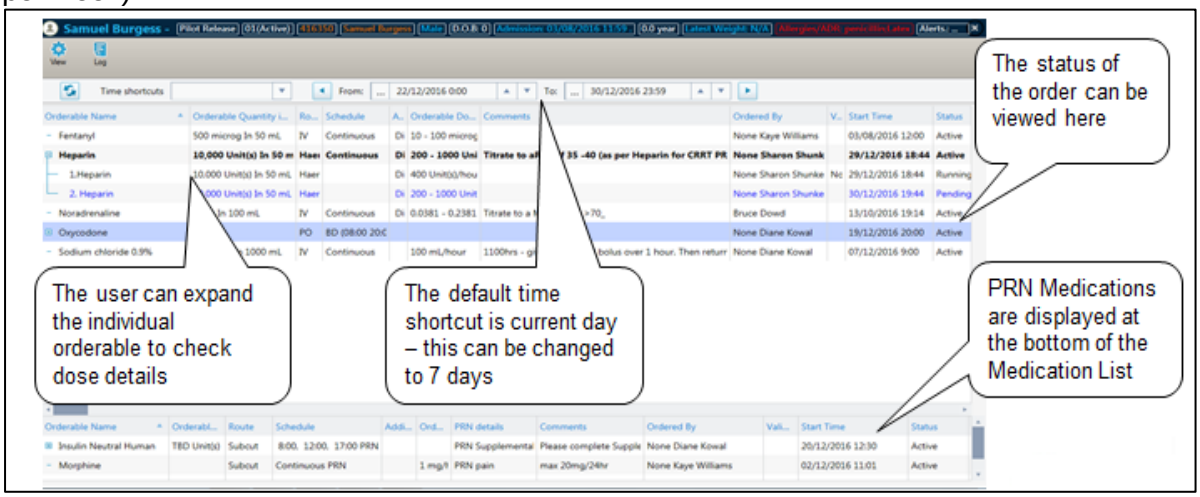
Medical staff, nursing staff, and pharmacists will need to review the patient's current medication. This is done from the 'Prescribe Medications' tab view – go to 'Medication List'.



The ‘Prescribe Medication’ order timeline view can be used to review a patient’s current medication.
NOTE: The time interval may need to be changed to a 24 hour view (to review all the medications ordered).

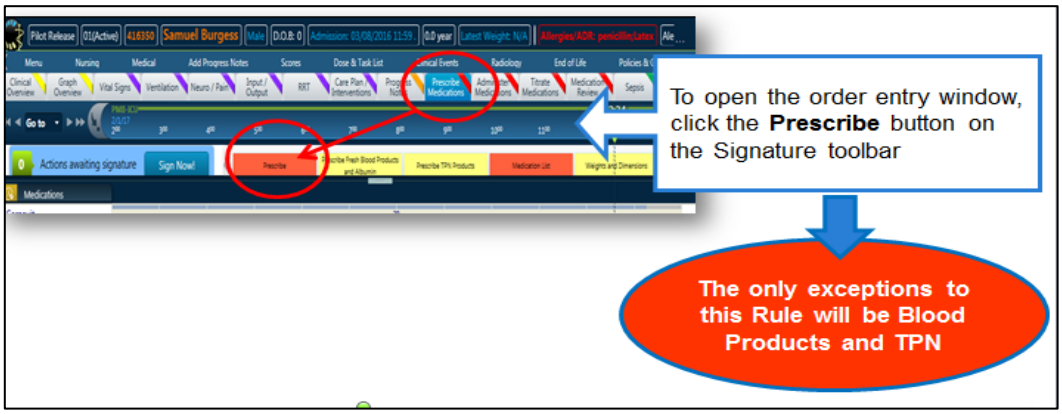
NOTE: The Medication List is opened via a button from the Prescribe Medication tab and is similar to viewing a medication chart that includes medication name, dose, route, frequency and time, comments and status. This defaults to the current day – the view must be changed to a 7-day view so that weekly medications can also be reviewed.

The Medication List ‘From’ and ‘To’ date and time should be changed to review 7 days – as this will enable the user to view medications which are non-daily (e.g. Vitamin K –x 3 times per week).



The ‘Titrate Medication’ tab view can be used to review the running doses such as infusions.

14.2 Prescribe Medication

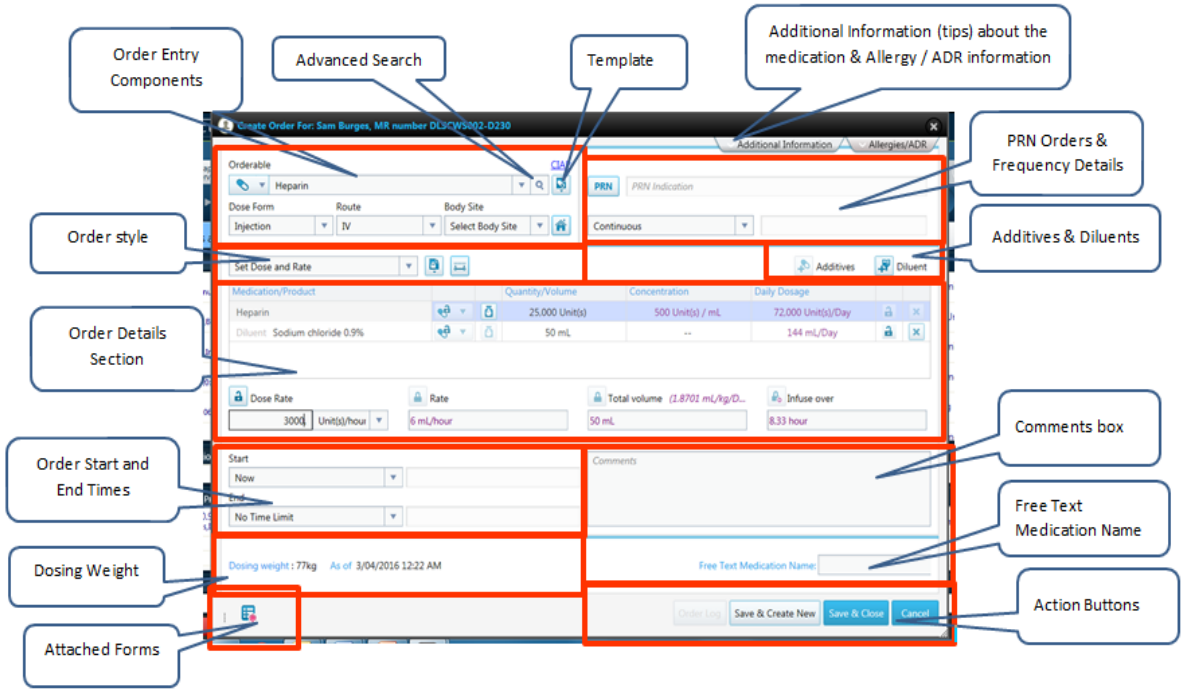


Creating a new ‘Order Plan’ involves the following 2 steps:

1. Step 1: Entering the prescription details
2. Step 2: Finalising the order

Once the user selects ‘Prescribe’, the Order Entry window will open to create a Parent Order/Planned Order. Most medications have pre-built templates (choose the desired template).

Order Entry Window: The order entry window has the following sections (they will be explained below):



Step 1: Entering the prescription details

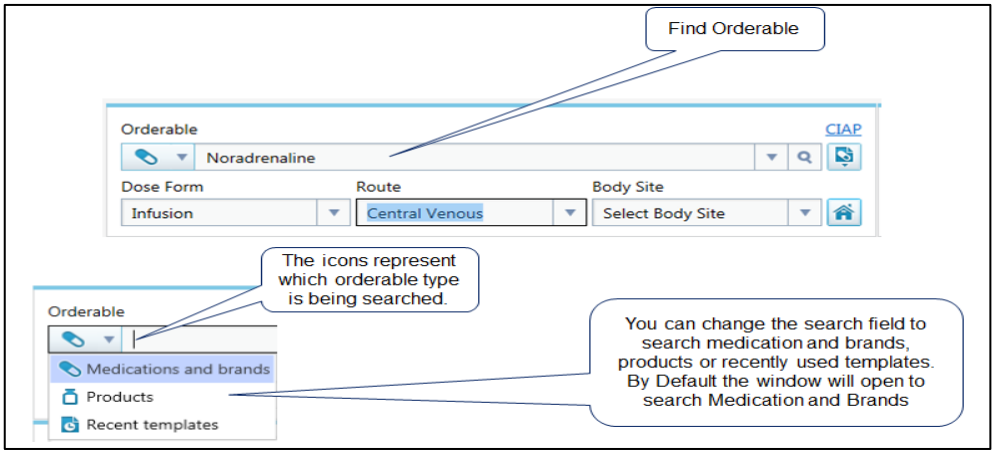
Start by searching for the Orderable / medication you wish to prescribe.

Searching for an Orderable:

- The *Orderable field* presents a list of the names of all the customised medications, brand names and products that are available for selection. By default it will search generic medications and brand names.
- The *Orderable* list can also present a list of the names of all the customised products that are available for selection. A product is a medication with a brand name, strength and a dose form e.g. Panadol 500mg Tablet.

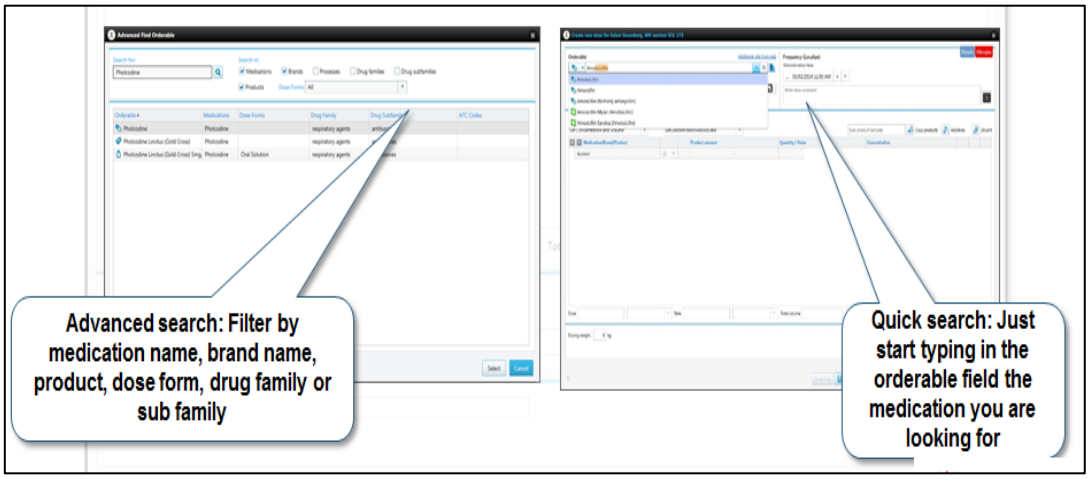
1. Order Entry Components

This section includes the name of the medication or enteral feed that you want to prescribe.



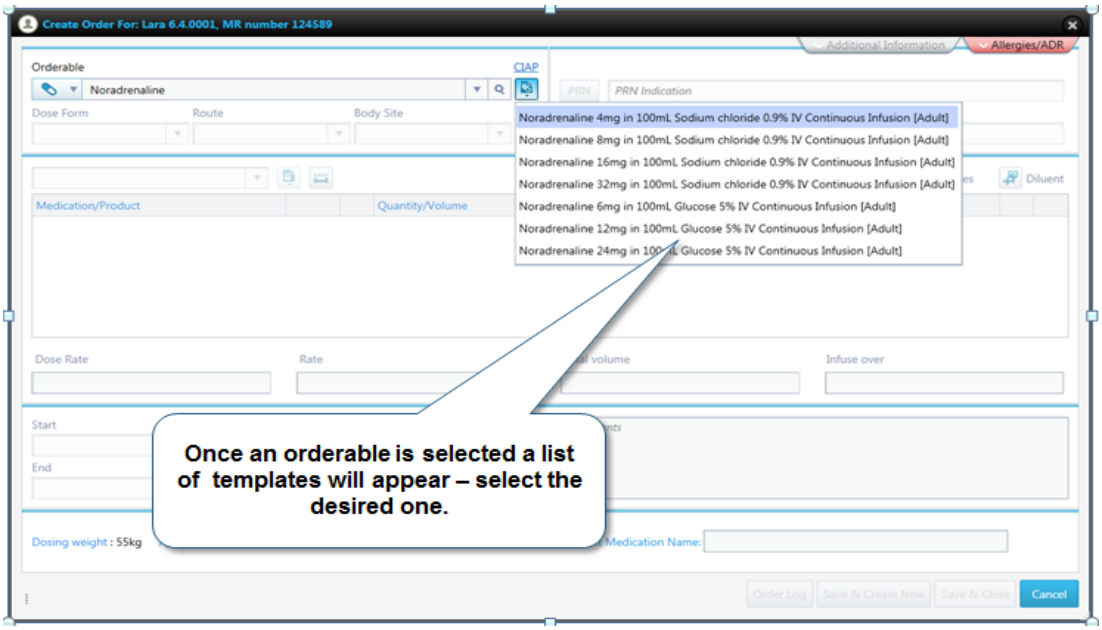
2. Advanced Search

The advanced search button can also be used to find the Orderable.



3. Order Template

- Prescribing medications is facilitated by the ability to select an order template from a list of available order templates for each orderable
- The list of available templates for the selected orderable is accessed by selecting ***Templates*** in the Order Entry window, and should automatically appear once you select the orderable from the search window. Only templates appropriate for your department will be available for selection
- Selecting an order template automatically enters pre-customised values into various fields in the Order Entry window, although some fields have been left empty in the template for the intended purpose of them being filled at the time of prescribing
- If required, you can edit the pre-customised values in the template.

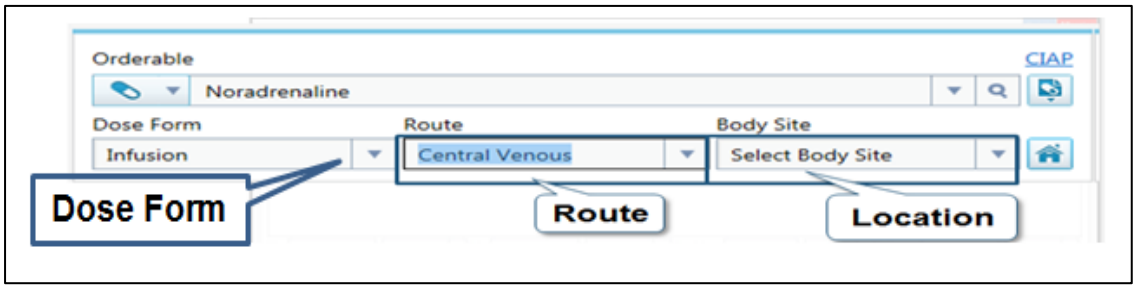


Dose Form

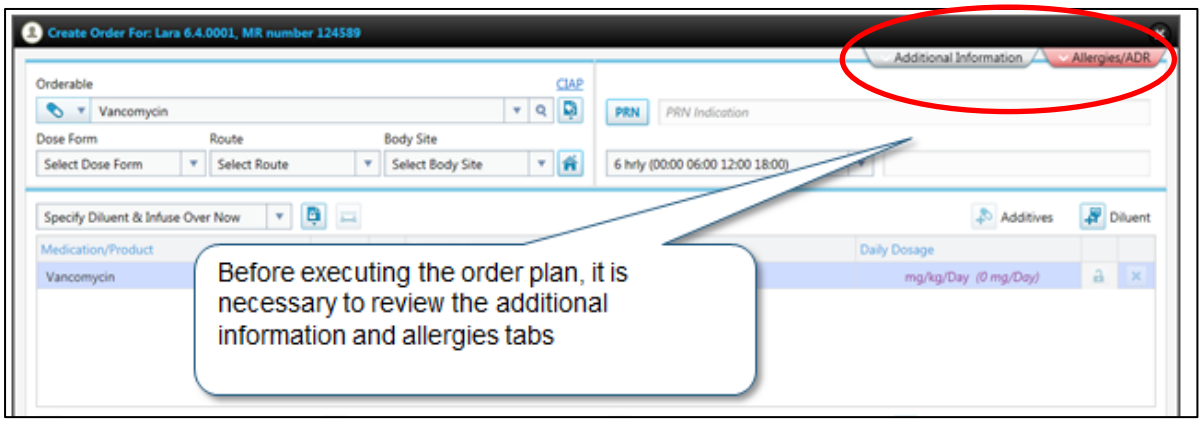
- From the dose form field, a list of dose forms will be available for selection that is appropriate for the route selected
- A dose form is the form in which pharmaceutical products are marketed for use, for example it could be tablet, eye drops, injection, or infusion
- The dose form will determine the available route and body site.

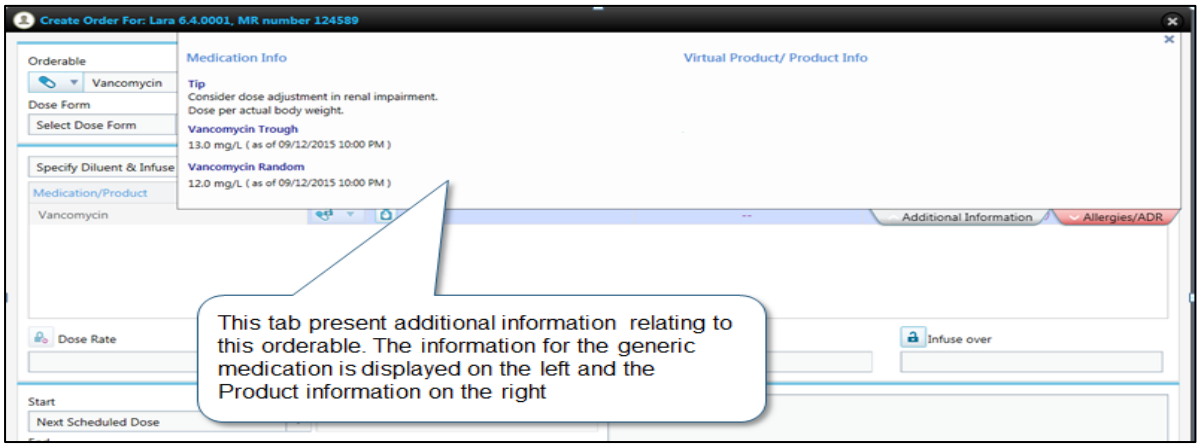
Route
This is the route by which infused and non-infused medications are administered, for example Rectal, Oral, Central Venous, IV, Subcutaneous, etc.

Body Site
The physical location on the patient's body where a medication is placed or a certain line goes through, for example, right upper arm, right hand, etc. This section is not compulsory and is more frequently used for such things as eye drops, topical creams etc.



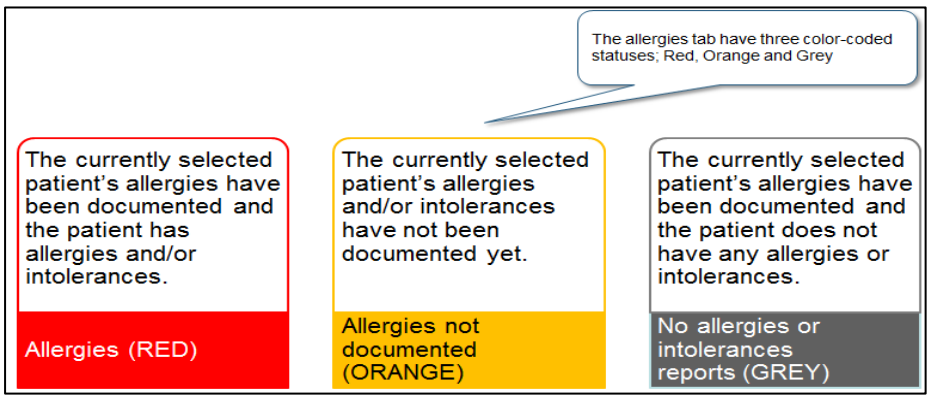
4. Additional Information about the medication and Allergies / ADR information
The Additional Information tab presents additional information related to the selected orderable, e.g. monitoring of drug levels for vancomycin.
The additional information can be viewed here for medications and products. This information is specific to this particular orderable. If no additional information is available for the medication or for the product, then the tab will be disabled.

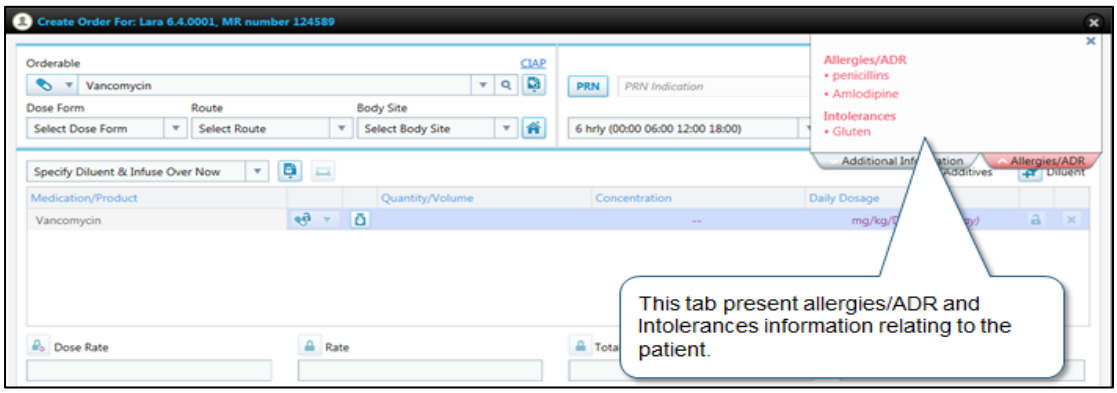




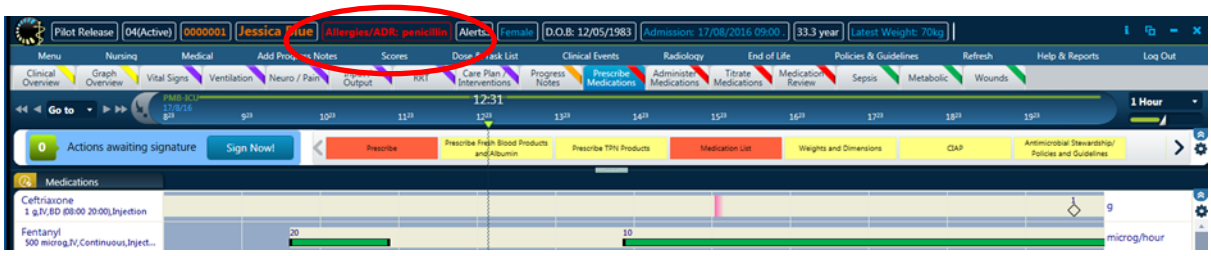
Allergies / ADR information:
The tab in the orderable screen will display in different colours depending on the patient's allergy/ADR status.

The allergies tab has three color-coded statuses; Red, Orange and Grey. Allergy status should be entered as part of admission – but ALWAYS MUST be checked as part of the procedure for 'Prescribing' and 'Administering' medication.





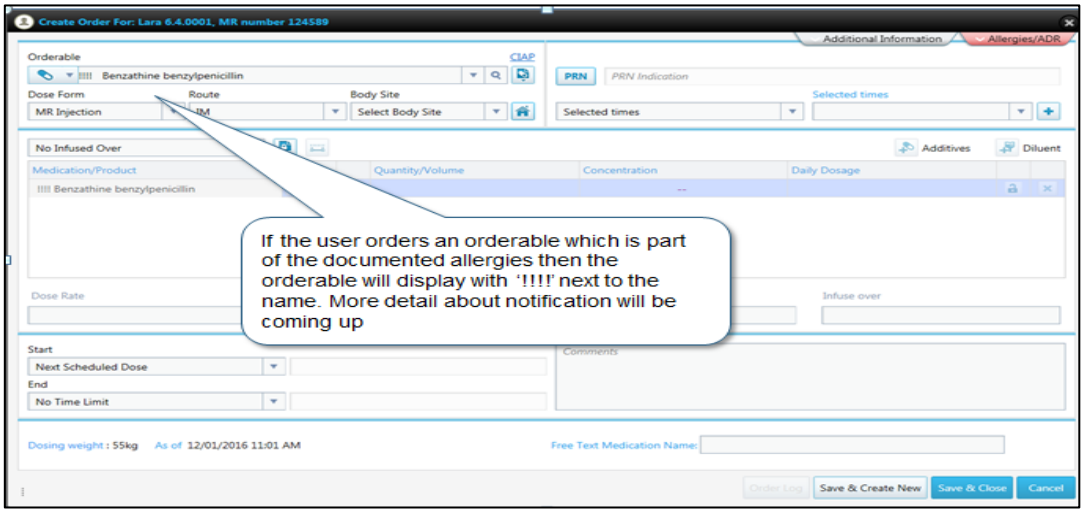
The Allergy status displays on the title bar of the flow sheet.



The notification symbol next to the orderable name has been pre customised, therefore cannot be changed via the application. **A '!!!' notification of Allergy / ADR appears when the user attempts to order a medication with a known Allergy / ADR.**

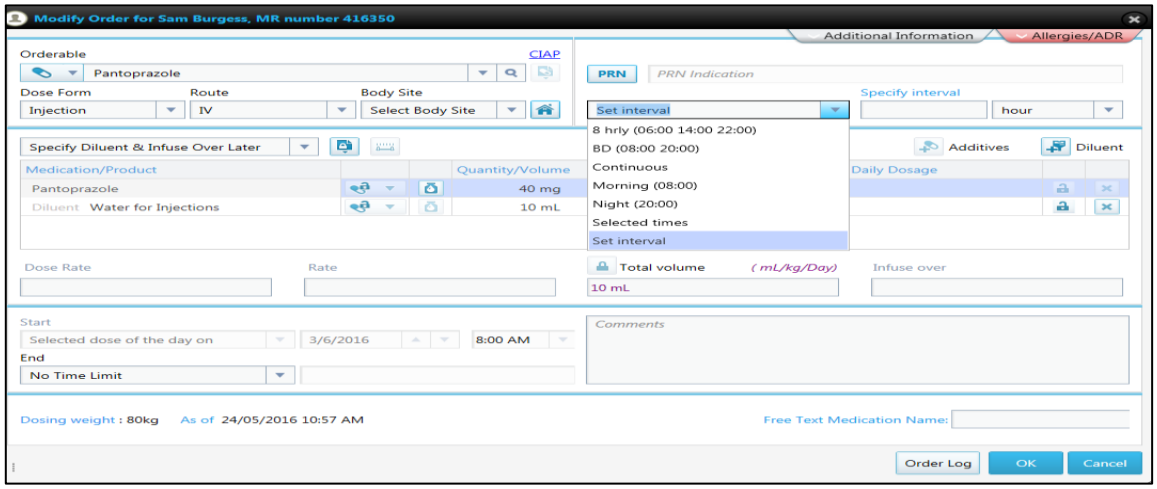
When a prescriber attempts to 'Sign the order' or a nurse attempts to administer/validate a dose, they will not be able to do so without having to 'Resolve' the issue. Clicking on 'Resolve' opens up the Allergy / ADR window with the notification alert. To prescribe or administer a medication to which the patient has a known allergy to, local policy will need to be complied with, and the prescriber will have to re-enter their password within eRIC to proceed.

The reason or explanation for overriding the allergy should be entered in the comments box; this is limited to 500 characters.



5. Frequency details

- Frequencies enable you to set how often the medication should be given to the patient. The frequency options that are available depend on the medication selected.
- Orders can be set to be administered at the following different frequencies:
  - Continuous
  - Once only
  - Pre-set timings (customised in eRIC)
  - Selected Times - enables presciber to select specified times of the day
  - Set Intervals - enter a time interval between doses. For example, administer a dose every 12 hours.



NOTE: If a drug like Insulin is to be given 3 times a day (with breakfast, lunch and dinner), but the dose is different for each time – this will need to be prescribed as three separate orders.

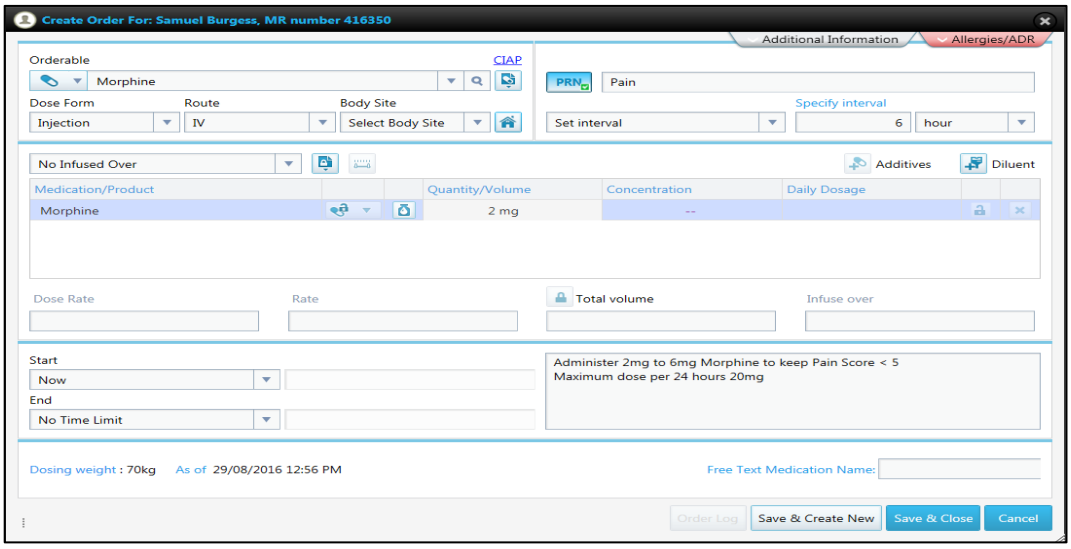
Scheduling a PRN Order

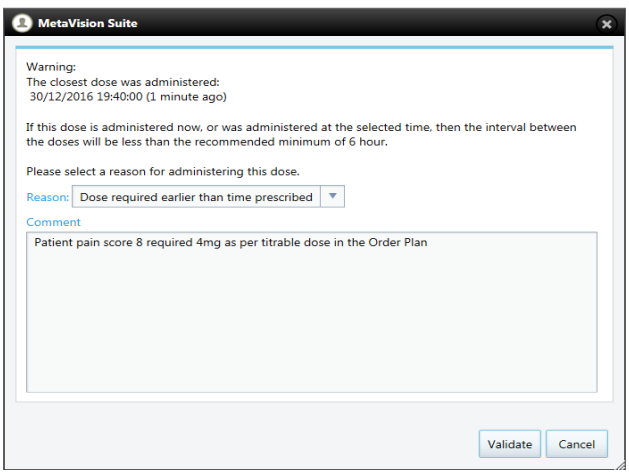
- Select the **PRN check box.**
- **PRN Indication -** Enter the clinical reason for ordering the treatment (mandatory).
  NOTE: Max. Dose per 24 hr. – (this should be entered in the comments field) Enter the maximum dose that can be administered per 24 hour period.

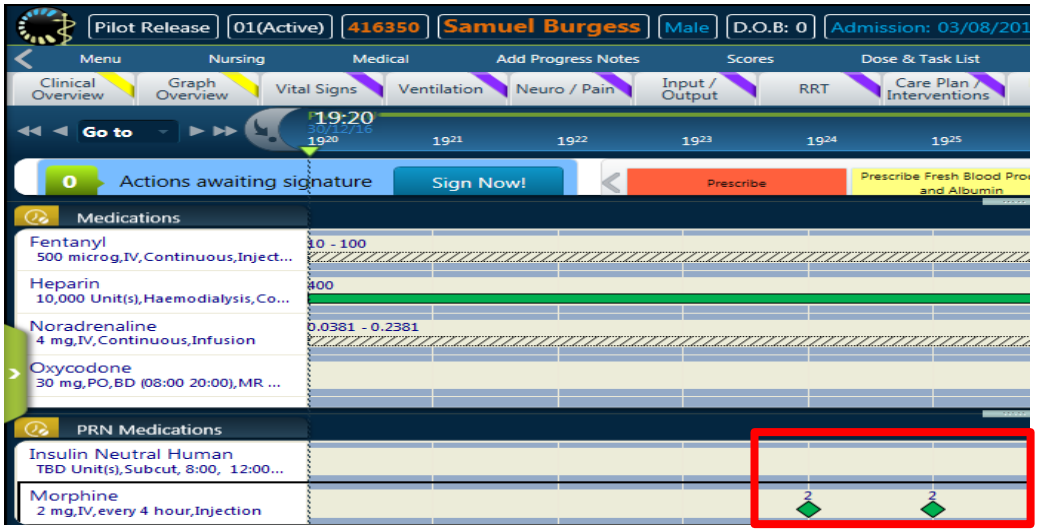
- PRN therapies are planned so that the patient receives a dose only as needed, based on a practitioner's clinical assessment.
- When it is determined that a dose is needed, the dose can be administered at any time. If a PRN dose is given too soon, a warning will appear and the clinician will have to enter a reason for giving a dose sooner than expected.
- If the medication you are prescribing is a PRN then all the order details must still be completed.
- **Active PRN orders appear on the Cardex and List view regardless of time interval viewing.**
  It is important prior to administering any medication - including PRN Medications - to always go to the 'Order Details' window and perform the 5 Rights of Drug Administration and **check** all the order details.

PRN order with Titratable Rate

- If a titratable rate is required for the PRN medication, the lower limit is prescribed as the dose and the titratable range and instructions entered in the 'Comments' box. The nurse will administer it in increments as required within 1minute intervals.
  - e.g. PRN Morphine 2-6mg to keep pain score <5. Prescribe 2mg as the dose. In comments box write – PRN Morphine 2-6mg to keep pain score <5.
  - Nurse needs to administer 4 mg Morphine
  - The nurse will check the order in the 'Order Details' window' – administer the medication - then validate it in increments as required within 1minute intervals.
  - The nurse will validate 2mg @ 19:40 and validate the second 2mg @ 19:41 (with comment in the warning box stating 4mg was required to relieve the pain)



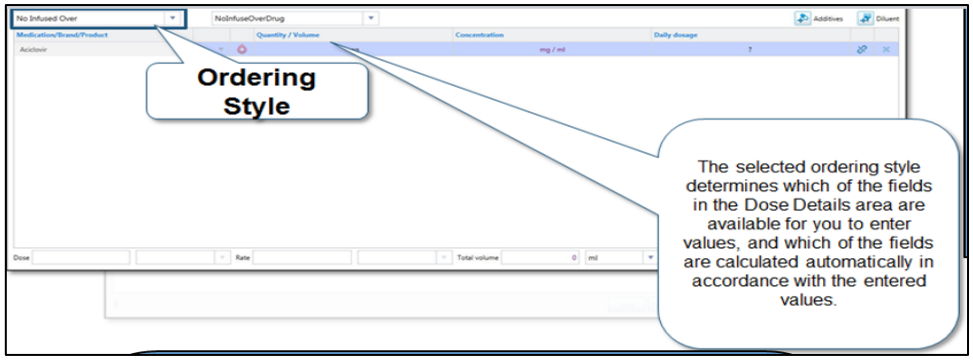


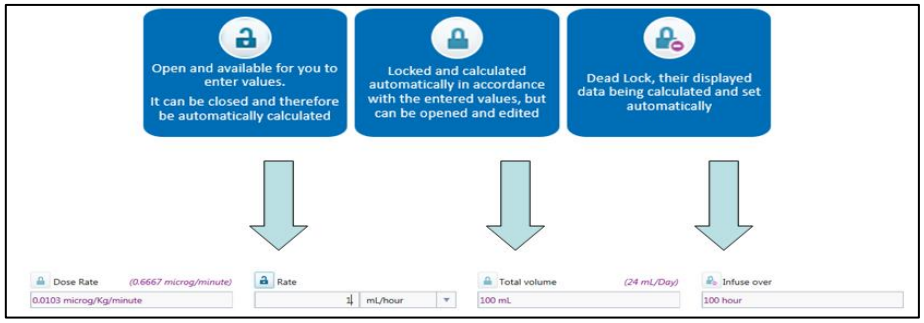


NOTE: Alternate and preferred option for Variable Dose PRN is to have a separate order for the lower dose rate and separate order for higher dose rate

6. Order Style

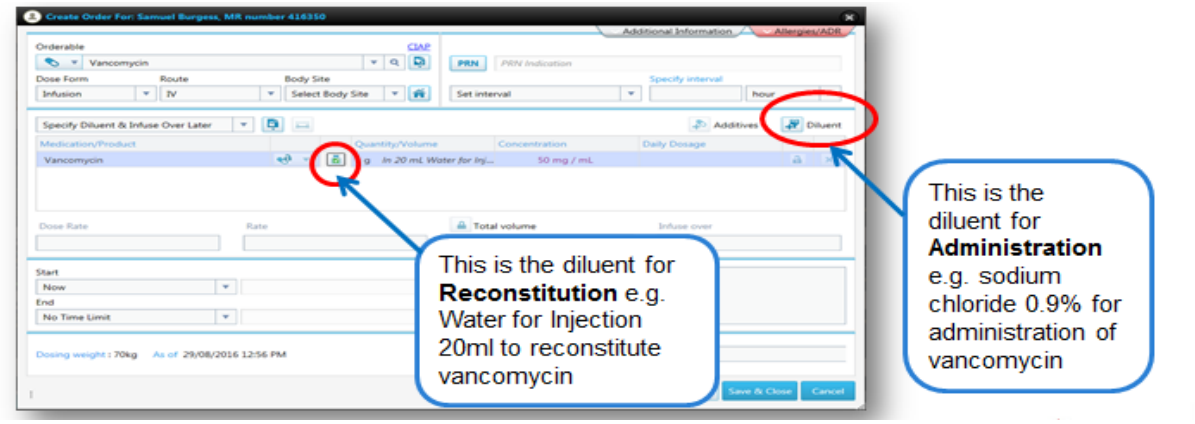
- The ordering style is set by the dose form and route selected.
- There are two groups of order styles (infused and non-infused).
  - Infused – needs an 'Infused over time'
  - Non-Infused – Does not need an 'Infused Over Time'
- The ordering style is selected to suit the administration method of that medication
- The ordering style determines what kind of order details will be available, for example, a continuous frequency will have fields such as dose rate and total volume enabled, where as a tablet prescribed once a day will not require these details to be entered
- Each order style will have a locker template associated with them. The locker templates will determine which fields in the dose entry details are editable and which will be auto calculated for the user. You will find many of the fields in the order entry window have a small locker symbol next to them; these will be, open, locked or dead locked.





7. Additives and Diluents

- Additives and diluents are added to the order entry by selecting the corresponding icon
- Multiple additives can be added (e.g. the additives to TPN. Additives to TPN are covered further in TPN Order)
- A Diluent can be added to the prescription –There is a **Diluent for Reconstitution** and **Diluent for Administration**.
- Diluent for Reconstitution is selected to Specify Diluent and Infuse over Later.
  - Often the Diluent for Reconstitution is not added at the time of prescription, but left for the nurse to add at the time of administration.
  - For example, 250ml Sodium Chloride 0.9% for administration of Vancomycin 1gm. The Medical Officer will prescribe the 1 gm of Vancomycin and the nurse can add it into the order entry at the time of administering the drug.



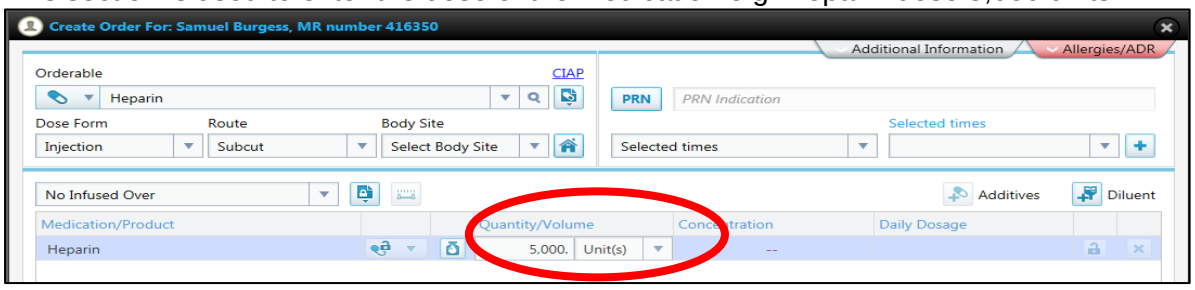
8. Order /Dose Details

To set the order / dose details, enter values for the required fields:

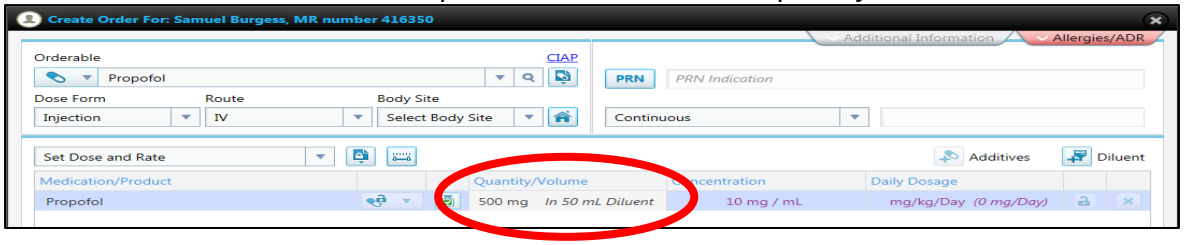
- Quantity/Volume
- Concentration
- Dose Rate (weight based unit)
- Rate (volume based unit)
- Total volume
- Infuse over

Quantity / Volume

This section is used to enter the dose of the medication e.g. Heparin dose 5,000 units.



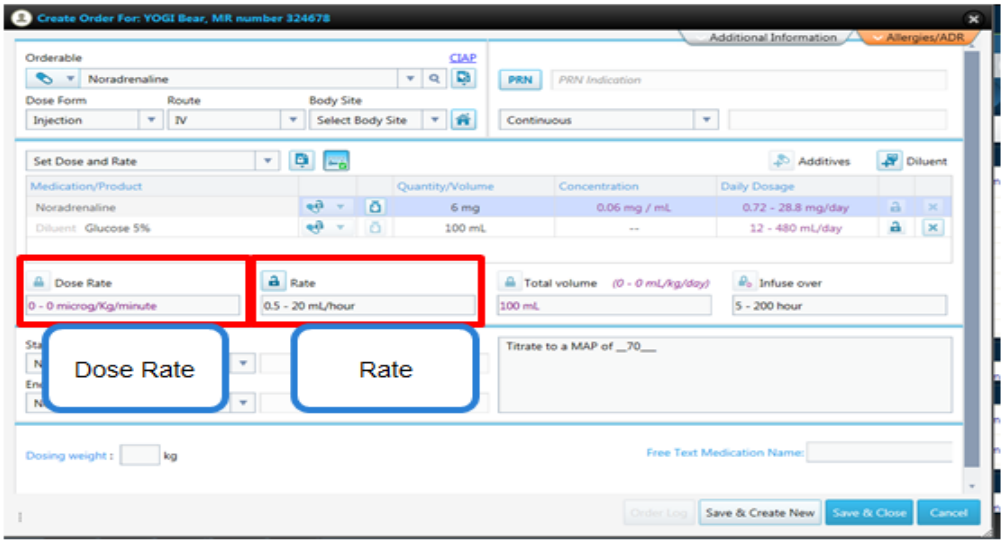
Some medications, such as a Propofol Infusion, have both quantity and volume.



Daily Dosage
This is automatically calculated once the dose and frequency of the medication is specified.

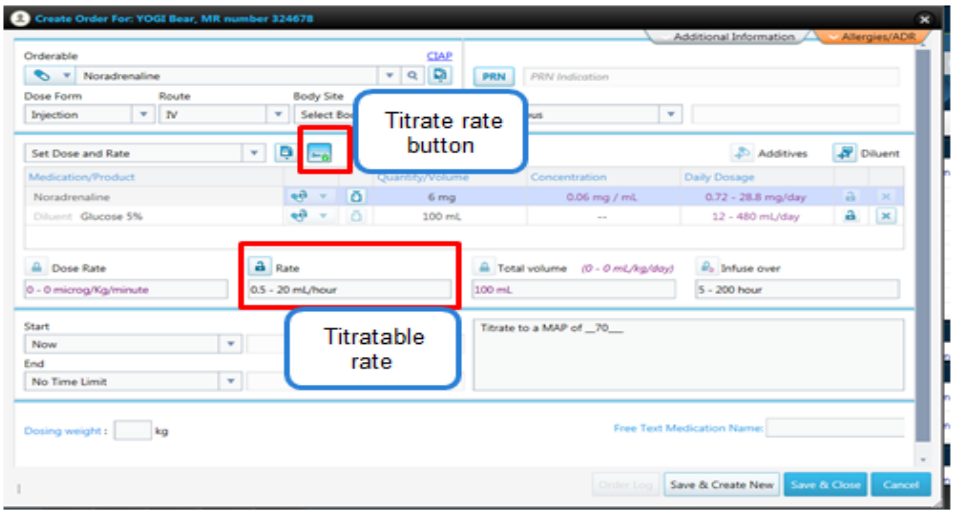
Dose Rate / Rate
The prescribed medication can have a set 'Dose Rate' or a set 'Rate'. The Locker templates determine which values can be entered and which values are locked.
If a clinician wishes to prescribe 'Dose Rate' but the 'Dose Rate' field is locked:

1. Click on the 'Rate' Lock Icon (it will now be locked)
2. 'Dose Rate' will become unlocked
3. Enter into the field

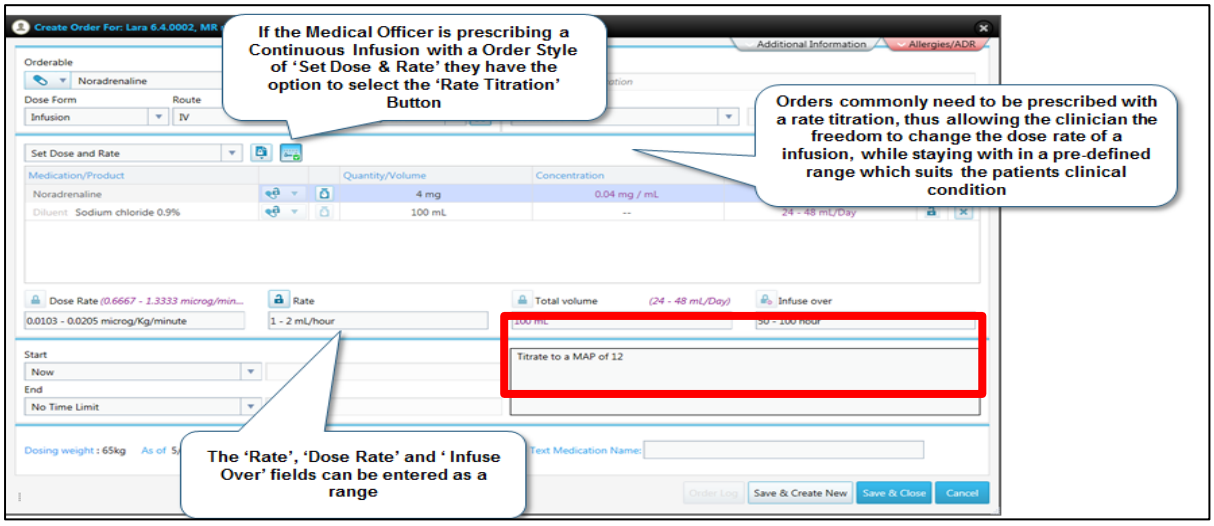


'Dose Rate' is a mass based unit (e.g. mg/hr) and 'Rate' is a volume based unit (e.g. ml/hr).

Titratable Rate
The rate for infusions may be a fixed rate or 'titratable rate'. See the example below for a Propofol infusion with a titratable rate.

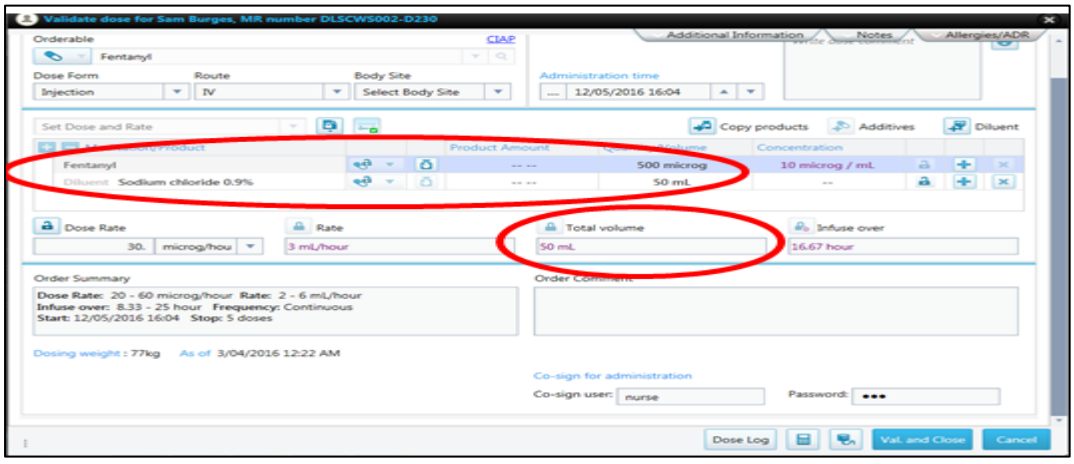


NOTE: Drugs such as Noradrenaline may need to be prescribed with instructions that relate to how clinicians should titrate the rate of medication. 'Rate titration' instructions are to be placed in the Comments box, which indicates the MAP to which the infusion rate is titrated.



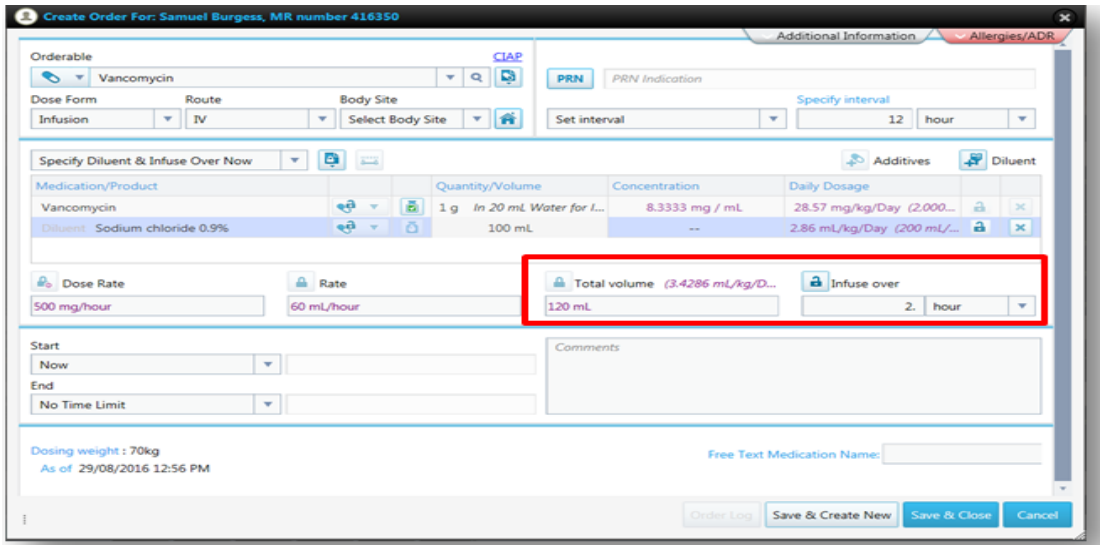
Total Volume

- This can be entered; or
- It may be automatically calculated based on the Diluent. For example, this Fentanyl infusion has a 50ml Diluent for Administration of Sodium Chloride 0.9%- and this automatically calculates the total volume to be 50ml.



Infuse Over

This is the duration over which the infusion will run e.g. Vancomycin 1gm in Sodium Chloride 0.9% 100ml will 'Infuse over – 2 hours'.



9. Order Start and End Times

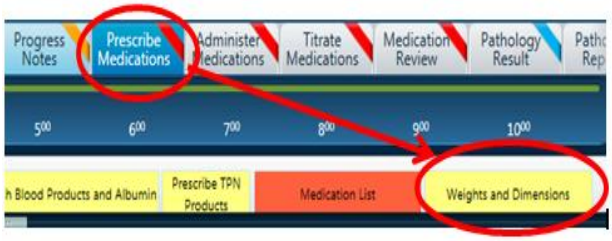
This allows the starting and ending times to be prescribed for an infused dose. The Start Time defaults to 'now' and it is not compulsory to set an End Time.

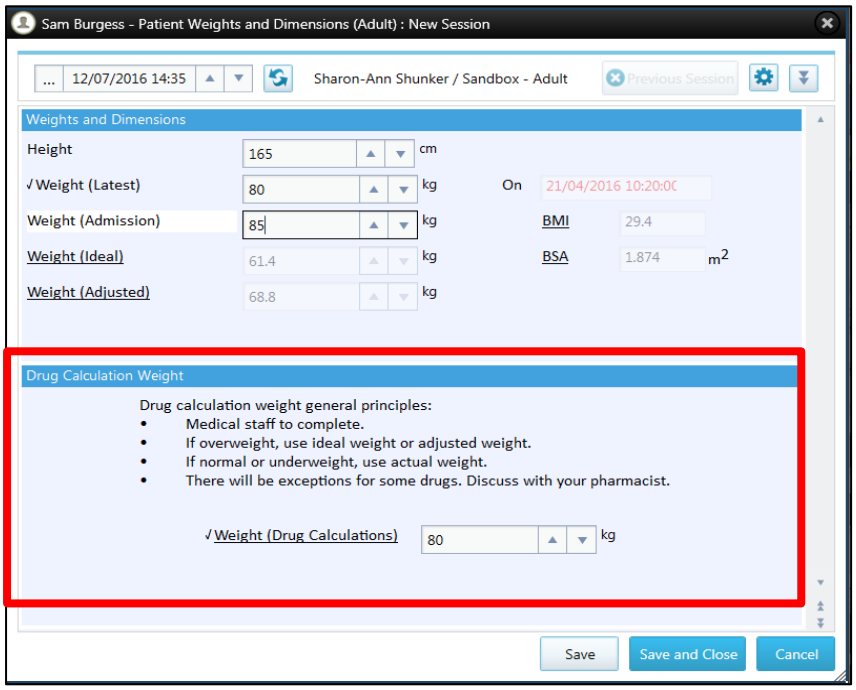
10. Comments Box

Used for entering special instructions, e.g. target MAP to titrate the noradrenaline infusion, maximum 24 hour dose for PRN medication, medication specific brand names that need to be prescribed such as Coumadin for warfarin.

11. Dosing Weight

This is the weight used for drug calculations that has been entered in the **Weights and Dimensions** window. As part of the prescribing process, ensure the patient's weight and height are entered in the 'Weight and Dimensions' form which can be accessed by selecting the **Prescribe Medication** tab.

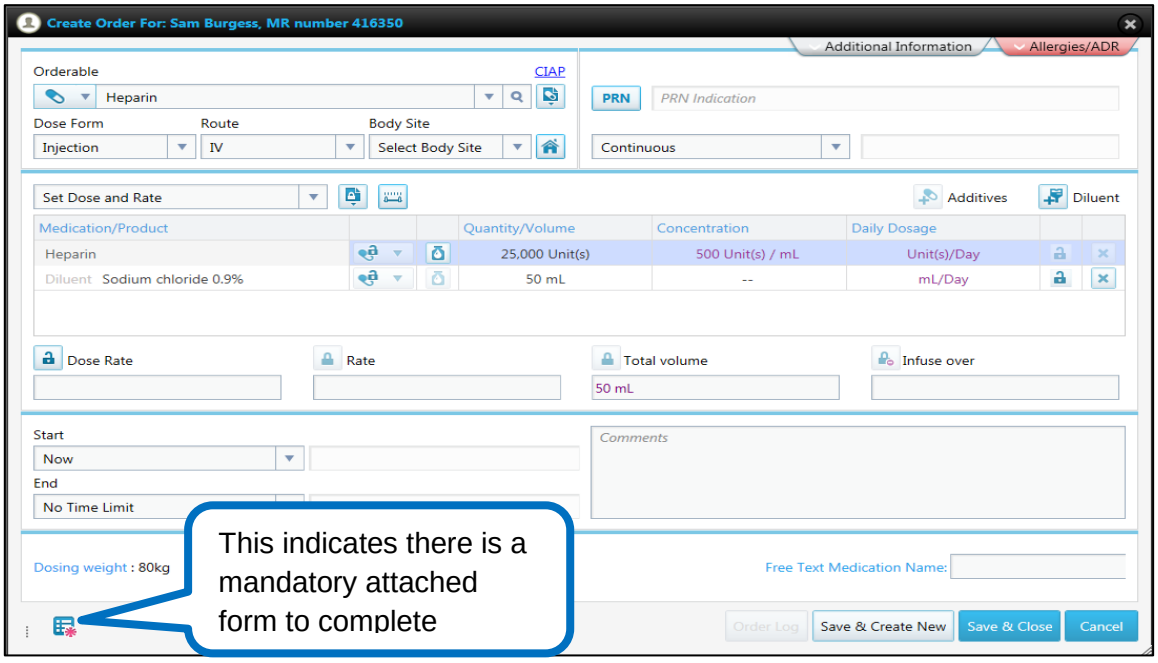




NOTE: changing the dose weight will result in a change of dose for all medications where the prescribed dose is weight dependent (i.e. when dose is prescribed in mg/kg/hour).
If the patient's weight is changed – all medications that are weight based prescriptions need to be re-prescribed (because original weight is retained in the parent order and displayed in the Order Details Window).

12. Attached Forms

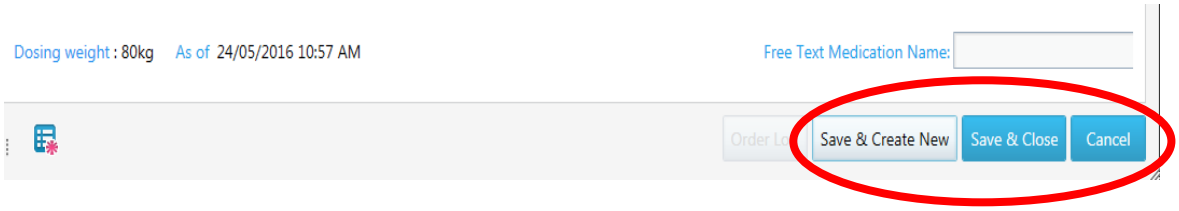
Certain medications such as Heparin Infusions may have mandatory attached forms that need to be completed as part of the order prescription.



13. Action Buttons

The three buttons at the bottom of the prescription window:

- 'Save and Create New' – allows you to save the current order and create a new order – this way multiple orders can be created and signed for together
- 'Save and Close' – allows you to close the order once complete
- 'Cancel' – cancel current order.

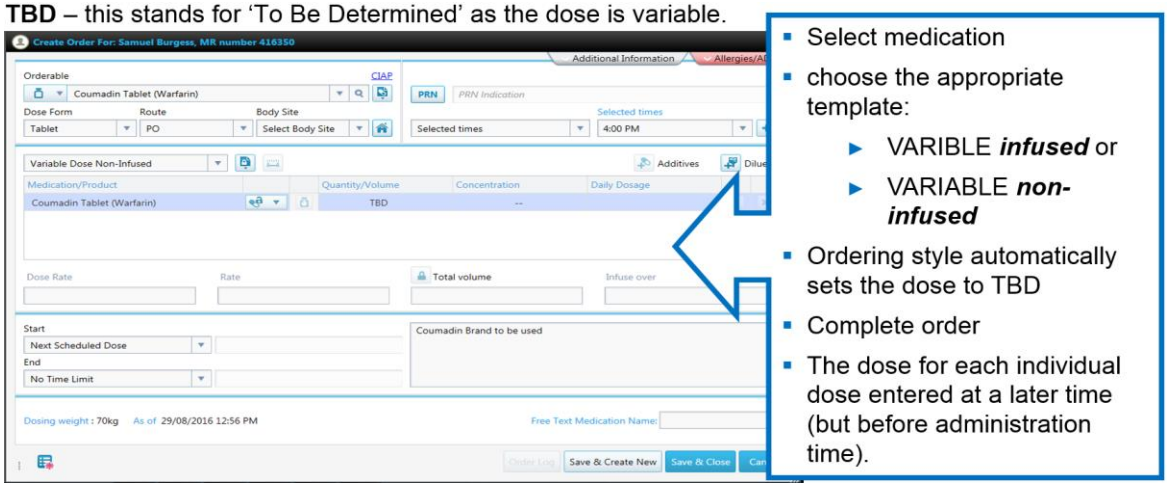


Prescribing Variable Dose Orders (called TBD in eRIC)
TBD – 'To Be Determined' as the dose is variable.

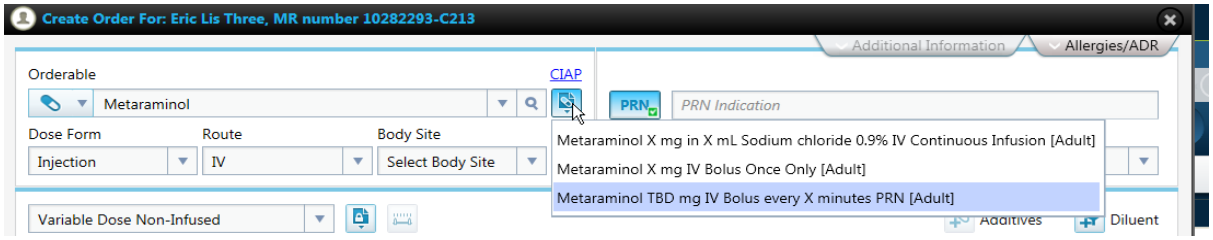
- Select the desired medication and choose the appropriate template, which may be for VARIBLE *infused* or VARIABLE *non-infused*
- For example, (COUMADIN) Warfarin VARIABLE dose PO at selected times
- Selecting this ordering style automatically sets the dose to TBD (To Be Determined) and allows the dose for each individual dose to be entered at a later time prior to administration of each dose
- For example, in the case of prescribing Warfarin, it may be necessary to vary the dose according to the INR results
- Order prescription needs to be completed and the 'Dose' is modified later once the blood result is back.

See the example below for Warfarin.
NOTE: For some drugs such as this one, it is important to check the brand name – e.g. Coumadin. This is only visible in the Order Details window).

TBD – this stands for 'To Be Determined' as the dose is variable.

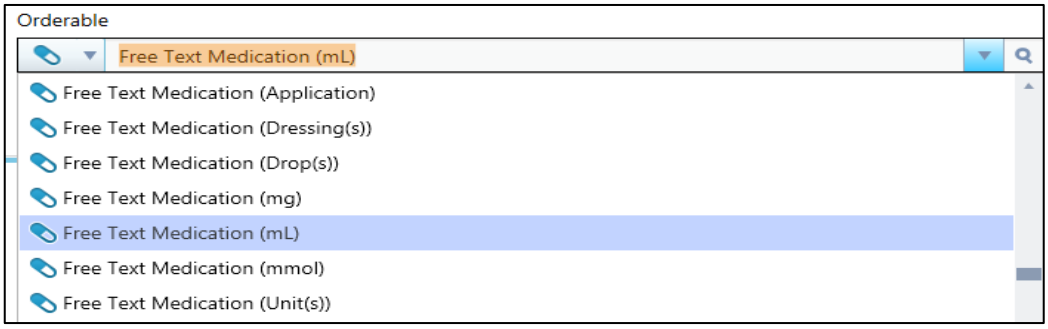


NOTE: Medications such as Metaraminol that will need to be given as bolus increments and Diazepam as per Alcohol Withdrawal Scale policy will also be prescribed as PRN, with dose being TBD. Order dose details will be in the Comments Box.

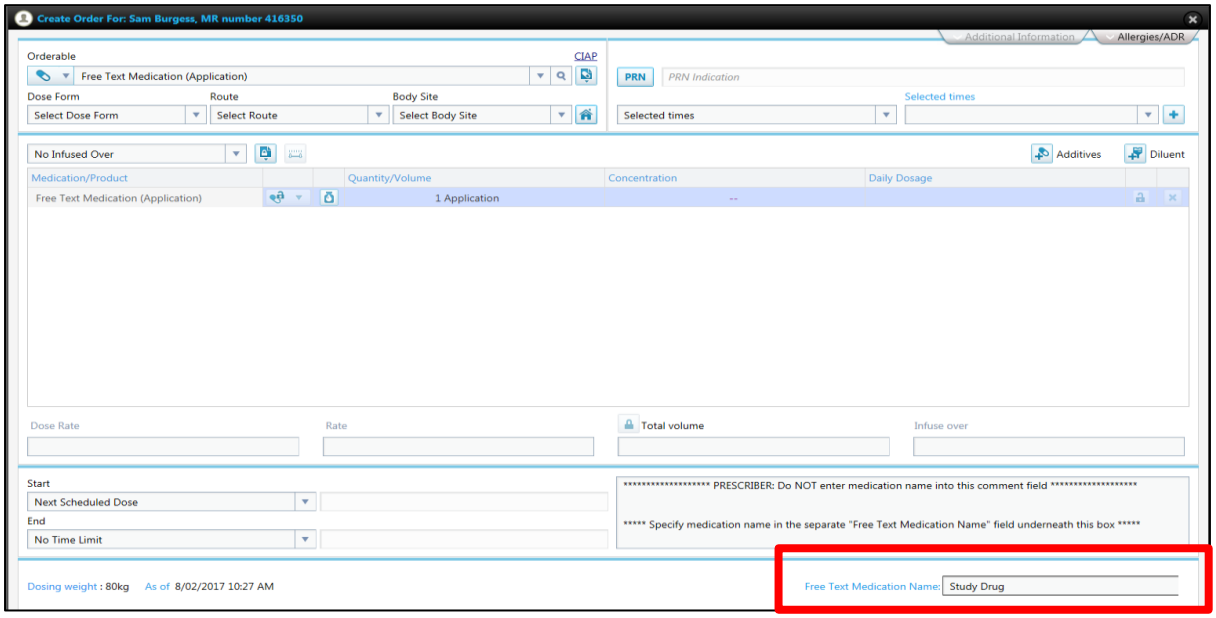


Free Text Medications
If the medication does not exist in the medication catalogue – The solution is to prescribe using the 'Free Text Medication' function.
DO NOT use free text for prescribing unless there is no available orderable.

- Type 'free text' into the orderable search field. The free text medication templates will appear, choose the appropriate template.



- All Order Details must be entered for the medication. The medication name MUST be written in the **Free Text Medication Name** box located in bottom right hand corner of template. DO NOT WRITE THE NAME IN THE COMMENTS BOX.



NOTE:

- **Free text medications will not appear on the printed eNIMC and MUST be manually entered (check last page of eNIMC for Free Text Medications).**
- **Free text medications do not automatically populate in the Fluid Balance – enter volumes manually**

Step 2: Finalising the order

Complete Mandatory attached Forms

Certain drugs will have mandatory attached forms. For example, Warfarin has a form with the INR details.

Save and Create New

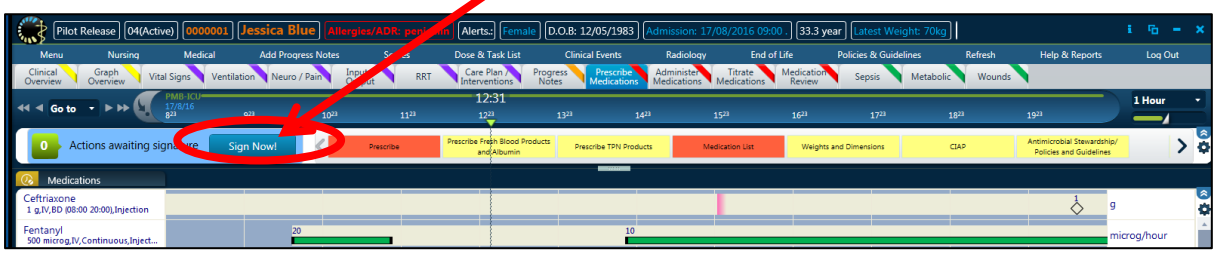
Clicking on the 'Save & Create New' button allows the medical officer to continue to order more medications. These can then be signed for together.

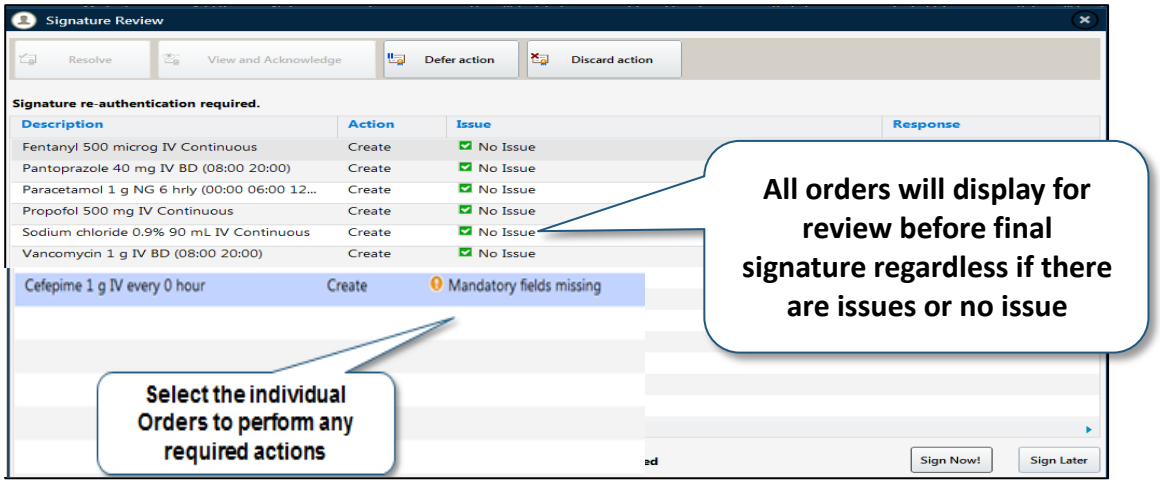
Save and Close

Clicking on the 'Save & Close' button will close the Order Entry window and take the Medical Officer back to the 'Prescribe Medication' tab.

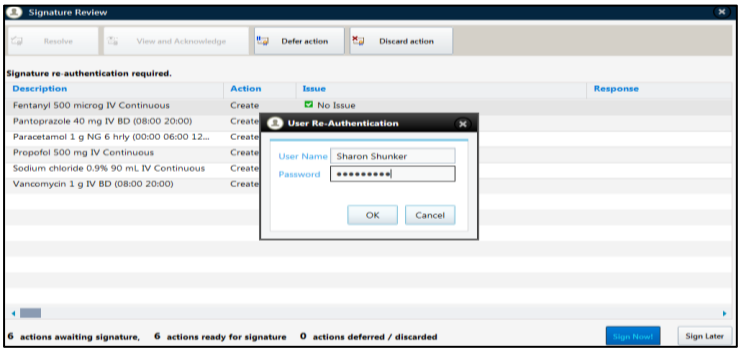
Sign Now

From the shopping cart, click on the 'Sign Now' button to sign all prescribed orders.





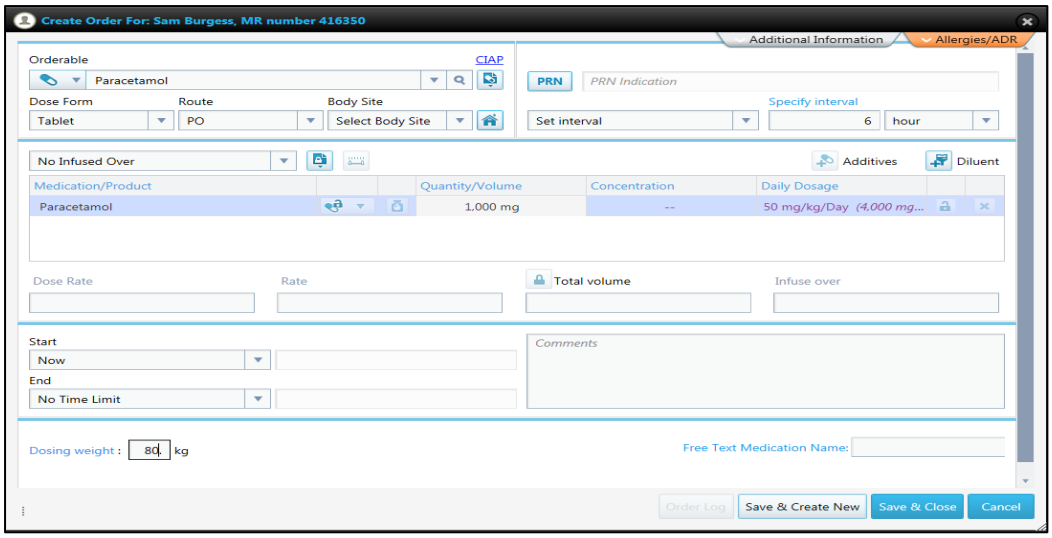
If there are any dose issues, once all dose actions are resolved, the Medical Officer will need to sign the prescriptions. This is done by re-entering their password in the pop-up box. Only the user logged in can enter their details here, so a user must ensure they are the user logged in before prescribing a medication. Until the order is signed, no other users will be able to view the order or administer the medication.



14.2.1 Prescription Examples

Oral Medication

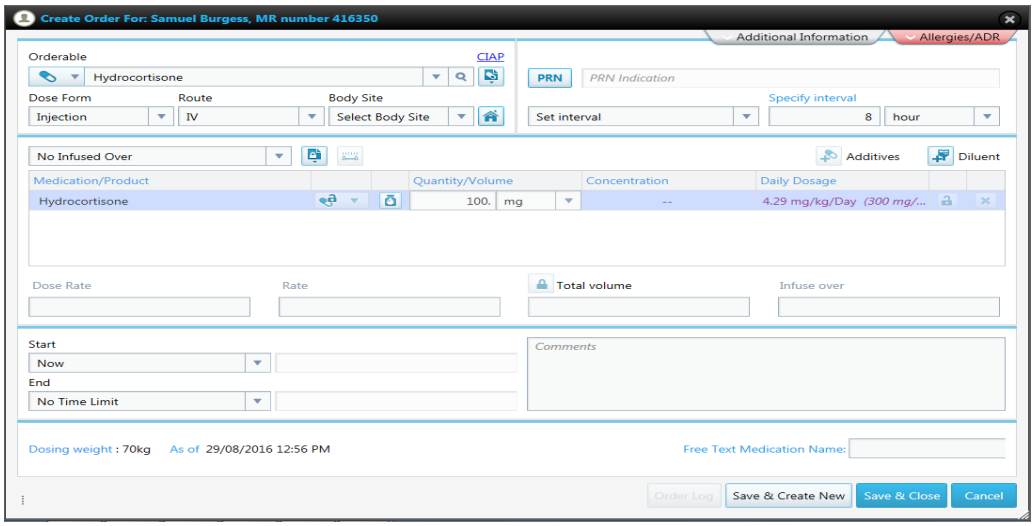
- Prescribing Paracetamol 1gm 6th hourly



- Select medication ‘Paracetamol’ – with template ‘Paracetamol X mg PO every X hours (Adult)’
- Dose Form – automatically populates as ‘Tablet’, Route as ‘PO’
- Need to set interval - this is chosen to be 6th hourly
- Order style is ‘No Infused Over’ – as this is an oral order
- The dose of 1gm (1000mg) is entered under the ‘Quantity / Volume’ section
- Start time is ‘Now’ and ‘no end time’ is specified
- The order details are complete – so you can ‘Save and Create New’.

Intravenous Medication

Prescribing Hydrocortisone IV Bolus 100mg every 8 hours



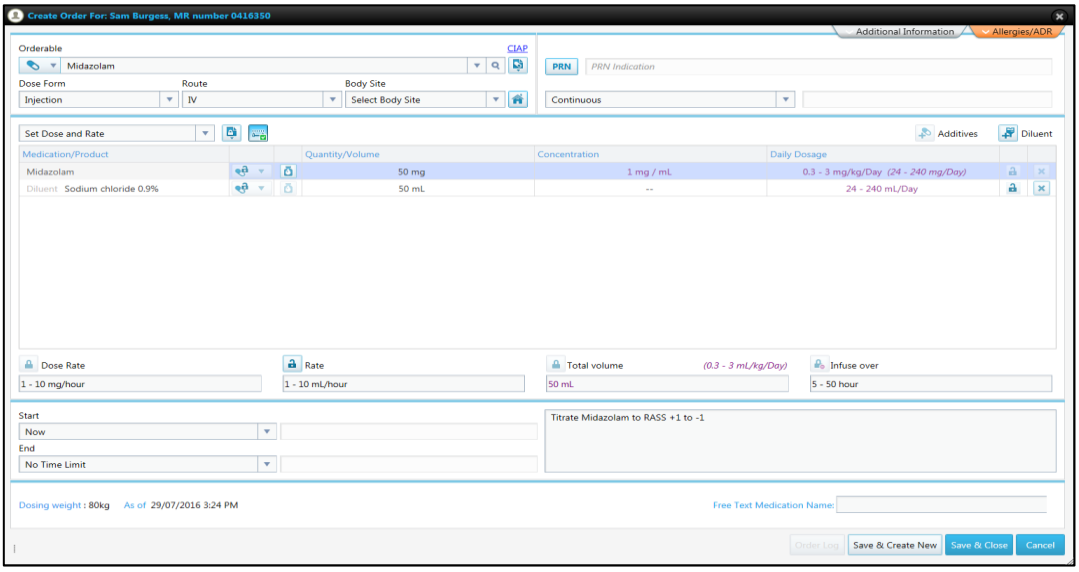
Select Template – Hydrocortisone Xmg IV Bolus every X hours (Adult)

- Dose Form – automatically populates as ‘Injection’, Route as ‘IV’.
- For frequency select ‘Set Interval’ – select interval as 8 hours
- Order style is ‘No Infused Over’
- The ‘Quantity / Volume’ is 100mg
- Start time is ‘Now’.

The order details are complete – so you can ‘Save and Create New’.

Intravenous Infusion

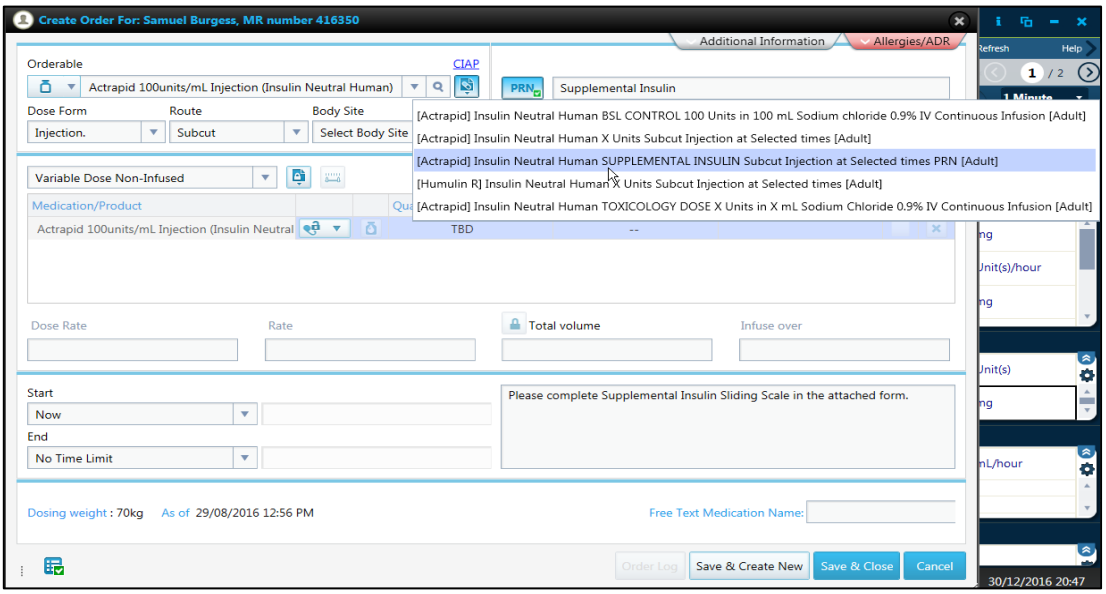
- Prescribing Midazolam 50mg in 50ml Sodium Chloride 0.9% IV Continuous Infusion

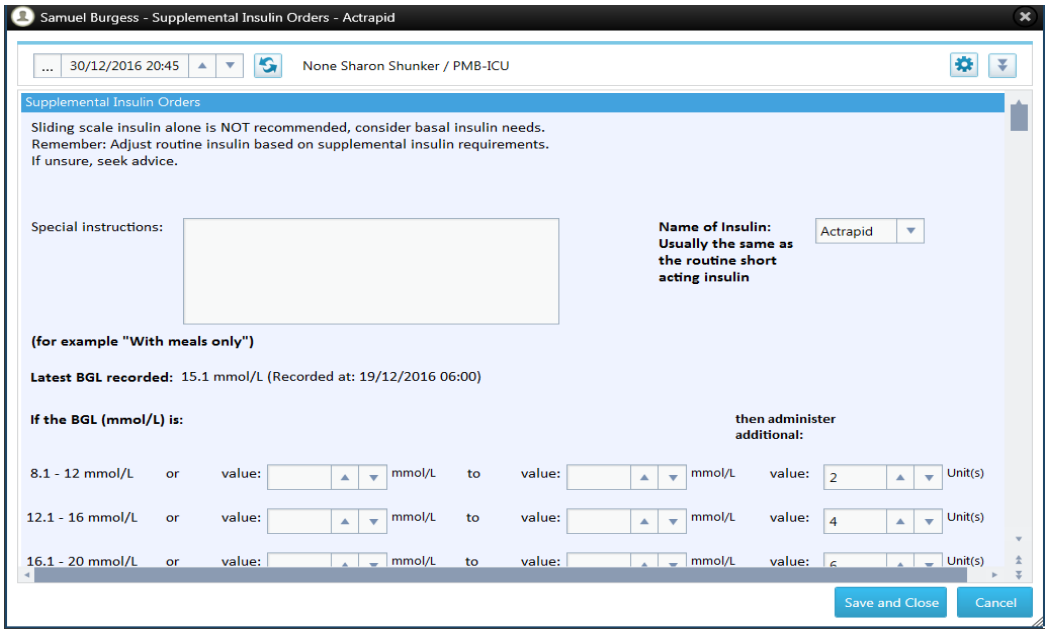


- Select Template – Midazolam 50mg in 50ml Sodium Chloride 0.9% IV Continuous Infusion
- Dose Form – automatically populates as 'Injection', Route as 'IV'
- Frequency - automatically populates as 'Continuous'
- Order style is 'Set Dose and Rate'
- The 'Quantity / Volume' is automatically populated from the template
- A 'Titratable Rate' is chosen - 'Rate' needs to be set – set as 1-10ml/hour
- Use comments box to provide instructions for rate titration e.g. Titrate sedation to RASS +1 to -1
- 'Dose Rate' and 'Infuse Over' is automatically calculated
- Start time is 'Now' and End time is specified by 'Number of Doses'
- The order details are complete – you should 'Save and Create New' or 'Save and Close'.

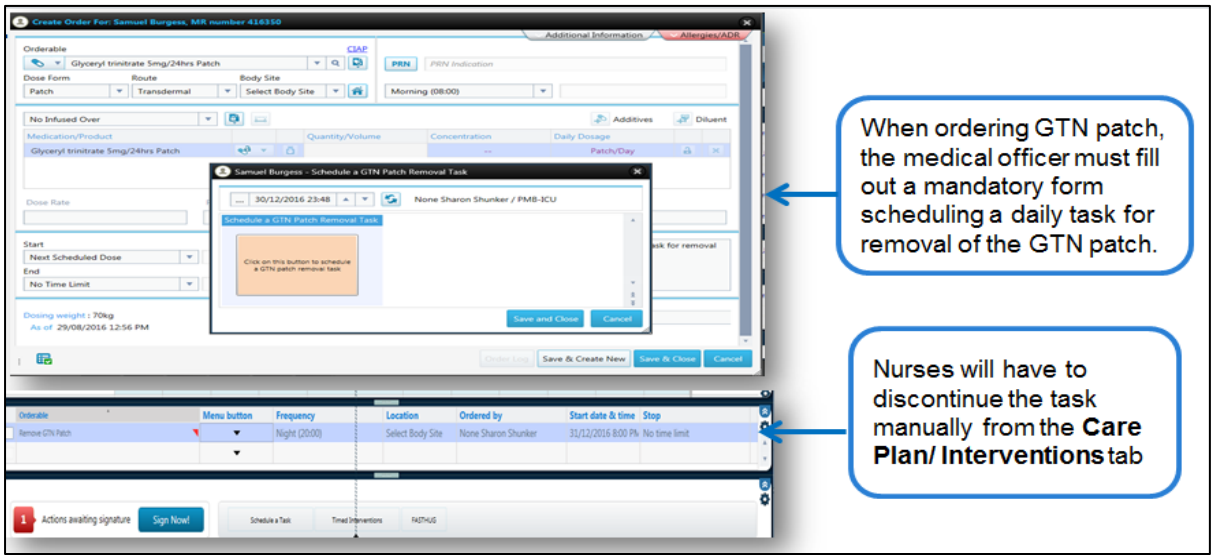
'Sliding Scale' / Supplemental Insulin

See Below Example of how to order 'Sliding Scale' / Supplemental Insulin – It has a mandatory attached form to be completed with the range of BGL and the units of Actrapid. It is ordered as a PRN medication and will need the Frequency specified.





GTN patch
When ordering GTN patch, the medical officer must fill out a mandatory form scheduling a daily task for removal of the GTN patch. When the GTN patch order is discontinued, the daily task is not automatically discontinued.



Remove GTN Patch and uncheck the box at the beginning of the task. The nurse must then confirm this action by clicking on the Sign Now button located at the bottom left hand corner of the screen.
Alternate: Click on the down arrow (menu button) and select discontinue ➔ continue with confirming this action by clicking on the Sign Now button.

NOTE: All prescribed orders need to be signed to complete the prescription. They are signed from the shopping cart that opens up the signature window and requires the prescriber to enter their password. Any issues with the prescription will come up with a message and need to be resolved prior to proceeding with the order, e.g. of issues – no total volume entered, no rate entered, mandatory form not completed (see below section on 'Finalising the order').

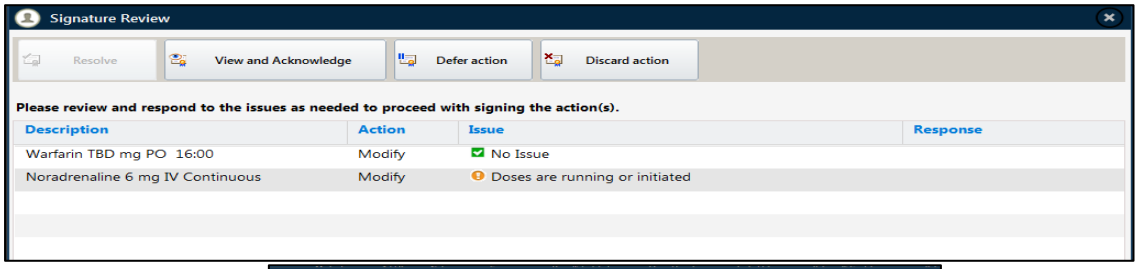
14.2.2 Prescribing: Things to Remember

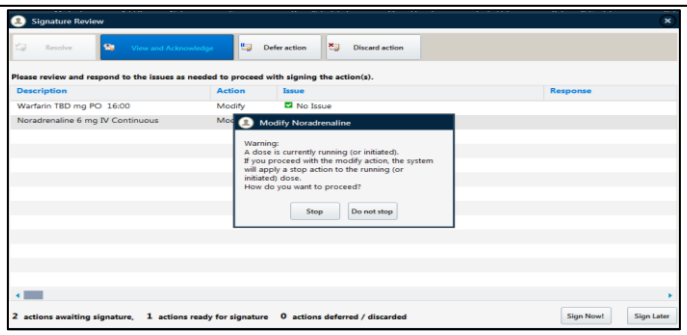
- **When using 'Modify' parent order for some medications, it creates an additional dose**

NOTE: DO NOT USE the 'Modify' action from the parent order. If changes need to be made Discontinue the order and prescribe a new order.

- When using **Modify** to change comments section (eg 'titrate MAP to…'), the prescriber needs to 'Sign' for the modify action.
- This creates a 'Issue' of 'Doses are running or initiated' ➔ Select 'View and Acknowledge'.
- This brings up a pop up box with a warning that doses are currently running, if you proceed with modify action the system will apply a stop action to the running dose.
- Select 'Do not Stop' action from the pop up Warning window
- The decision to modify the titratable MAP or any comments that get added / modified MUST be communicated to the nurse / relevant clinician, so that they can action it. An entry should also be made in the progress notes.

(If the prescriber selects 'Stop' a second order is created for validation on the dose take list and from the cardex view - The nurse will then be prompted in the 'dose task list' to 'stop noradrenaline' and then to 'Validate a new dose')

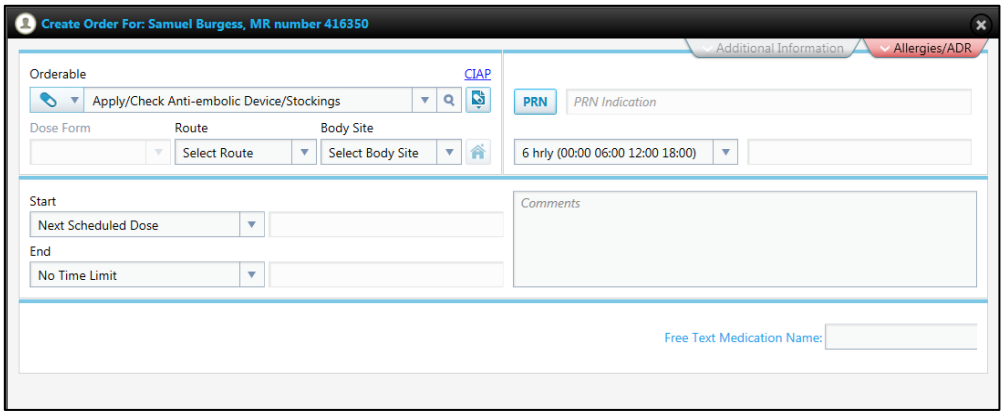




Prescribing Arterial Line flush (i.e. 500mLs @ 3mLs/hr)
Arterial Line flushes should be charted by ICU doctors in the 'Prescribe medications' tab, 'Sodium Chloride 0.9%, 500mLs, Intra-arterial, rate of 3mL/hr'. Should also include 'venous' option for CVP transducers and other venous routes with a flush device.
NOTE: Currently whilst the Alcohol Withdrawal Scale (AWS) is in the eRIC database the standing orders for sedation per score is not available on eRIC. This causes an issue with dosing of sedation as current practice is that an indication is documented as 'per AWS' Standing sedation orders should be prescribed as Titratable PRN orders. If the drug is Diazepam (for example), it can be prescribed as a 'Titratable PRN' medication with indication being AWS– use the process outlined above in (page 125) and enter in comments box to administer as per AWS policy.

Ordering electrolytes with diluents.
When ordering electrolytes in diluents, the Doctor must create a new order of the actual electrolyte. Adding a diluent is optional (as the nurse may administer the electrolyte in the burette of the already running maintenance solution). ***Doctors should <u>not</u> prescribe a diluent (e.g. 0.9% NaCl) AND then list electrolytes in the* Comments *section of the order.***

Ordering Calf Compressors and anti- thrombosis stockings
Medical/Clinical Staff can use the Ordering window and the orderable is 'Apply/Check Anti-embolism Device/stocking'. Type 'apply' in the order entry component to bring it up as an option to select. It will be set as a 6 hourly Nursing task to 'Apply/Check Anti-embolism Device/stocking'

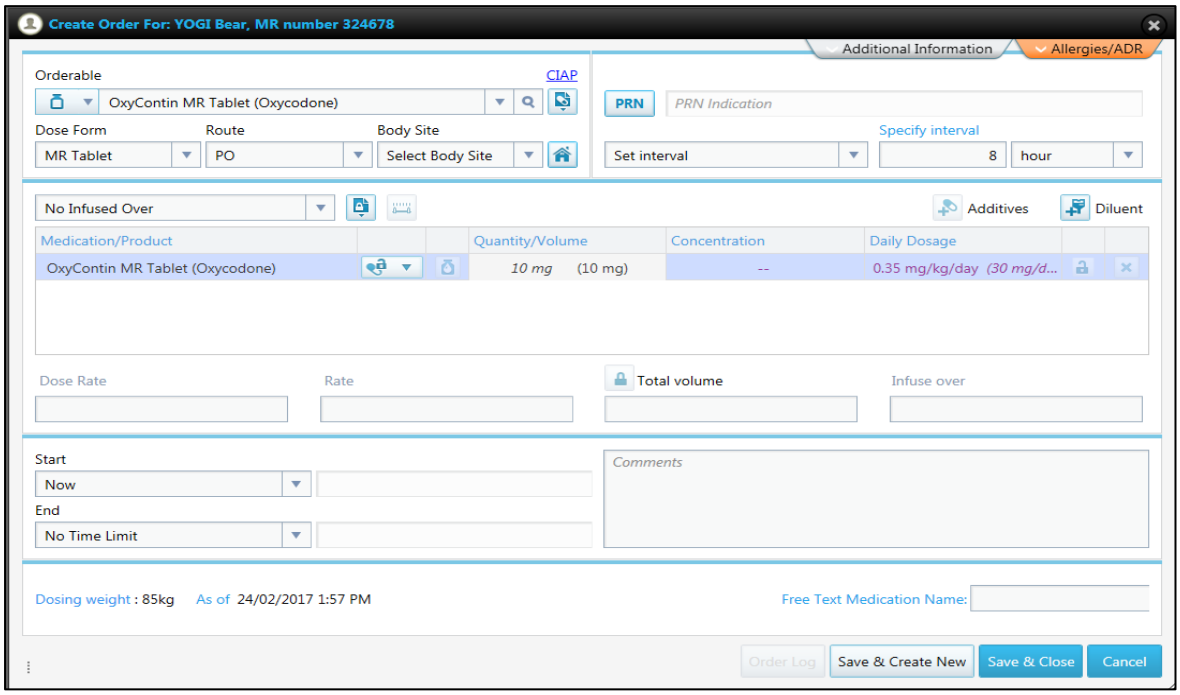


Use the Comment Box to enter the 'Indication' for the prescribed medication.

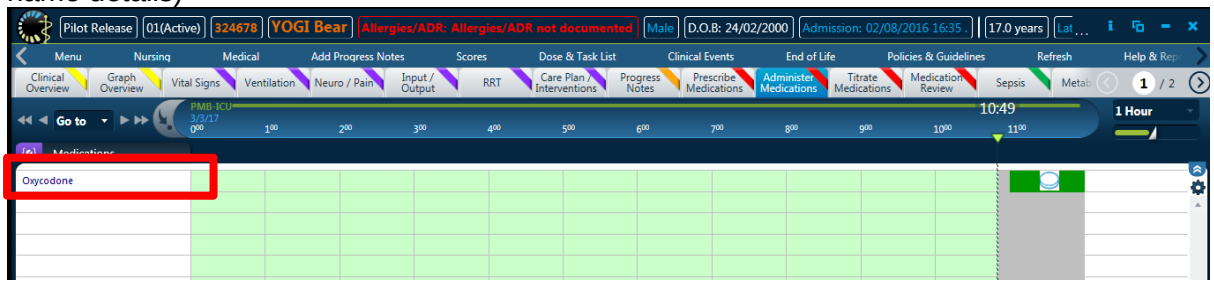
Brand Names

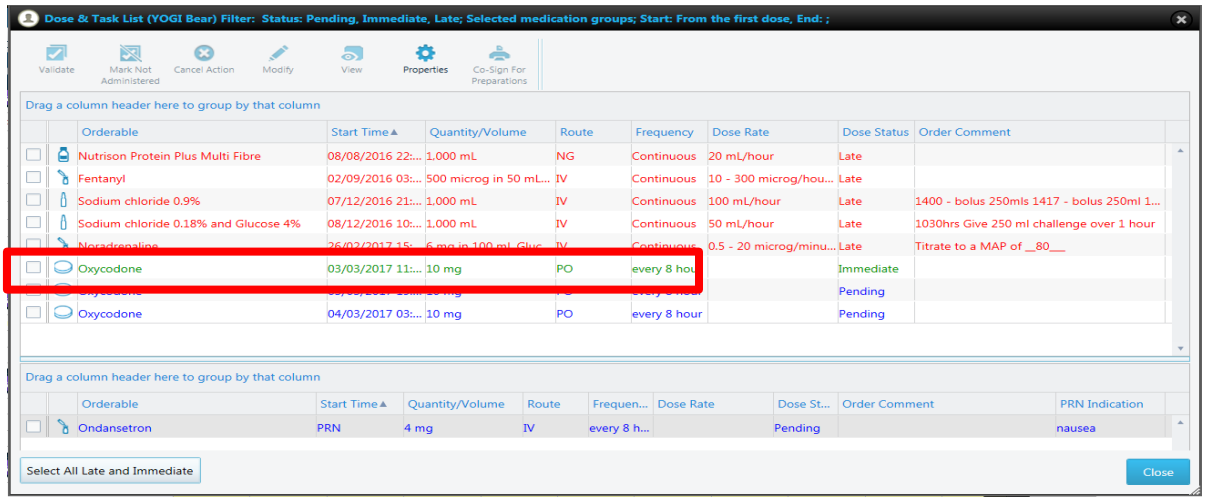
- BRAND names will only display in the 'Order Details Window'. They will not display in Prescribe medication view, Administer Medication Cardex view or in Dose & Task List.

Example – Prescribing Oxycontin MR Tablets PO 12 hourly

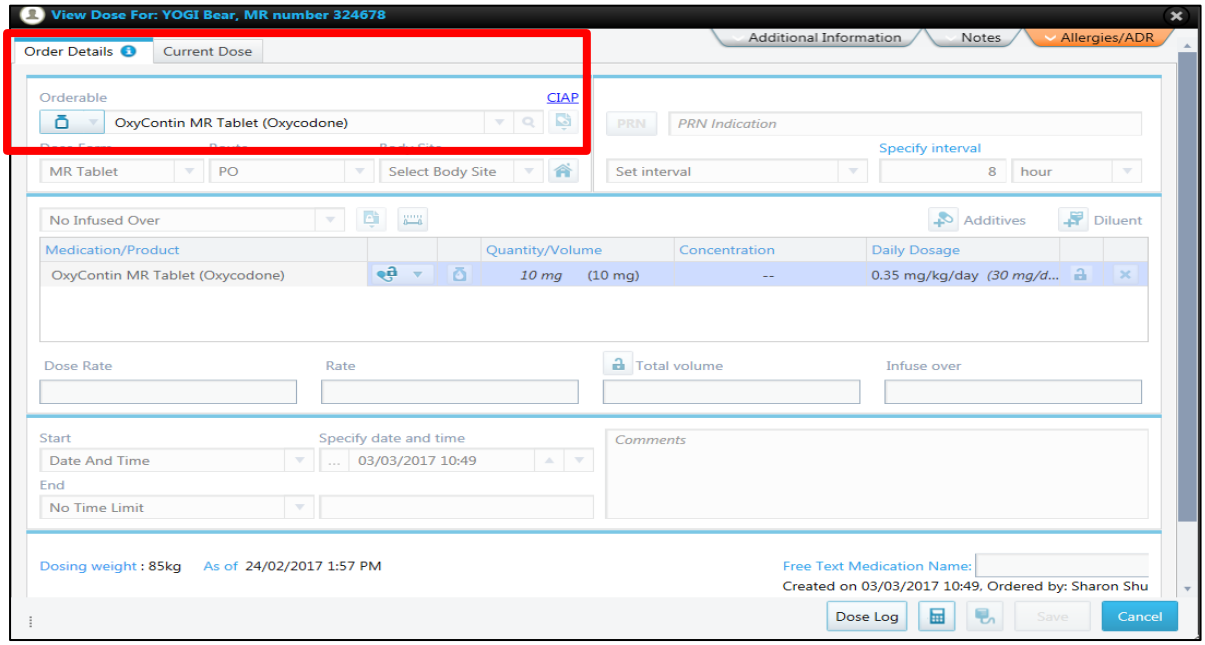


Administer Medication Cardex View and Dose & Task List View (does not have the BRAND name details)





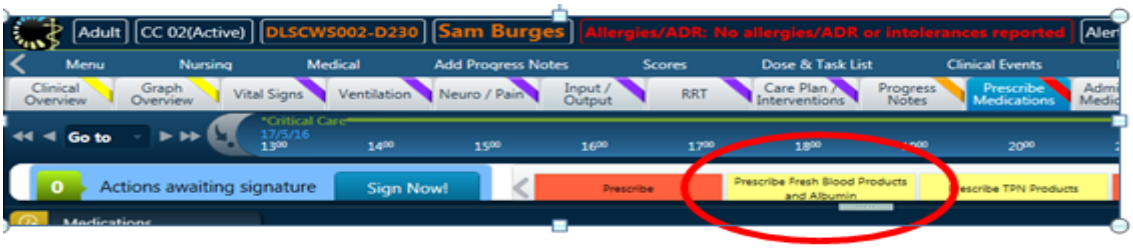
Use the 'Order Details Window' to check medication as this has the BRAND name details

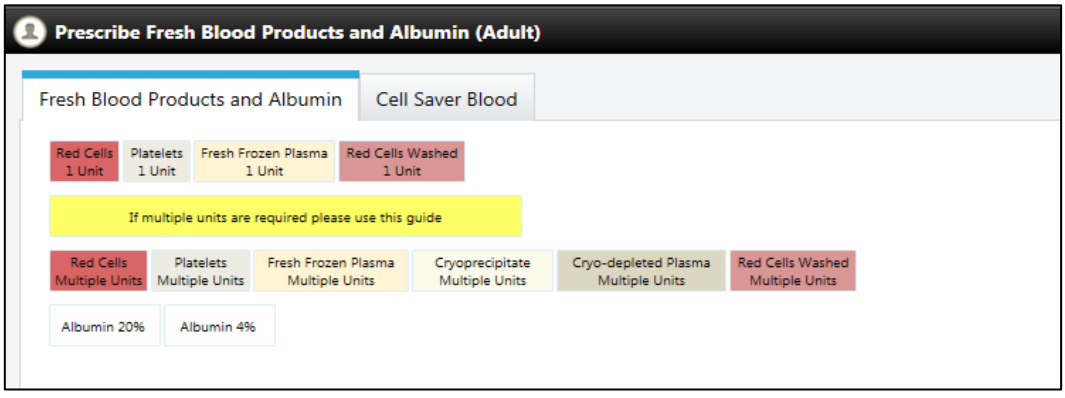


14.2.3 Prescribing Blood and Blood Products

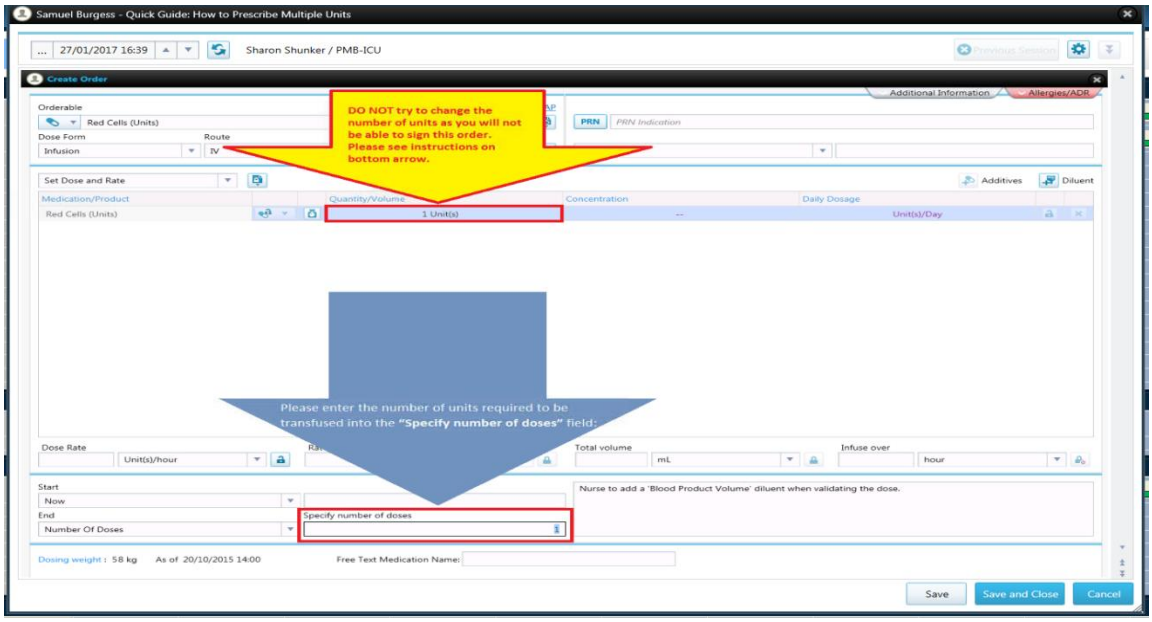
- The Medical Officer needs to follow a specific workflow to prescribe Blood Products which is slightly different to how normal medications are prescribed. The volume of the red cell unit or FFP unit is not known until the product arrives in the unit, therefore the rate cannot be prescribed in the prescription.
- Each separate bag is prescribed as a separate dose allowing each to be checked and co-signed individually as per policy.

Work Flow for Blood and Blood Products
Select → Prescribe Medications tab → click the **Prescribe Fresh Blood Products** button.

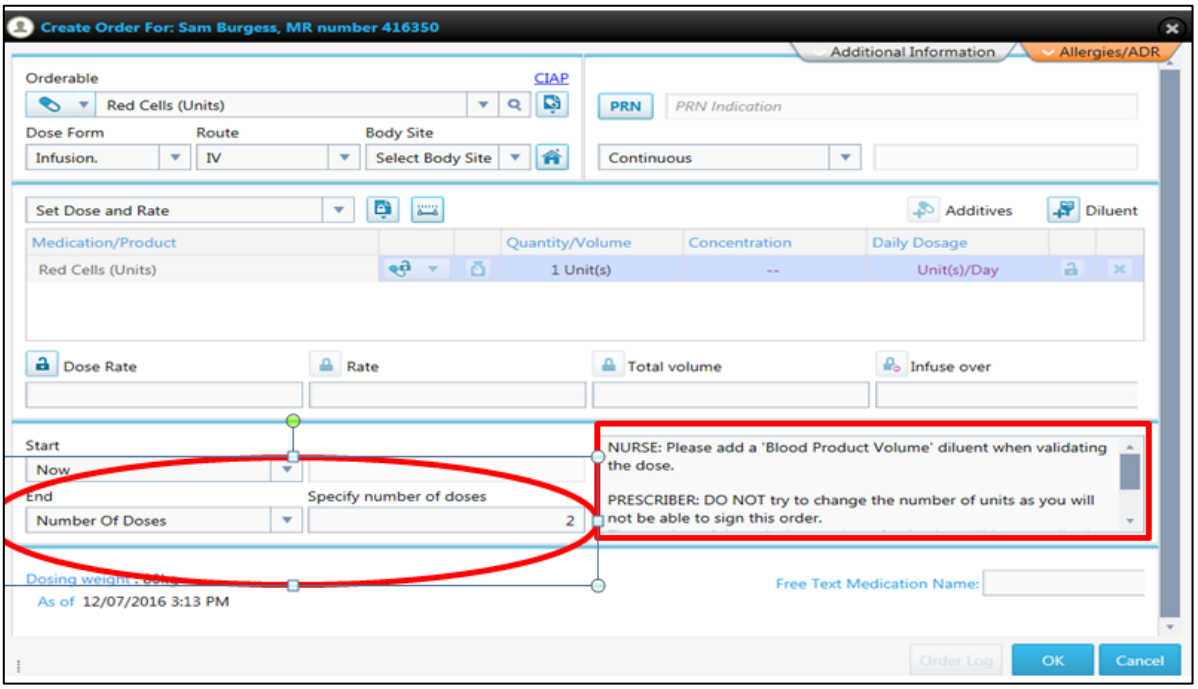




- To prescribe 1 unit of red cells - select the Red Cells 1 unit button. This will result in the Order Entry window opening with pre-defaulted information
- If more than 1 unit of any blood product is required, check the instructions by clicking on the yellow button 'If multiple units are required please use this guide'



- **NOTE:** The units are prescribed as 'Number of Doses' (see below). Therefore, if you want 2 units, specify this in the 'Specify Number of Doses' section as 2
- The dose rate for blood products is selected to determine the duration to infuse the blood product. For example, if 2 units are required and dose rate selected = 1 unit per hour, then 2 units will run over 2 hours
- The order is prescribed in units, with no volume defined, as the volume is unknown at time of prescription
- The nurse will enter the volume at time of dose administration.

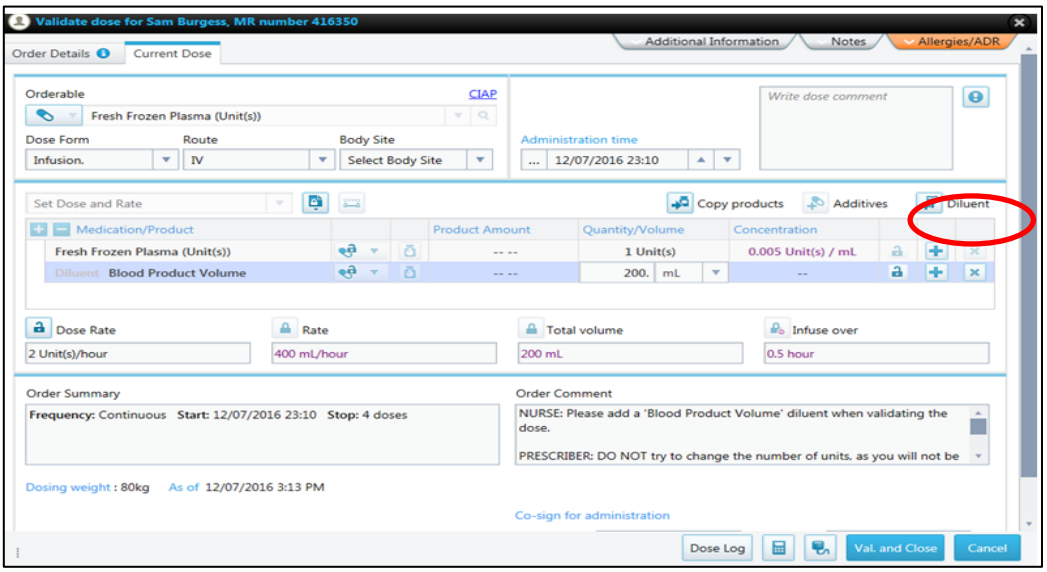


Example of prescribing 4 units FFP:

- Click on **Prescribe Fresh Blood Products and Albumin** button → click on **Fresh Frozen Plasma Multiple Units** button
- This opens the order entry window – select 'Number of doses' to be 4
- Select Dose Rate of 2 units/hour (meaning each unit will run over 30 minutes)
- When order is complete 'Save and Close'
- Medical Officer to sign for order prescription.

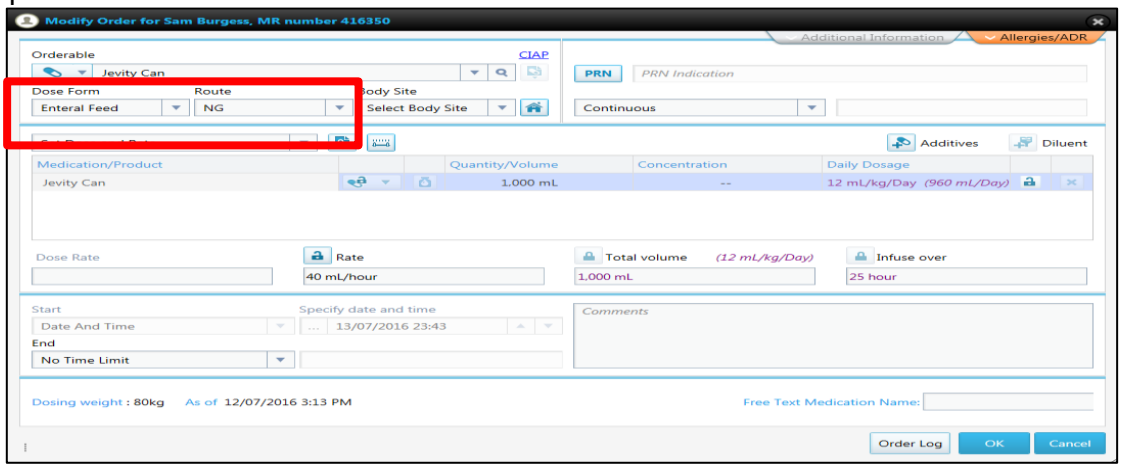
Administering FFP 4 units:

- Go to **Administer** tab view
- Right click on the due dose of FFP
- Select **Validate** – this takes you back to the order entry window
- Perform the safety checks that are routinely done when administering blood and blood products
- Enter the total volume for that unit as displayed on the FFP flask – this is done by the nurse entering a 'Blood Product Volume' diluent for that unit
- Co-sign order and close this window.



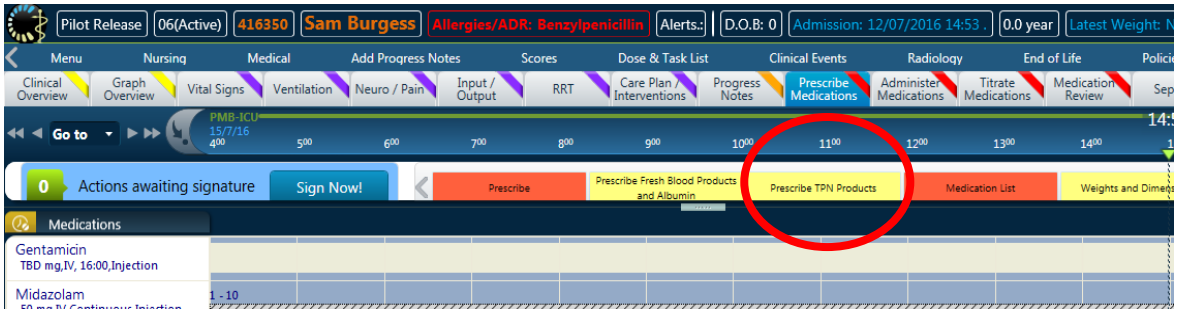
14.2.4 Enteral Feeds

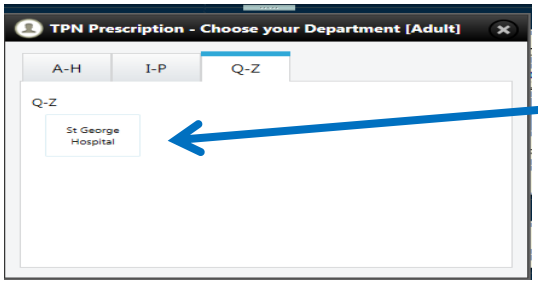
Enteral feeds are also prescribed from the medication order entry window. The desired feed is chosen as the orderable, the route (such as NG) selected and the desired hourly rate of the feed is also selected. Bolus feeds can also be prescribed by selecting the appropriate template.



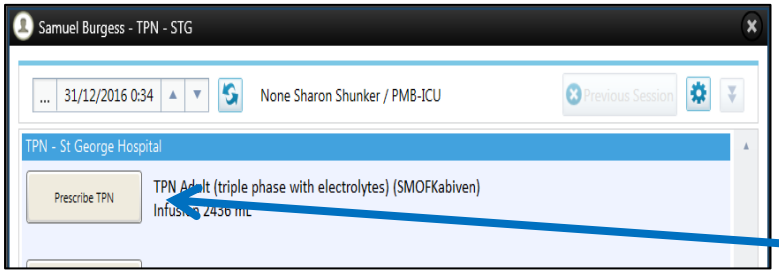
14.2.5 TPN Orders

If the 'Prescribe TPN Products' button is selected from the Prescribe Medication view, the appropriate hospital must be chosen which links to the local hospital TPN Templates (as below).

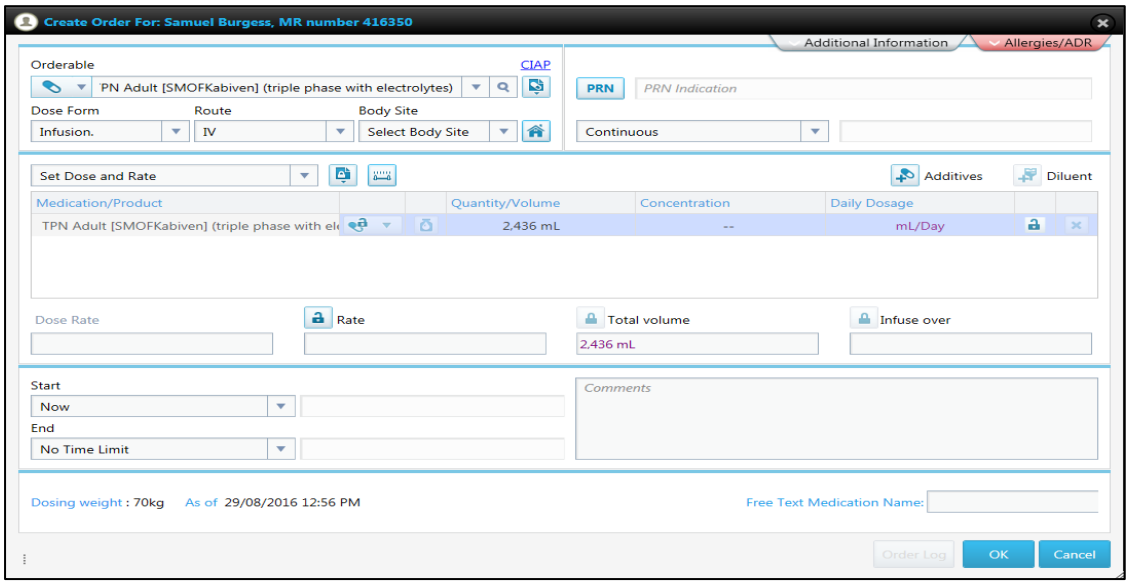




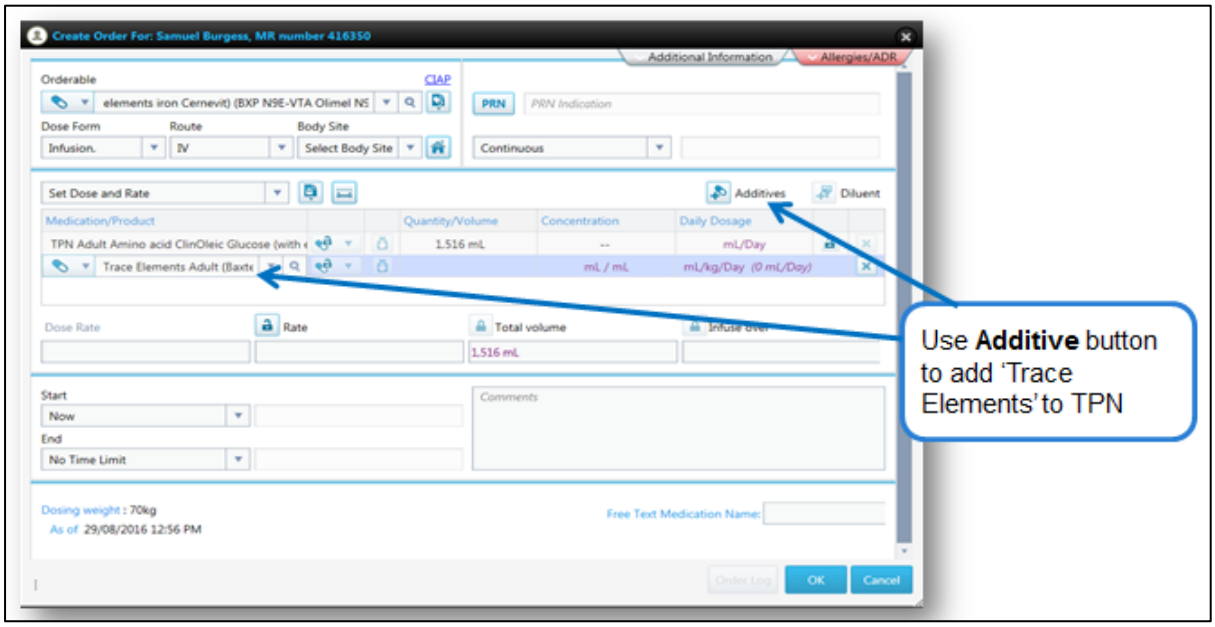
Select local hospital TPN Template



Clicking the Prescribe TPN button will open the order entry window



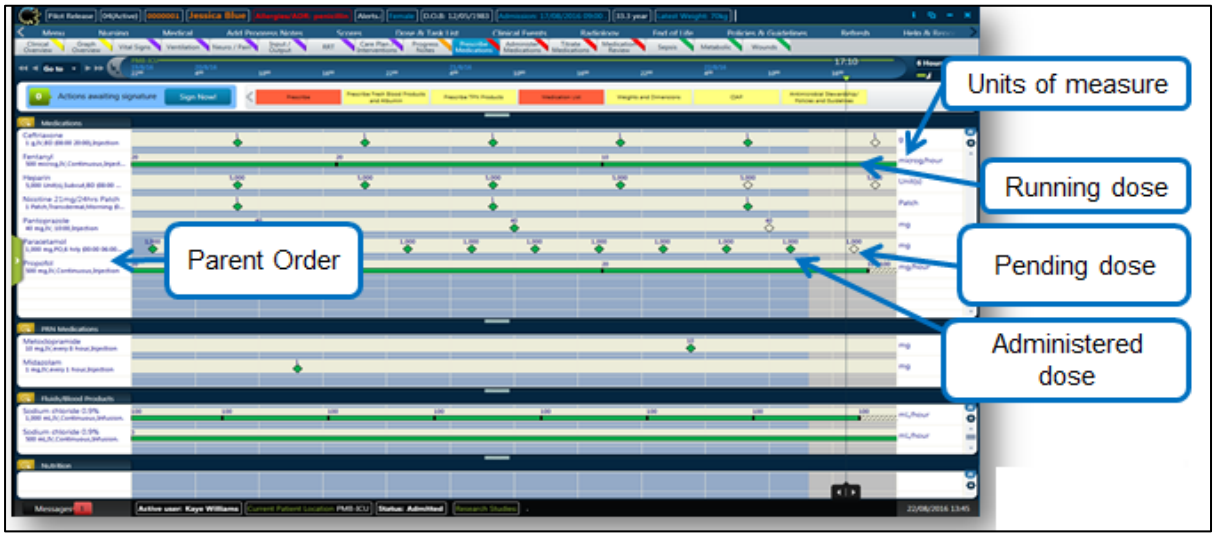
TPN Additives



- For TPN bags that are custom made at site: Enter the orderable 'TPN Adult Custom' with a unit of 'Bag' The prescriber would need to individually add in the Additives and their quantity
- Upon checking and validation, the nurse would see the full details on the Order Details Window, this will facilitate their checking of the TPN bag label.

14.2.6 Prescribe Medication Tab Order Timeline View

All the prescribed medication orders can now be viewed in the prescribe medication view.

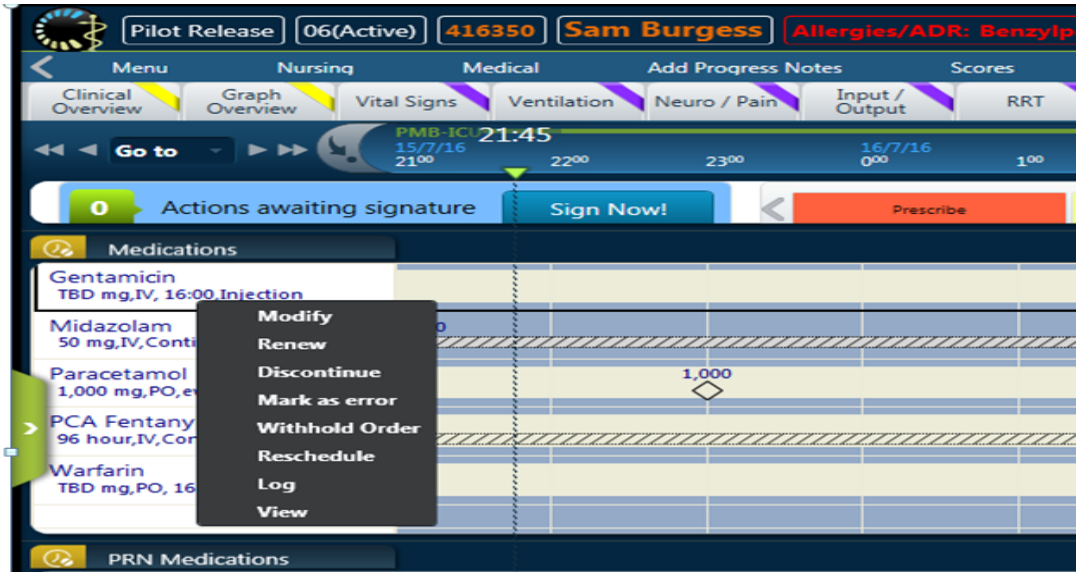


The prescribe medication view enables clinicians to view and manage the treatment plan of a patient. The prescribe medication tab displays the following:

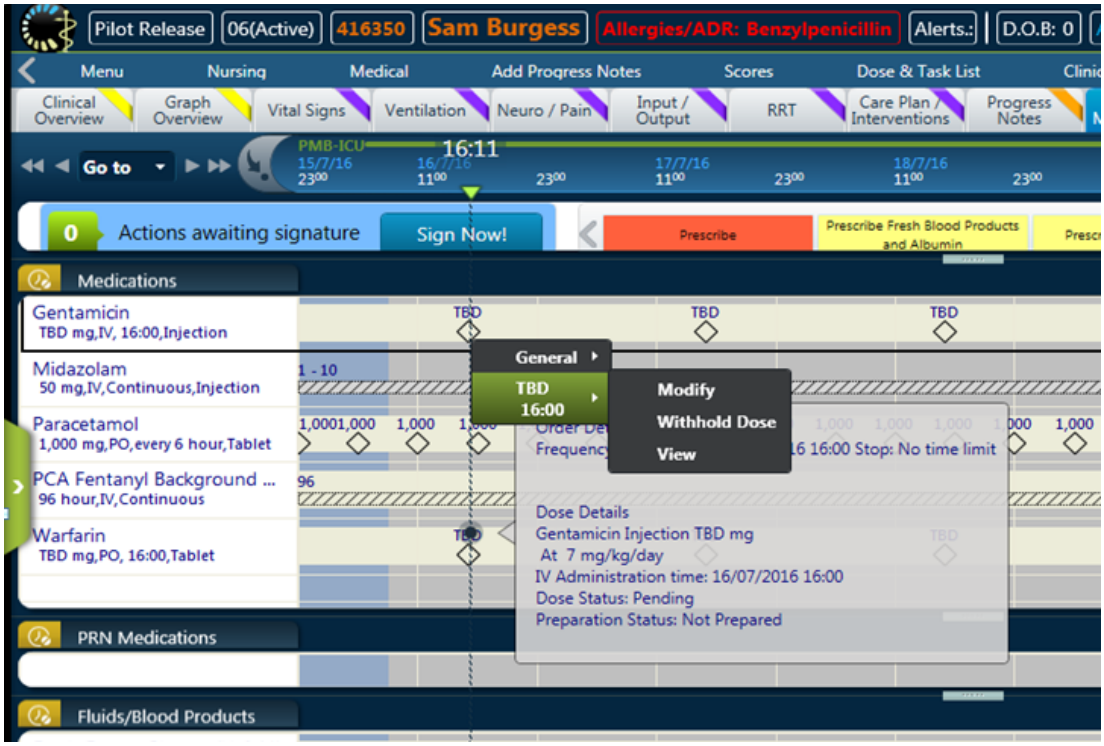
- Parent Order Plan - the left column of the view displays the parent order plan information, including the orderable name and order plan details
- Current / Future Doses - doses associated with each order, in 'Current' or 'Pending' status
- The right column displays the prescription's unit of measure

- Running Doses - a background light coloured bar indicates running doses (e.g. a green bar indicates a currently running dose, a striped bar indicates a running dose that needs to be commenced).

If the medication order needs to be altered from this view, it can be done by right clicking on the required medication in the 'Parent Order' (to change the entire order).



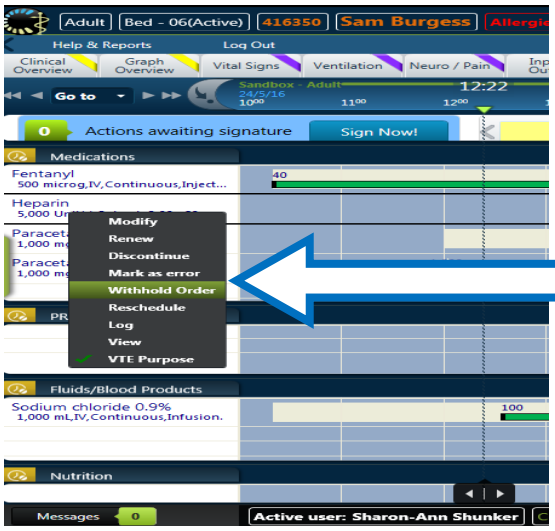
OR, right click on the 'Dose' to change just the dose.



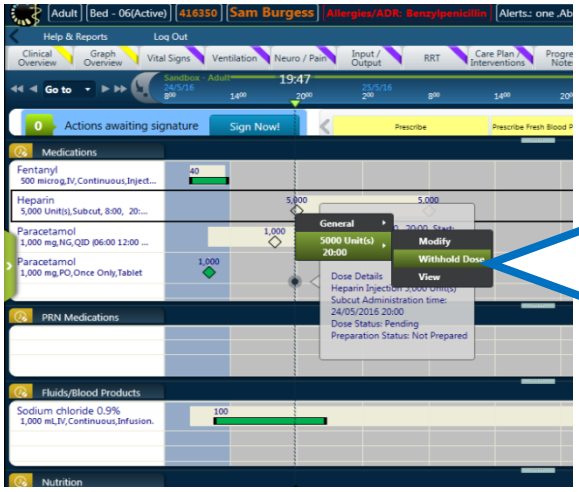
NOTE: right clicking on an individual dose only changes that particular dose, and the parent order will NOT change.

It is recommended NOT to use 'Modify' to change a prescription. Only use Modify for prescribing the Dose for TBD medication and if the prescribed 'Titrate to MAP' for inotropes and vasopressors needs to be changed

Withhold Order / Withhold Dose / Release Withheld Order
The clinician can choose to withhold an entire order which will withhold all future doses OR the clinician can withhold a dose.

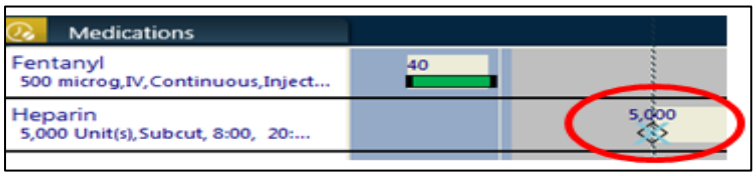


Withhold Order – this is done by right clicking on parent order in the '**Prescribe Medication** tab view.

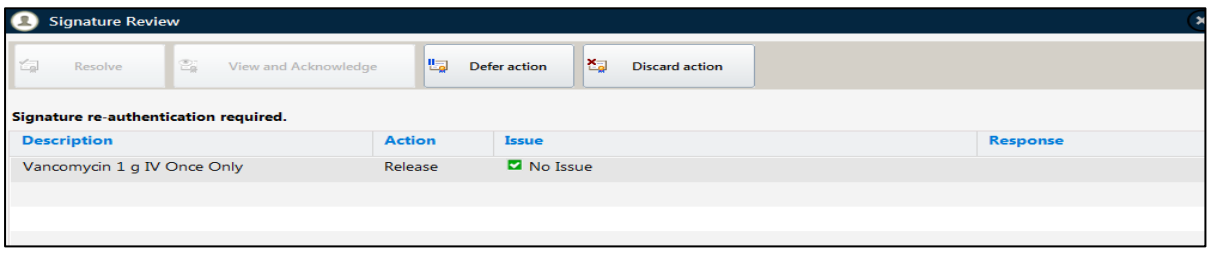


Withhold Dose – this is done by right clicking on the dose in the **Prescribe Medication** tab view.

It is displayed as a cross out for that dose:



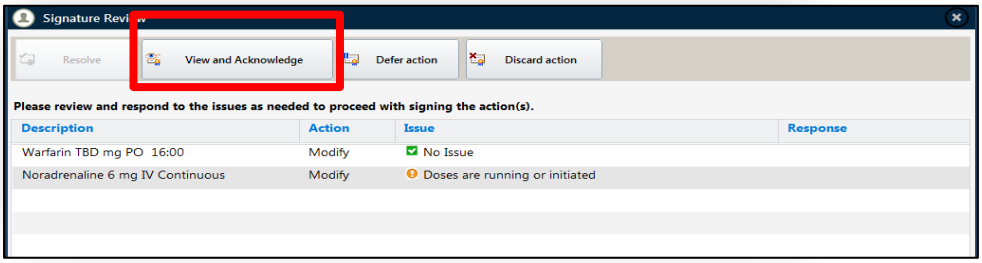
An order that has been 'Withheld' can be released by right clicking on the parent order and selecting 'Release'. This, like all medication related actions, will need to be signed for by the clinician.



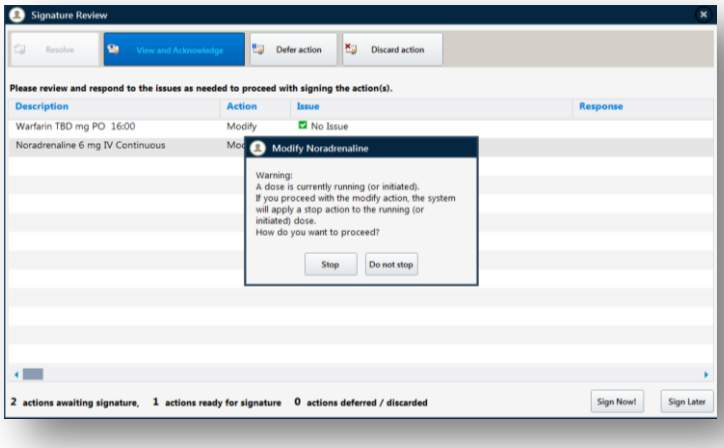
Modify Action

- **NOTE:** DO NOT USE the 'Modify' action from the parent order. If changes need to be made, 'Discontinue' the order and prescribe a new order
- Only use 'Modify' to make changes to comment box instructions or to prescribe dose for TBD medication

- When using **Modify** to change comments section (eg 'titrate MAP to…'), the prescriber needs to 'Sign' for the modify action
- This creates an 'Issue' of 'Doses are running or initiated' → Select 'View and Acknowledge'.

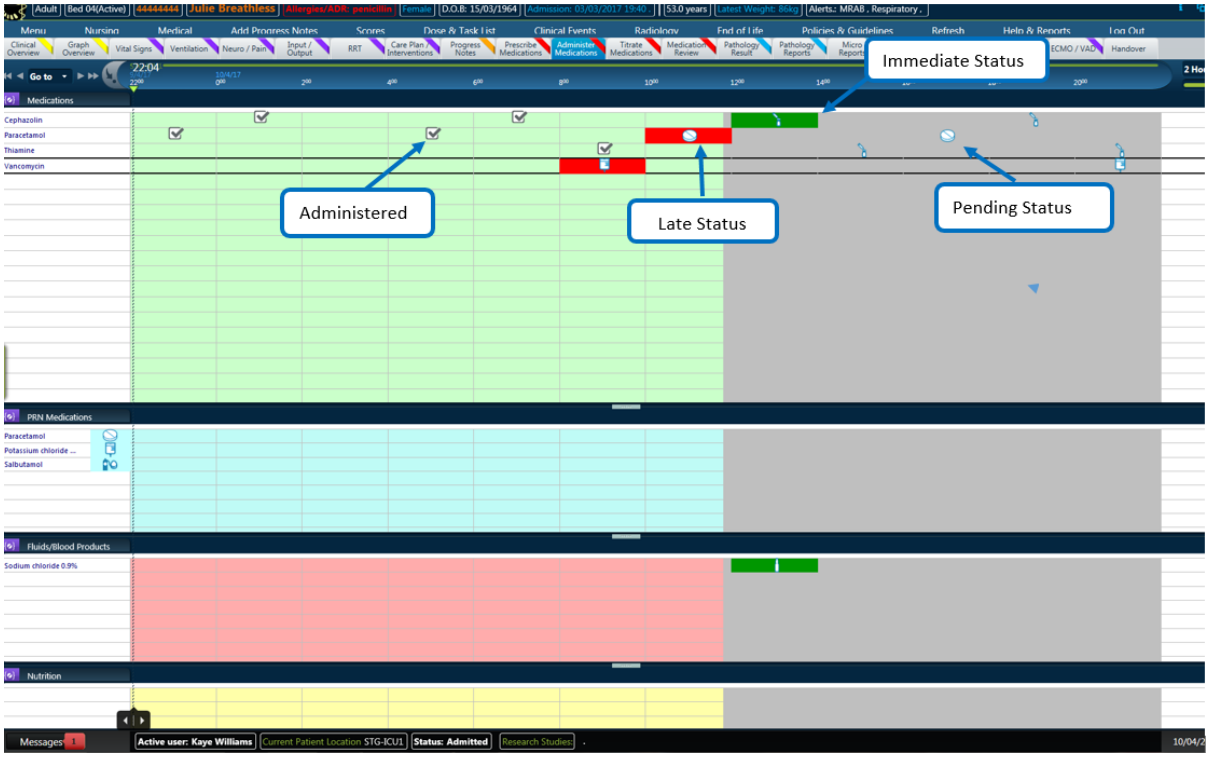


- This brings up a pop up box with a warning that doses are currently running, if you proceed with modify action the system will apply a stop action to the running dose.
- Select 'Do not Stop' action from the pop up Warning window
- The decision to modify the titratable MAP or any comments that get added / modified MUST be communicated to the nurse / relevant clinician, so that they can action it. An entry should also be made in the progress notes. (If the prescriber selects 'Stop' a second order is created for validation on the dose take list and from the cardex view - The nurse will then be prompted in the 'dose task list' to 'stop noradrenaline' and then to 'Validate a new dose')



14.3 Administer Medications

Nurses can use the 'Administer Medication' tab view to view the medication doses that need to be given and those already given. The Time Interval selected will determine what is viewable on this tab view (e.g. screen shot below shows a 6 hour time interval).



Medications have to be checked with the 5 Rights of Drug Administration from the 'Order Details' Window, prepared and administered. Once they have been administered the medications then have to be validated (this is the eRIC terminology for signing that a dose has been given).

Validating a Dose – this can be done in two ways:

1. From the Dose & Task List- this is opened either by cloicking n Dose & Task button (main menu bar) or via **Messages** (flashing red) → Doses, tasks and actions waiting to be validated button
2. From the Administer Medication tab – Cardex view

14.3.3 Doses, Tasks and Actions waiting to be validated

Medication doses and tasks that are due can be viewed from the 'Dose and Task list', which is opened either from the 'Message Centre' or 'Dose & Task' button (Main menu bar)

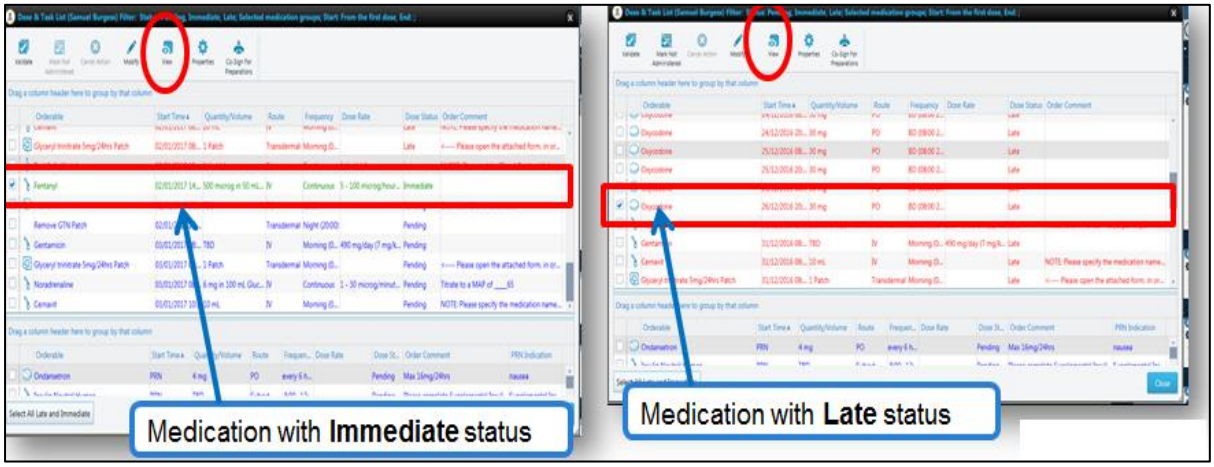
- Message Centre: Located on the bottom left hand corner of the Status Bar. If the Indicator is flashing red it means that there are pending or overdue doses or tasks to be validated with an immediate or late status:
  - Late Medications (the grace period is over) are in 'Red'
  - Immediate Status medications (in the grace period – one hour before and one hour after) are in 'Green'
  - Pending Medication (due in the future) are in 'Blue'. PRN medications will always be pending
- Opening the Dose & Task List - Clicking on the 'Doses, tasks and actions waiting to be validated' button opens up this window OR use the 'Dose & Task List' menu

- Dose & Task List available actions include: Validate, Modify, Marking a Dose as Not Administered, View Dose.

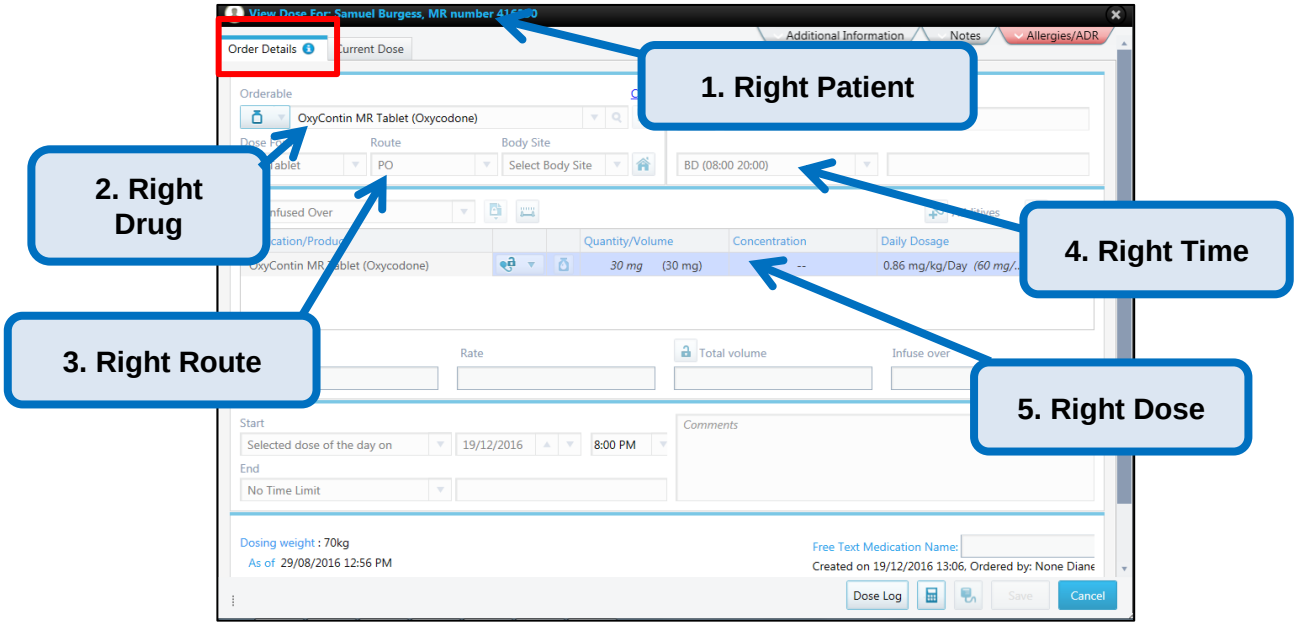
14.3.4 Process for Administering Medications

NOTE: Use the 'Dose & Task List' to view which medications are due to be administered

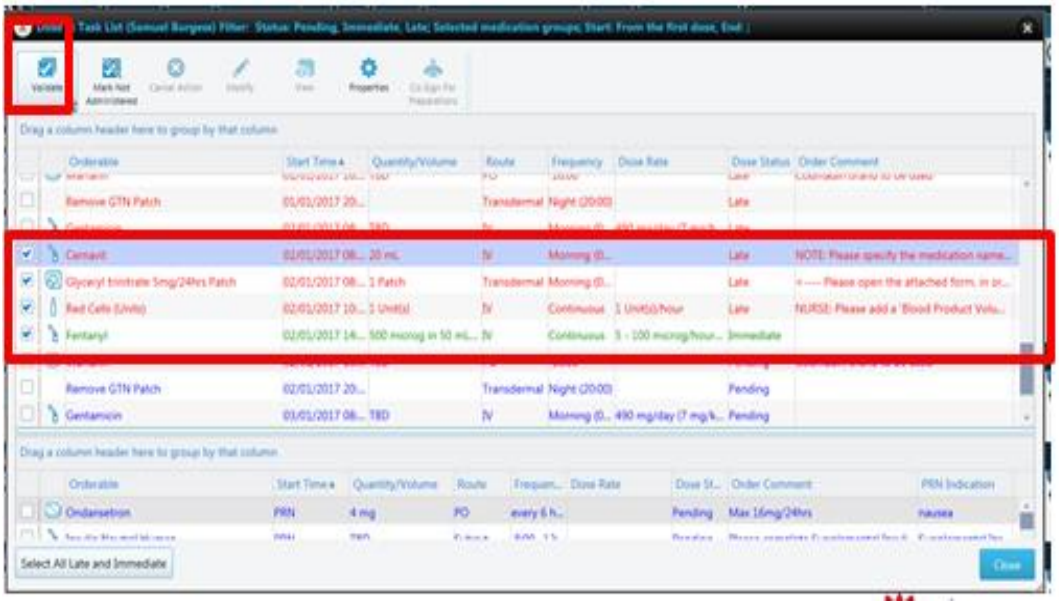
- Select the medication by ticking the check box. Open each medication individually and check the 'Order Details' by ticking the check box
- From the 'TOOLBAR' at the top of the 'Dose & Task List' window select 'View'.



- **NOTE:** Selecting 'View' will open up the 'Orderable' window. This defaults to the 'Current Dose' view – SELECT the '**ORDER DETAILS**' window to check dose details → Perform the **5 Rights of Drug Administration** → Prepare the dose → Administer the dose



- Once the medication has been administered – it needs to be signed for. This is called 'Validate' in eRIC
- Log back in – open the 'Dose & Task List' – Select all the medications that have been administered → From the 'TOOLBAR' at the top of the 'Dose & Task List' window select 'Validate'

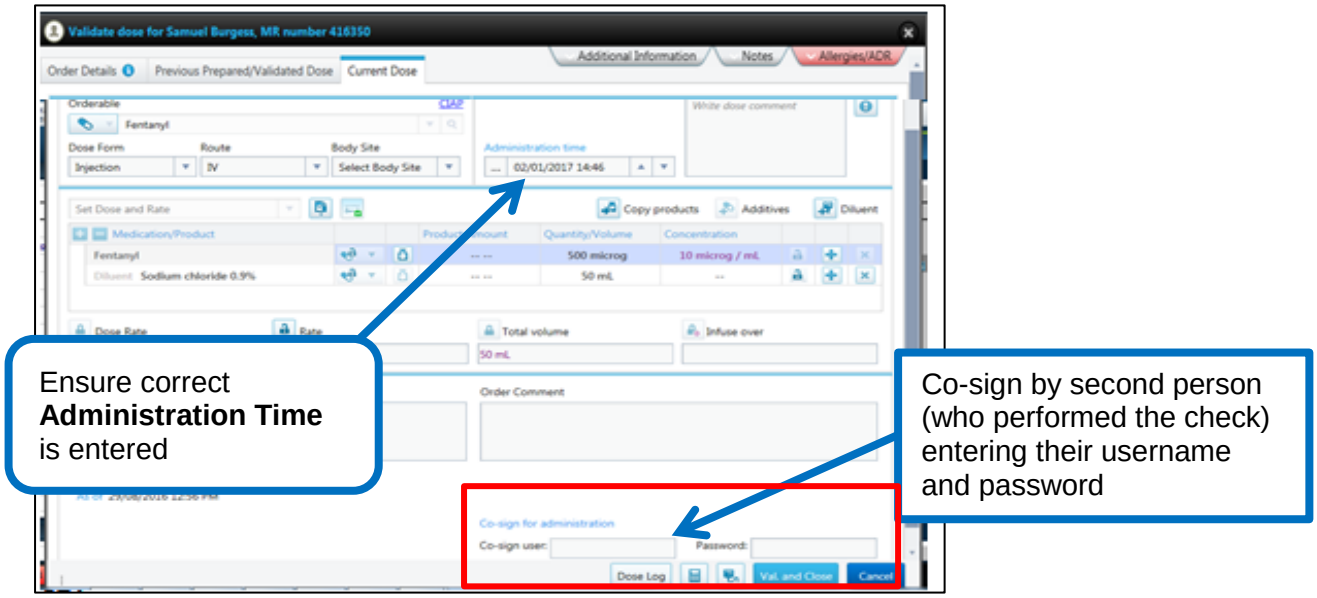


NOTE:

- Use the Current Dose Window to sign for administration
- Recheck all the drug details that you are signing for
- Check time of administration is correct
- A second nurse /doctor must co-sign, if required.

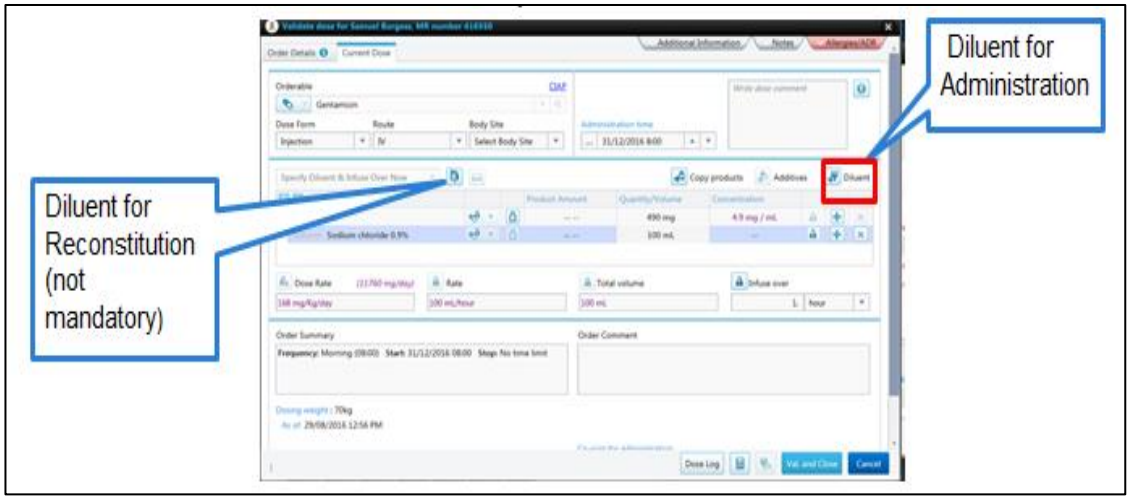
About the **Current Dose Tab**

- Contains details similar to the order entry window.
- Administration time is the scheduled time when this dose is due. If the dose is not being given at this time it should be changed to reflect the time you are giving the dose at.
- Dose comment can be used to enter comments for this specific dose.
- If it is a titratable medication the current rate should be entered.



Diluents

- Certain IV medications may require a **'Diluent for Reconstitution**' or a '**Diluent for Administration**'
- The Diluent does not need to be specified at the time of prescribing the medication – Choose '**Select Diluent and Infuse over Later'**
- The clinician administering the medication will usually prepare the medication following the unit's protocol
- Diluents can be entered into eRIC at the time of Validating the order
- Most often, the Diluent for Administration will be entered during validation and used to calculate the Total Volume
- The Diluent for Reconstitution is not mandatory to enter.

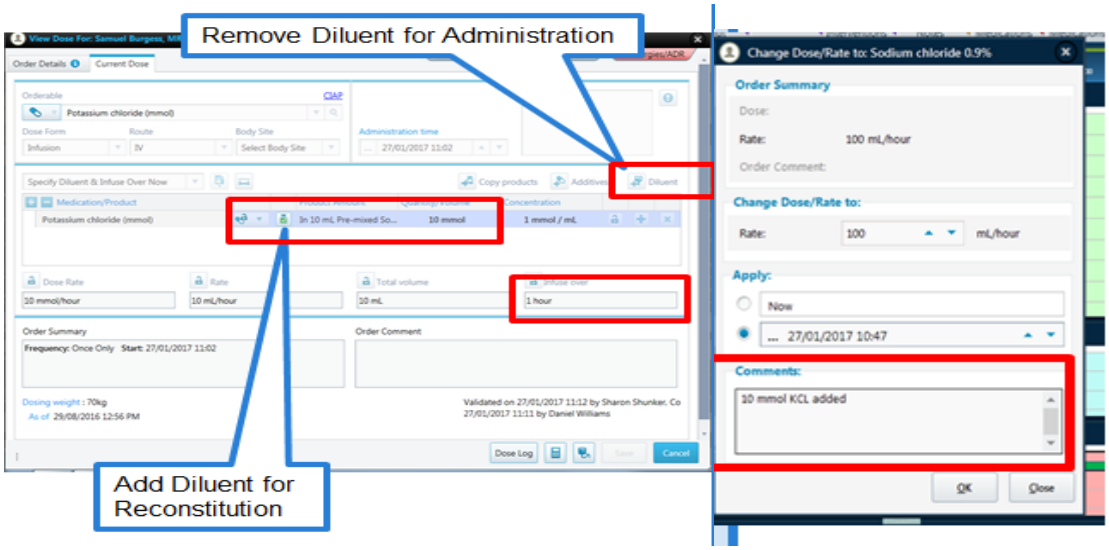


NOTE: Alternatively, the medication may be added to the burette of the already running 'maintenance fluid'. In this case, there is no need to enter a Diluent for Administration. Adjust the rate of the maintenance fluid during medication administration on the 'Titrate Medication' tab.

Example: *Administering KCL 10mmol/10ml in 90ml 0.9% Sodium Chloride (total volume 100ml) over 1 hour - using a burette with maintenance fluid 0.9% Sodium Chloride running at 50ml/hr. The rate of maintenance will need to ↑ for that hour and run at 100ml/hr.*

At time of validating the administration:

- Remove the Diluent for Administration
- In the Diluent for Reconstitution section- add in 'Pre-Mixed Solution' with volume 10ml
- The Infuse Over section should be to administered over 1 hour.
- In the Titrate Medication tab, the rate of maintenance fluid can be increased to 100ml/hr - as KCL 10mmol was added to 90ml of 0.9% Sodium Chloride in the burette to infuse over one hour
- Add a comment to Change Dose/Rate box to indicate why the rate was increased for that hour.



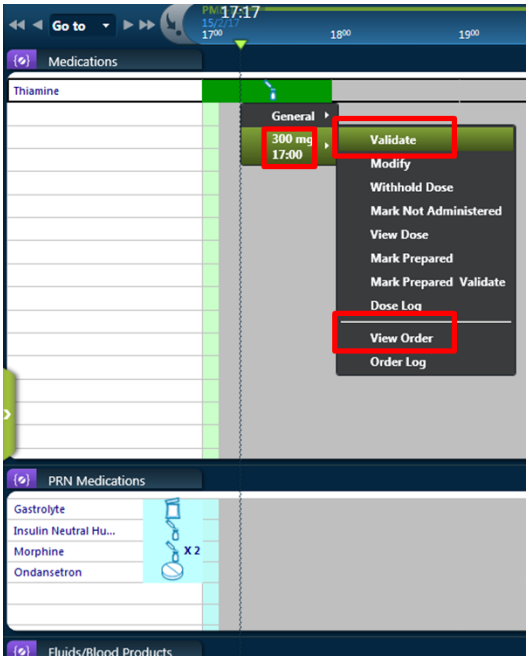
14.3.5 Administer Medication Tab Cardex View

The Administer Medication tab is displayed in a tabular format called the 'Cardex view'. Each dose is displayed in an individual cell, as an icon with a distinctive background colour indicative of its given / due status.

Status	Symbol & Color
Pending	
Immediate	
Initiated	
Validated (Done)	
Late	
Expired	
Withheld	
Not Administered	
PRN	

Immediate doses are indicated by the colour green and late doses by the colour Red. These can be validated.

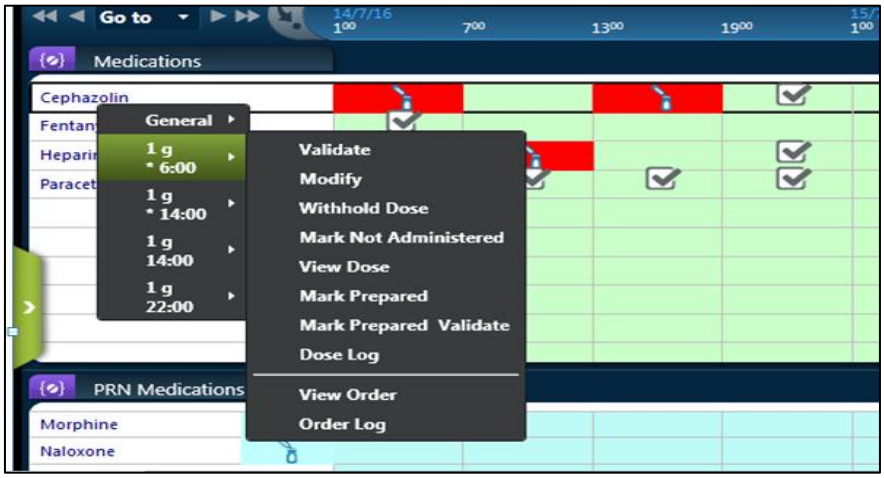
To validate a dose from this tab, follow the steps:
Right-click the cell containing the dose; a menu opens.



This menu has two options:
General and **the time of the specific dose**.

- Select the time of the dose; a sub-menu opens.
- Select **View Order**; the Current Dose [administration dose entry] window opens with the dose details filled in and the details of the order plan the dose is associated with.
- **NOTE: Go to the 'Order Details Window' – perform the 5 Rights of drug administration - prepare medication.**
- Log out - administer the medication
- Log back in – Right click the dose
- Select the time of the dose; a sub-menu opens.
- Select **Validate -** the Current Dose [administration dose entry] window opens
- **NOTE:** Ensure all the details of administration are correct
- Co-sign the dose (this is the term for obtaining a second signature) Click **Val. And Close**; the Validate window is closed and the dose is displayed as validated on the Cardex view.

Cardex available 'Dose' actions include:



Right Click:

- **Validate:** to document that you administered a medication, with the date and time, dose details and co-sign if applicable
- **Modify**: modifying a dose enables you to edit an individual dose (dependent on user permissions)
- **Withhold:** you can withhold a dose that has not been validated yet (e.g. a dose was withheld because the patient was scheduled for surgery). A dose with a withheld status can still be validated if there is a change of mind
- **Marking a Dose as 'Not Administered':** a dose can be set as Not Administered when a dose has not been physically administered - such as the patient was vomiting and could not tolerate their tablet. A dose marked as Not Administered can still be validated if there is a change of mind
- **View Dose:** the user can open the dose and view the details in a read only format
- **Dose Log:** the user can read a chronological log of the actions performed to that individual dose.

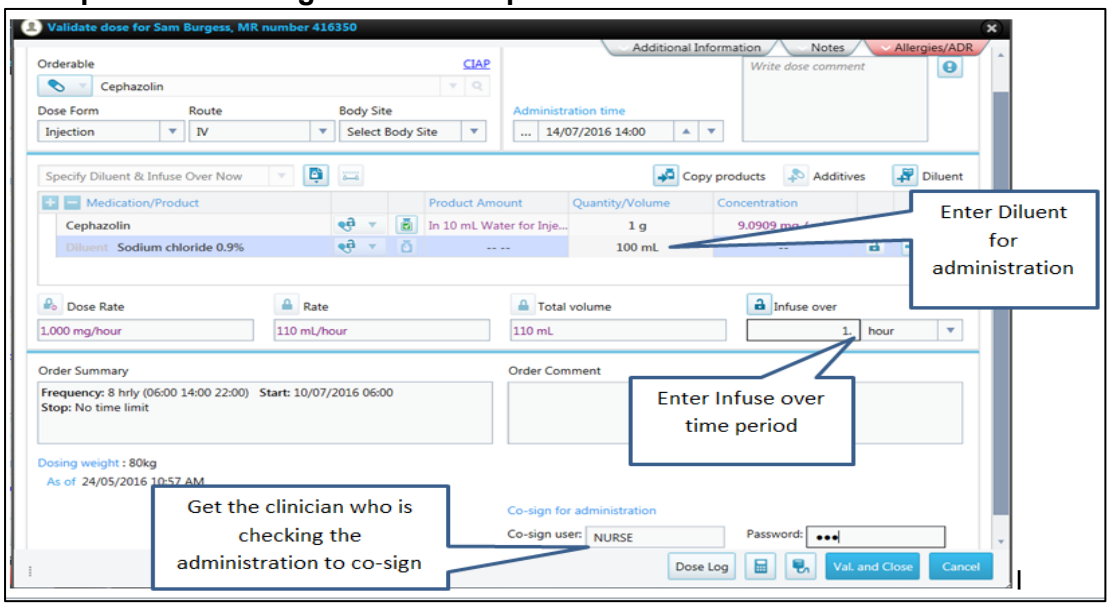
14.3.6 Completing Administration of Medication

Once all the details are completed, the medication, if required will need a co-sign to complete the validation.

Co-sign for administration

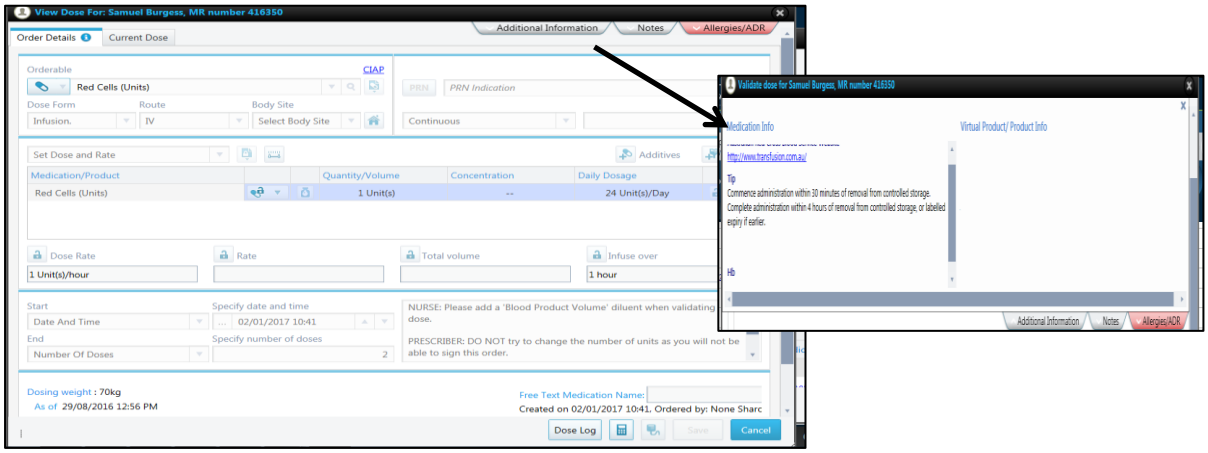
- Co-signing is always enabled, and is mandatory for some medications according to NSW Health Policy and legislation. The person who is co-signing must enter their user name and password
- Only users with the appropriate permission to co-sign will be able to co-sign. Permission settings will be pre-customised
- For the dose actions where co- signing is mandatory (e.g.Validate and Initiate), the user will be unable to finish the action without a co-signature
- **NOTE:** The ICU clinician (Doctor / Nurse) who has checked the preparation and administration of the medication must enter their user name and password to co-sign
- Once all the details have been completed in the dose entry window the user can click **Val. And Close** to validate that the dose has been administered.

Example of 'Validating' a dose of Cephazolin



- Open the 'Dose & Task List'
- Select Cephazolin Dose to be Validated
- Select 'View' – use the 'Order Details Window' to perform the 5 Rights of drug administration
- Prepare and administer the dose
- Log back in and re-open 'Dose & Task List'. Select 'Validate'
- Re-check all the details in the 'Order Details Window'. Use the 'Current Dose Window' to enter all relevant administration details
- Get an authorised clinician who has witnessed the preparation, checking and administration to co-sign the administration of the medication
- Click the 'Validate and Close' button.

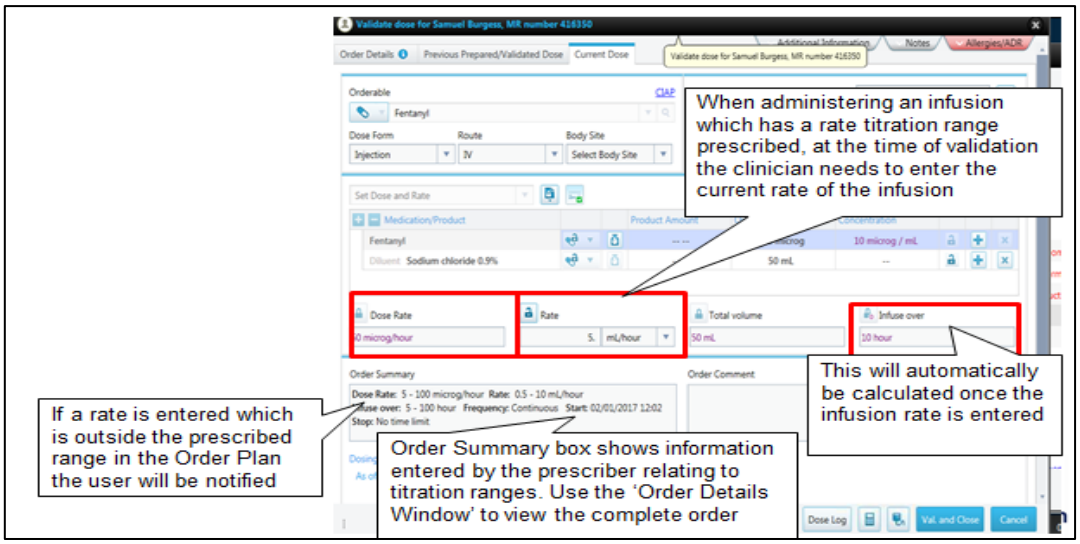
Validating Blood Product Administration



- The standard checking procedure for checking blood products and Patient details MUST be followed
- Go to 'Dose & Task list'. Select Ordered Blood Product → click **View** → check the Blood Product Prescription details from the **Order Details** window
- Click on the additional information button for more information on administration of blood products
- After product administration is commenced, reopen **Dose & Task** list → validate the administration.

Validating Rate Titration Orders

- When the dose entry window opens for a rate titration order (such as a fentanyl infusion) the corresponding Dose, Rate and Infuse over fields that hold a range in the order entry will be empty
- Check the order details window for prescribed ranges for titration, check the comments box for specific instructions on titration e.g. Titrate noradrenaline to keep MAP >70mmHg or Titrate Propofol to keep RASS -1 TO +1, titrate Fentanyl to keep CPOT < 4
- The clinician needs to enter the starting rate in the 'Rate' field (Rate changes can be done from the 'Titrate Medication' tab - see section on Titrating Medications)
- Validation for Infusions is at the time of commencement of a new syringe or flask – the change of rate will be done from the titrate medication tab view
- The system will warn the administering user when documenting a value outside of the range set and require the user to document a reason for this discrepancy
- The order detail window and dose views will display these ranges as well as the order and dose logs.

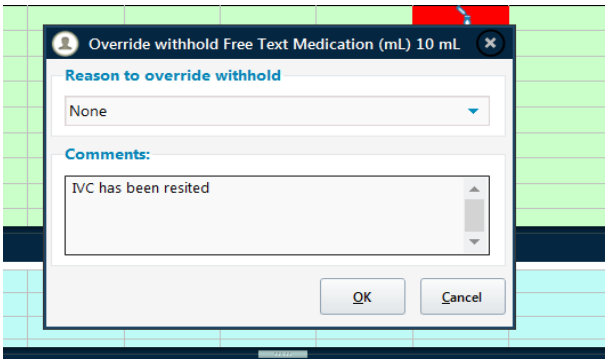


Validating a Withheld Dose OR a Not Administered Dose

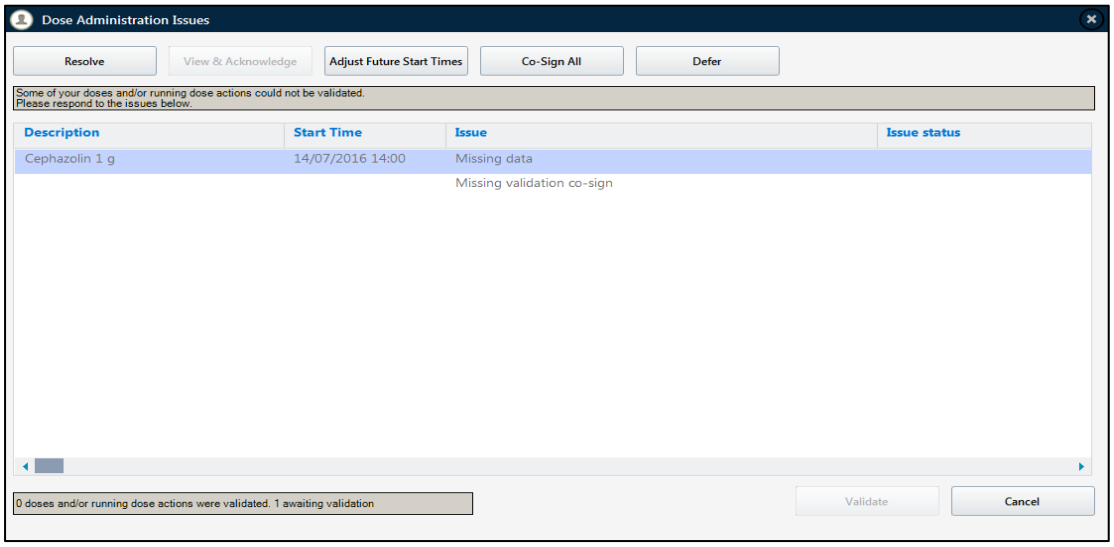
A dose with 'Withheld' status OR a 'Not Administered' status can be updated and validated if necessary. For example, a dose was withheld because the patient was scheduled for surgery, however, later on the surgery is cancelled, so the withheld status needs to be updated and the dose administered as planned.

To validate a witheld dose, follow the steps below:

- Via the administer medications view, Right-click the dose that was set in 'Withheld' OR 'Not Administered' status, and select **Validate**; the Override Withhold window opens
- Enter a reason for overriding the action
- Click [**OK**]; the override reason is saved.



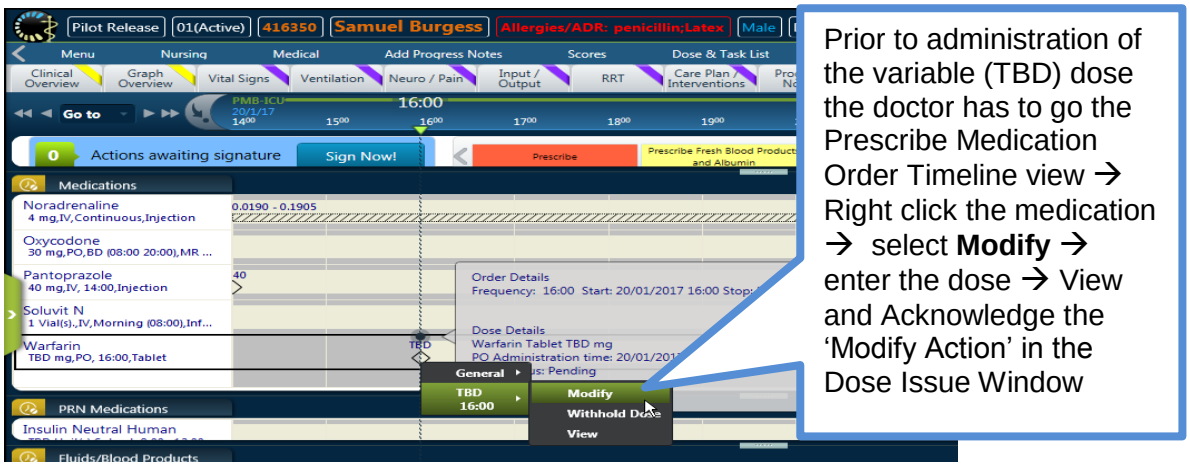
Dose Administration Issues Window



If there are any issues when validating a dose the 'Dose Administration Issues Window' will open and allow the user to resolve any issues that are preventing the action to be completed.

- Issues include: a missing mandatory co-sign, missing administration data, attempting to validate a dose that is scheduled too far in the future or a dose that requires an allergy alert to be resolved.
- The user can select the items individually and perform relevant actions on the issues:
  1. **Resolve:** the dose entry window will re-open and allow the user to make the necessary adjustments. This could also be the Allergy alerts window
  2. **View and Acknowledge**: enables the user to review details of the issue, acknowledge that they have seen the details and have decided to proceed anyway
  3. **Adjust Future Start Times**: when attempting to validate planned dose(s) or task(s) where the start time is in the future, the Future Doses window opens on top of the Dose Administration Issues window. Users can adjust the times of the doses to ensure they are not in the future and therefore can be validated
  4. **Co-Sign**: if the dose requires a co-signature, the user can co-sign for individual doses
  5. **Defer**: enables the user to postpone the signing action, which means that particular dose will not be validated

Validating TBD Variable doses



Prior to administration of the variable (TBD) dose the doctor has to go the Prescribe Medication Order Timeline view → Right click the medication → select **Modify** → enter the dose → View and Acknowledge the 'Modify Action' in the Dose Issue Window

- The nurse will view, administer and validate the medication at the due time from Dose and Task List
- Go to 'Dose & Task list'. Select Ordered TBD medication → click View → check the details from the **Order Details** window
- After administration, reopen **Dose & Task List** → validate the administration.

Allergy Alert Window

If the user is attempting to validate a drug that the patient has an allergy to, the alert appears in the 'Dose Administration Issue Window':

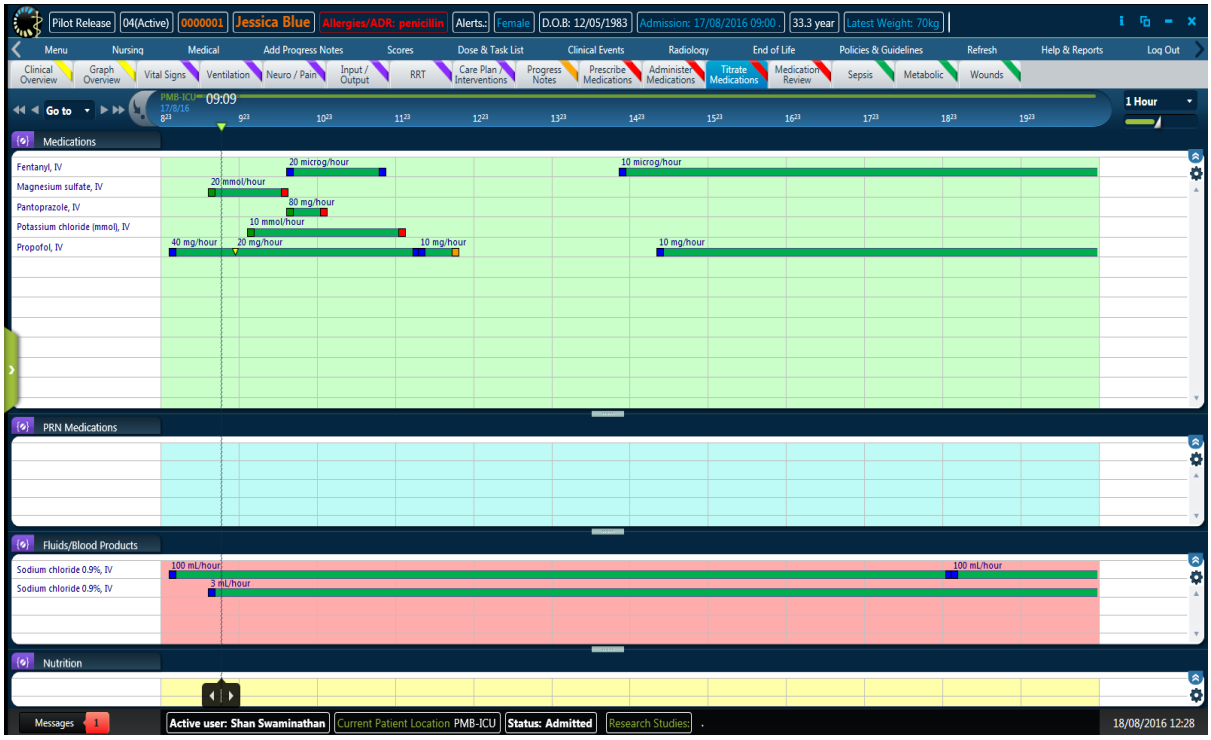
- Select 'Resolve' - upon selecting 'Resolve' in the Dose Administration Issues Window, the Allergy Alert window opens
- Allergy Alert window displays allergen and intolerance items
- The Allergy Alert window for orders and/or doses displays the orders and/or doses to which the patient has an allergy or intolerance, as well as details regarding the potential allergy or intolerance
- A warning level bar in the top right corner of the window indicates the severity level of the allergy
- Below the Allergies List, a message is displayed about the action you are allowed to perform.

The user can add a comment to detail why they wish to proceed with the administration and override the allergy/ADR or intolerance warning in the comments box; this is limited to 500 characters.

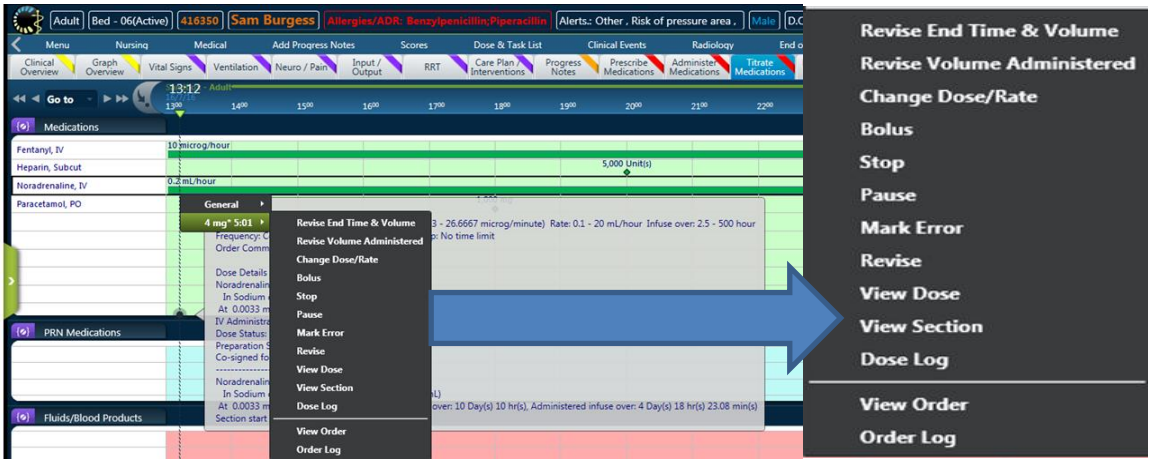
NOTE: The clinician will need to follow the department protocol if they wish to continue to administer the dose with an allergy/ADR notification. NSW have customised this to be a password re-entry in eRIC. The user who is logged in must re-enter their password.

14.4 Titrate Medication

This tab is useful to view validated and running doses, and to titrate medications. You can only see doses that have been validated on this view - you cannot see future doses. You cannot validate doses from this view either. The Titrate Medication tab is a timeline dose display (called Gantt dose view). This displays doses as bars and diamond symbols.

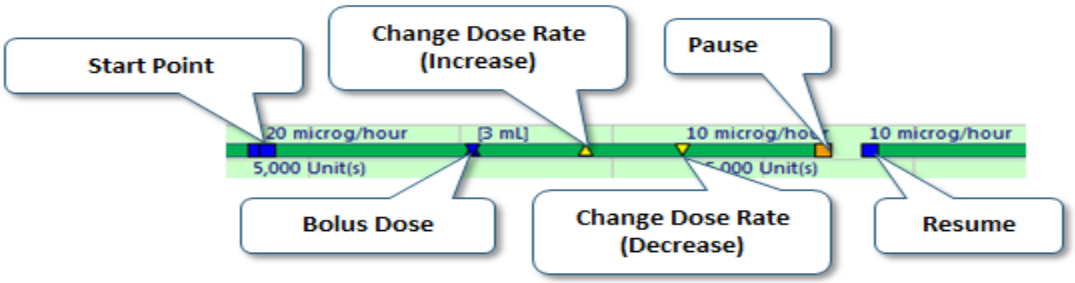


Performing Actions via the Gantt Dose View Right-click Menu
Actions that can be performed by right clicking on the running dose include:



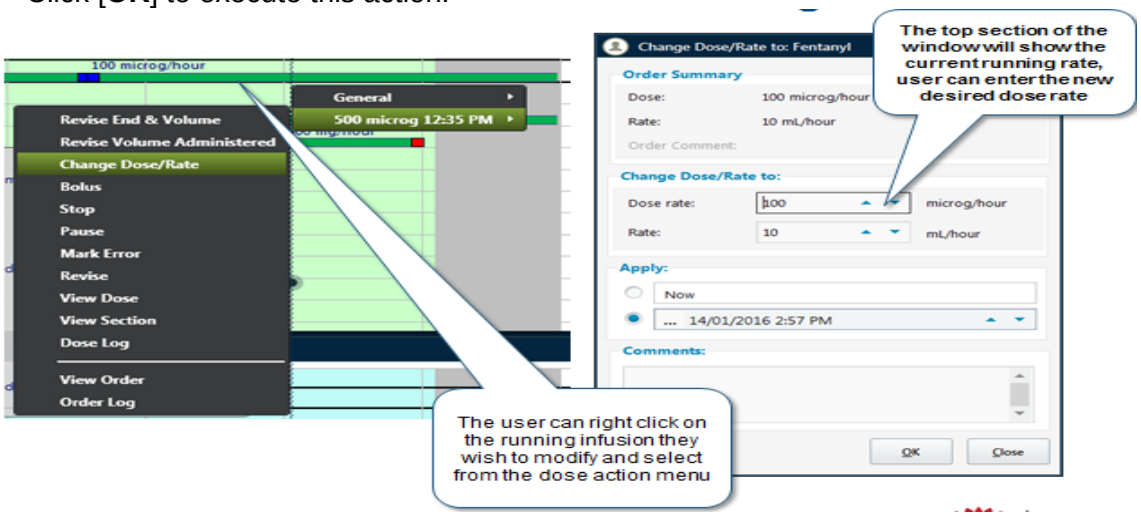
Some dose actions are applicable for running doses only. Therefore, the right-click menu of a running dose will display some actions that are not displayed on the right-click menu of the same dose in the 'Administer Medication' tab dose generated from an order plan.

A Continuous Running Dose with Actions is displayed as below:



Change Dose Rate

- Right click on the medication running infusion and select 'Change Dose/Rate' – this opens up the change dose rate window
- Enter the new dose, or rate for the dose, in the **Dose** or **Rate** fields. When you change one of the values- the other value changes accordingly
- In the **Apply** area, enter the required time for the change (you can either indicate a specific time or select **Now**)
- Click [**OK**] to execute this action.



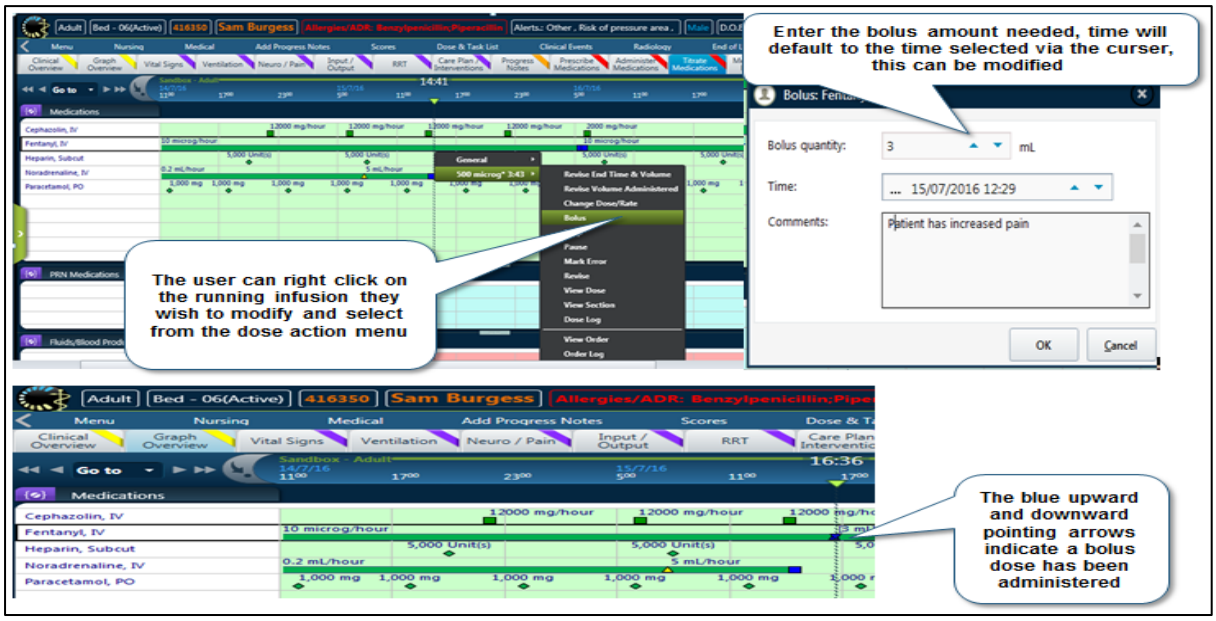
Bolus Action

- The Bolus action enables you to record a one-off bolus for a medication infusion. This is shown as an increased dose rate over a one-minute period.

To perform the Bolus action:

- Right click a running dose, and select Bolus; the Bolus window opens.
- Enter the Bolus quantity and time
- Click [OK] to execute this action.

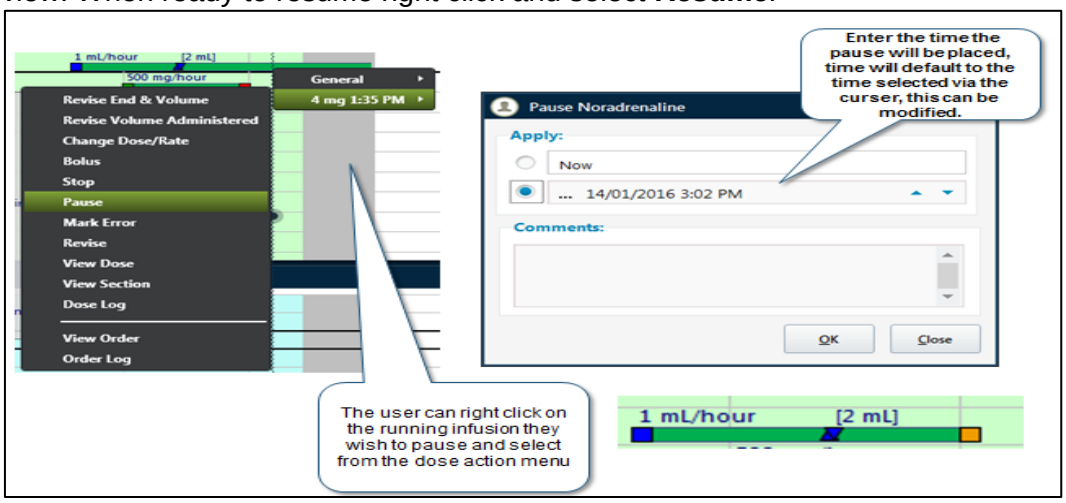
The bolus is displayed in the Gantt as blue upward and downward pointing arrows i.e. a blue arrow pointing upwards and a minute later as a blue arrow pointing downwards. The quantity administered in the Bolus is noted next to the two arrows.



Pause Action

The **Pause** action enables you to pause a dose. A dose that is paused can later be resumed.

- **To pause a dose** right click the dose in the Grid or Gantt Dose view; the menu opens
- Click **Pause** - the Pause window opens with the name of the dose in the title bar
- In the **Apply** area, enter the time you want to pause the dose (you can either indicate a specific time or select **Now)** ,then click [**OK**] to execute this action
- A paused dose is marked with an orange square at the end of the bar in the Gantt dose view. When ready to resume right click and select **Resume**.

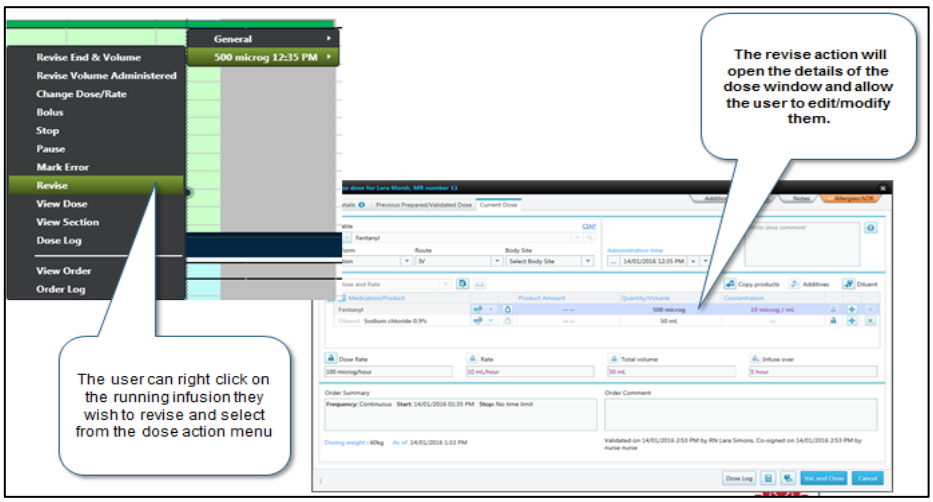


Revise Action

The Revise action enables you to edit the details of the dose via the Dose Entry window.

NOTE: Only use this if absolutely necessary. Unlike other dose actions, this action affects the entire dose and replaces any data that was entered before the revision. Therefore, it is important to note that this option is used for correcting mistakes in entering the dose, and not for recording changes in the process.
All actions on the dose will be tracked in the dose log.

When performing a rate change on a medication infusion, if order 'Revise' function is used by the prescriber to change the rate of the infusion of the Order – the rate of the whole order (for that particular dose/ syringe /bag) will change to reflect the 'revised' rate . This will also result in errors in the calculated infusion rate- so the order is incorrect and the fluid balance will be affected.
The recommended solution: If using 'Revise' is absolutely necessary then the clinician will need to use the 'dose log' to check the rate and changes that were made to that particular order. They will then need to update the changes in a chronological sequence from the start of that dose / syringe / bag to the current time when the 'revise' action was performed.



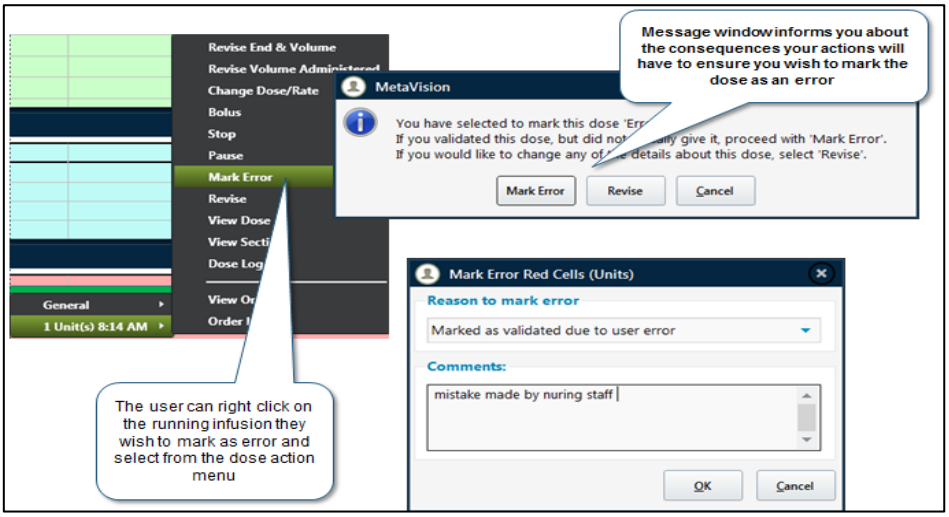
Mark as Error Action

The Mark Error action enables you to mark a validated dose as an error, for example, if a nurse validated a dose in eRIC however the dose was never administered to the patient, the dose can be marked as an error.

NOTE: a dose that is 'Marked as Error' will disappear from the Cardex and Gantt view altogether and can never be given again. A once only dose will have to be charted to replace the dose marked as error or else the patient may miss a dose of medication.

To mark a dose as error:

- In the Gantt view, select the eligible dose you want to mark as an error. Via the right-click menu, select 'Mark Error'; a message window opens informing you that if you validate this dose but did not actually give it, you should proceed with the 'Mark Error' action
- If you click 'Mark as Error', another window will open
- From the Mark Error window, you can enter:
  - Reason for error – select from the list a reason the dose is being marked as an error
  - Comments - manually enter a comment about why the dose is being marked as an error
  - Click [OK]. The dose is removed from the view and will not be visible until the next dose is due.

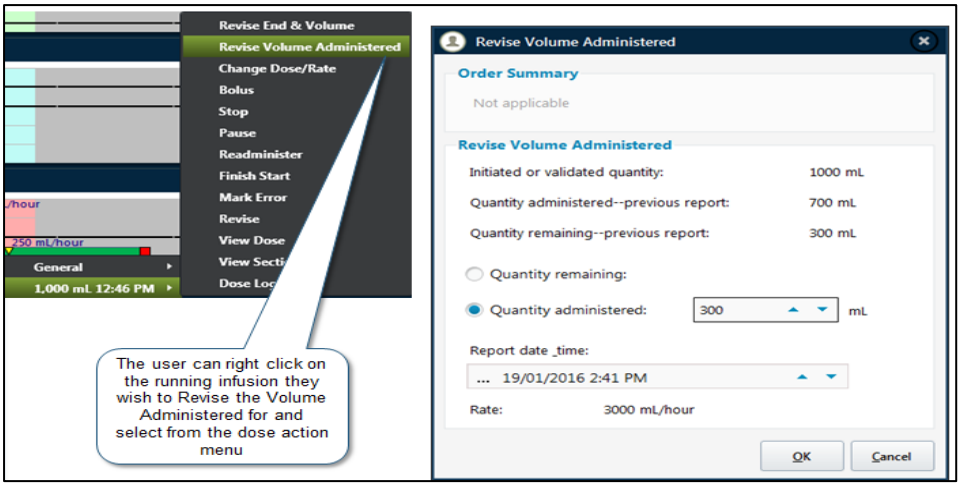


Revise Volume Administered Action
The Revise volume administered action lets you revise the administered volume of a dose.

For example if the order is for 0.9% sodium chloride 1000ml and you only administer 300ml, you will need to 'Revise' the volume administered.

- Right click the dose that you want to revise; the menu opens.
- Click Revise Volume Administered
- The Revise Volume Administered window opens.
- Select one of the buttons 'Quantity Remaining' or 'Quantity Administered' and enter the volume in the bag at that time of this report
- Click [OK] the window closes and the dose is updated in the Titrate Medication view (Note that this changes the rate of the entire infusion).

NOTE: It is recommended not to use 'Revise Volume' but to use 'Stop' instead and then 'Administer' and 'Validate' the new fluid bag / infusion. Using the 'Revise Volume' will alter the rate the infusion was running at.



- If there have been boluses or rate changes on an infusion - it is not possible to use the 'Revise End Time & Volume' to signal a bag is complete and a new dose is starting – this is because it comes up with an error message which will not allow this action (Message: You cannot perform this action as there are actions already performed after this time)

The recommended solution: Use 'Stop'. Then 'Validate' a new dose of the infusion that has been stopped

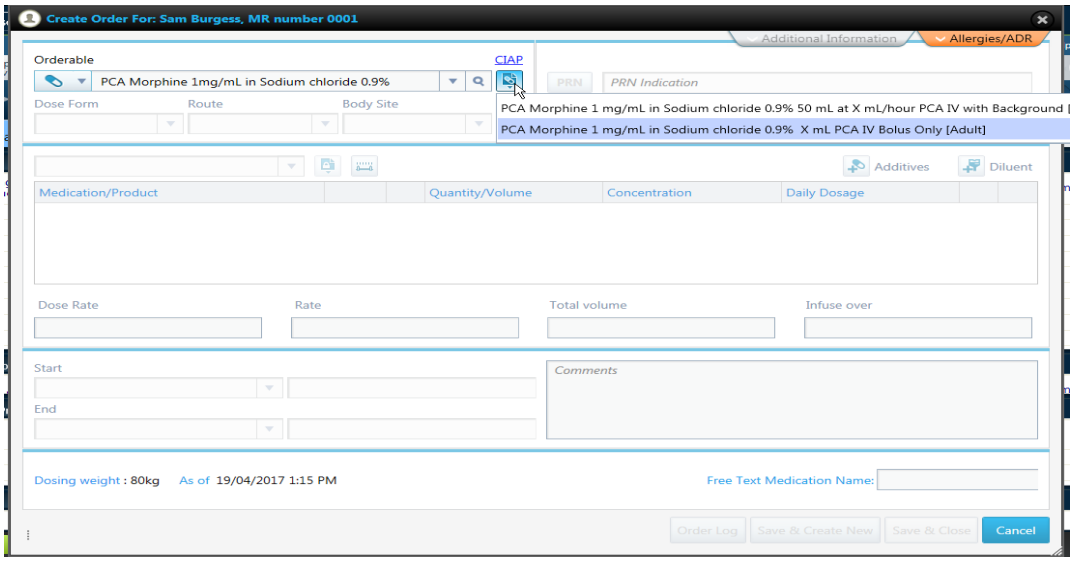
- Infusion bag/syringe finishes before the predicted end time in eRIC and a new infusion bag/syringe is started e.g. Fentanyl infusion predicted to finish at 18:00, however it finishes at 14:00

The recommended solution: This often happens because eRIC does not take into account priming volume. The nurse simply **Stops** the running infusion in the Titrate Medication tab in eRIC at the time the infusion bag is finished, and then **Validates** a new continuous infusion Dose (which will be created when the infusion is stopped).

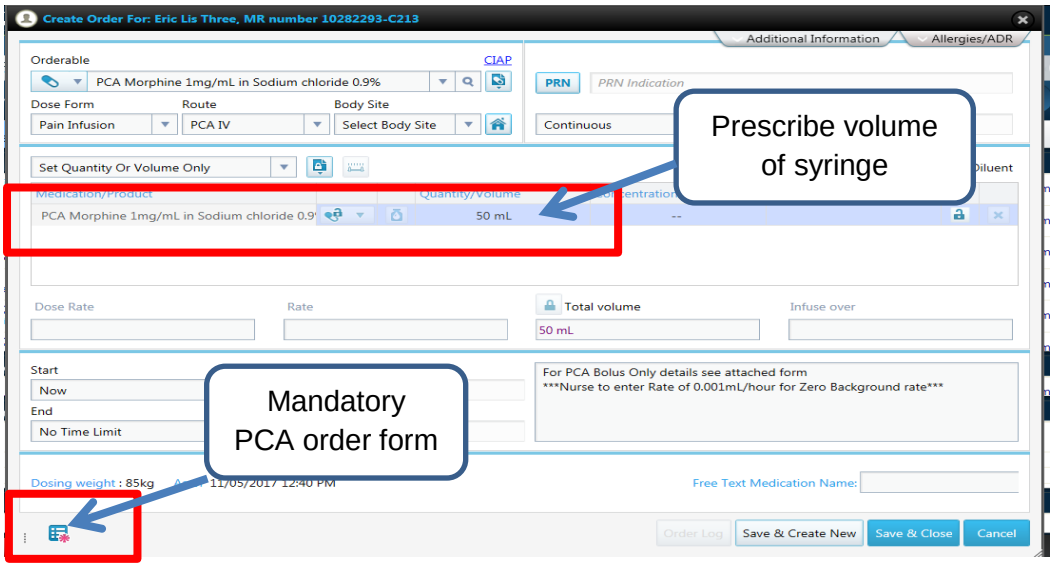
14.5 Examples of Specialised Medication Workflow Processes

14.5.1 PCA / Epidurals / Nerve Blocks

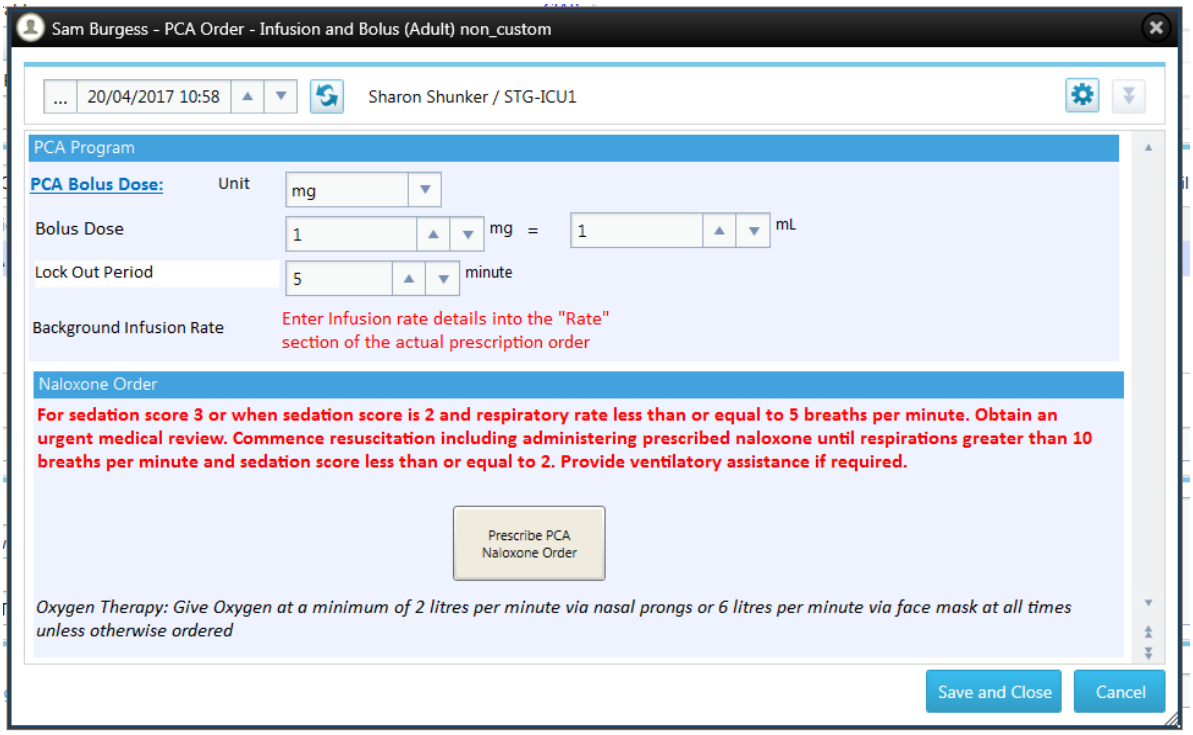
PCA Orders



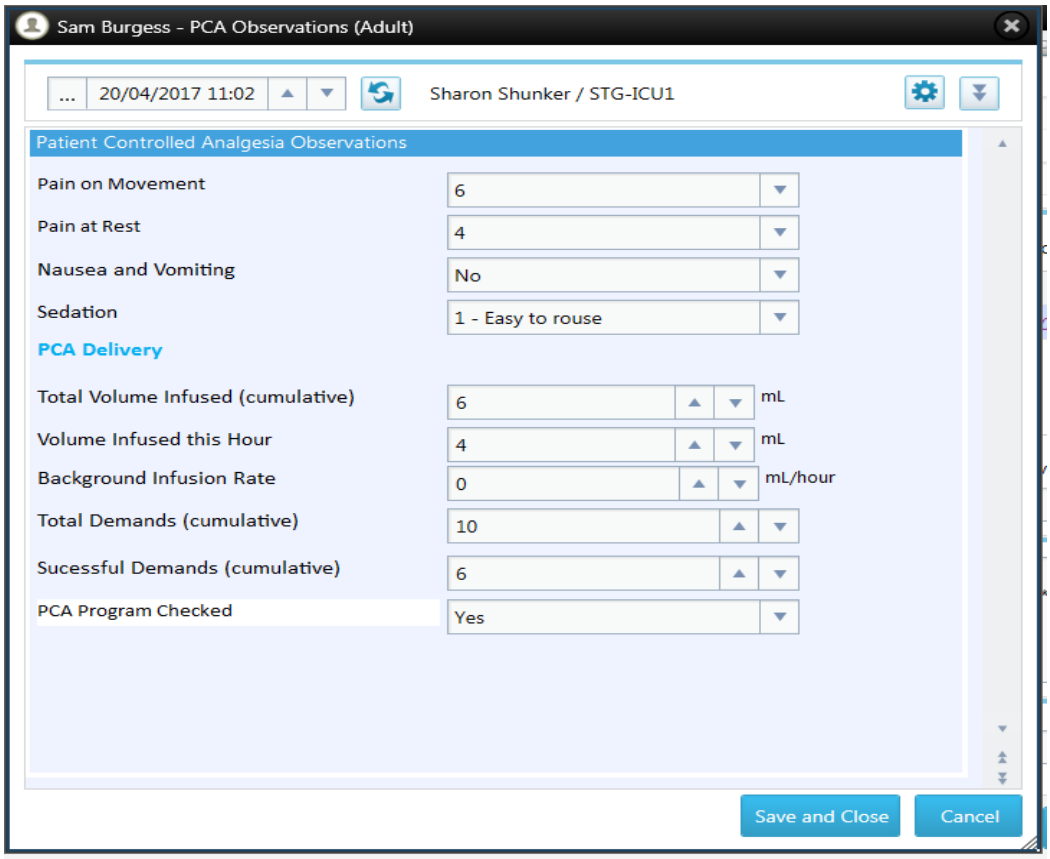
- PCA can be prescribed as PCA with background infusion or PCA Bolus only
- Choose the appropriate template
- Prescribe as a volume of syringe
- Attached PCA Order form in the order entry window will need to be completed.
- For PCA bolus Only details see attached form, the Nurse needs to enter Rate of 0.001mL/hour for Zero Background rate at the time of administration (even though there is no background infusion)



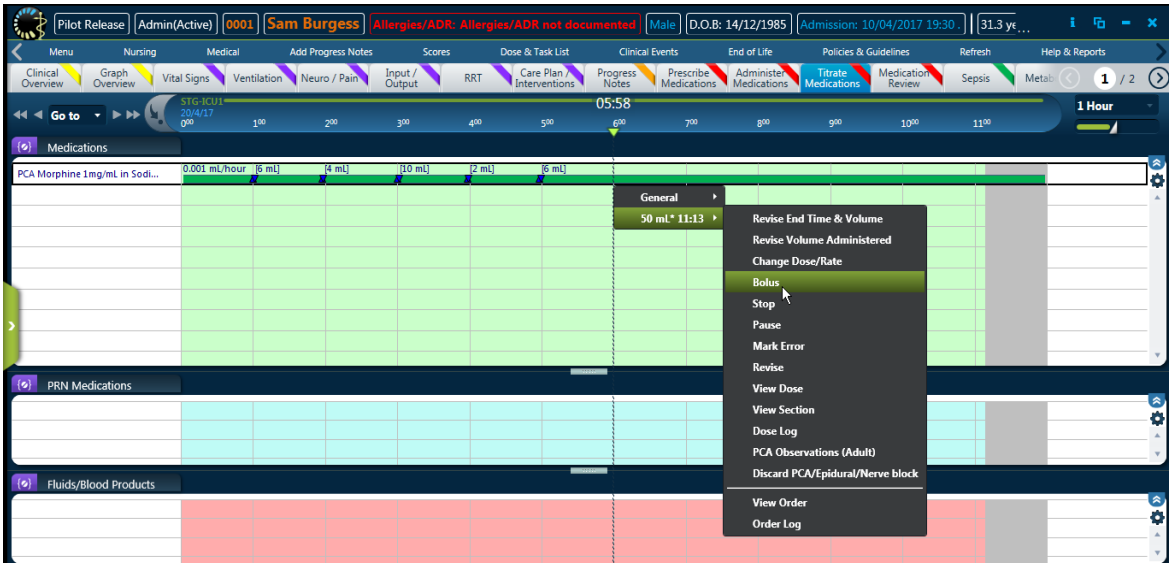
- PCA Order form contains the PCA order details – also has a button that links to the PCA Naloxone Prescription



- The PCA Observation form needs to be completed. Access this from 'Nursing' Menu → Observations → PCA Observations – this then populates onto the Neuro / Pain Tab.

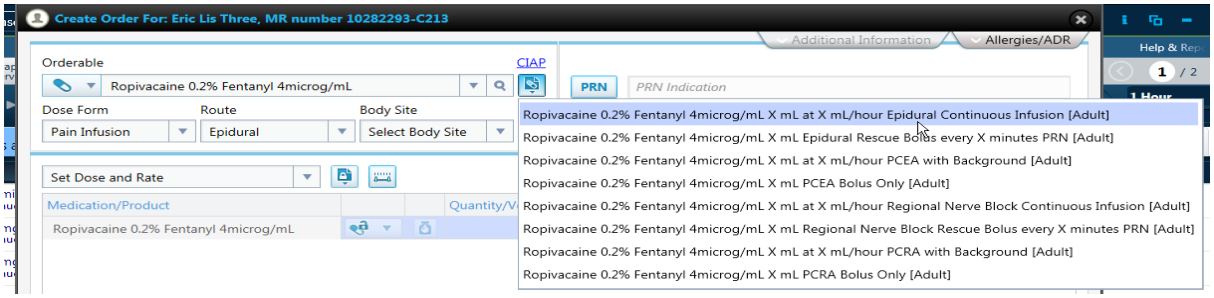


- Nurses will use the titrate medication tab to enter hourly cumulative bolus dose and hourly PCA Observations (observations can also be attended from the Neuro/ Pain tab)

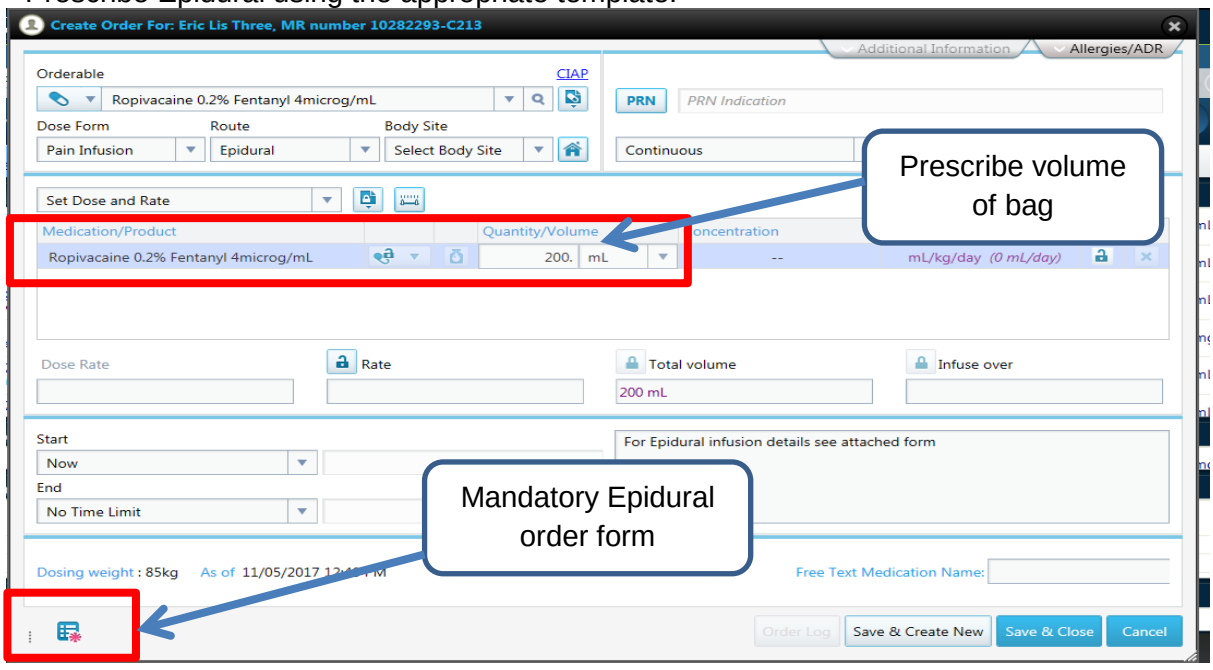


Epidural Orders

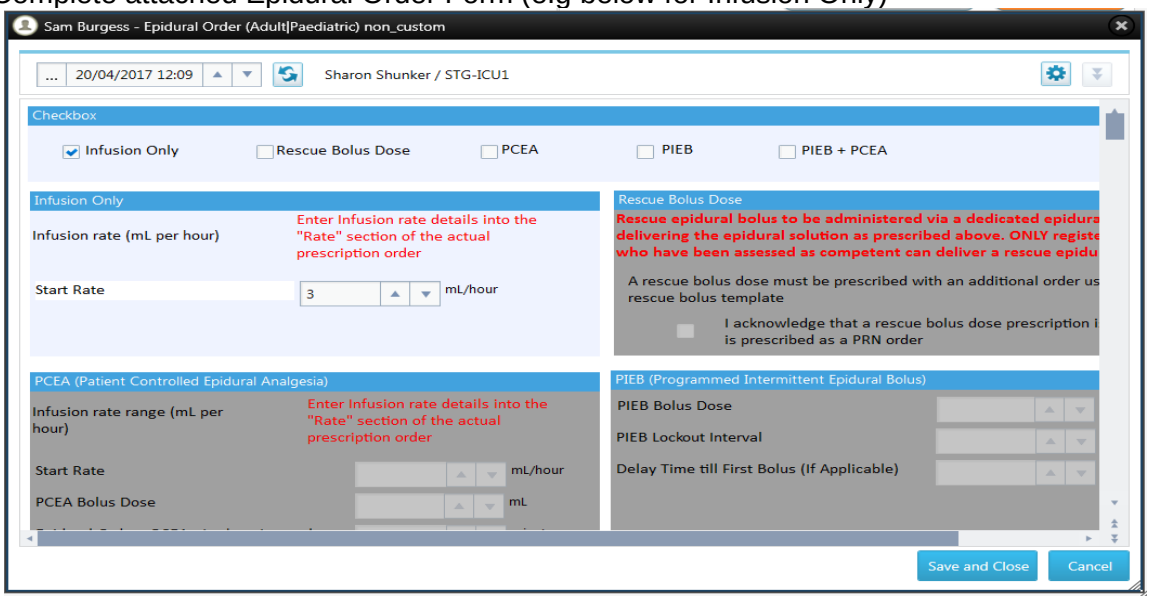
- Epidurals will be ordered by strength of infusion. All the order details such as bag volume will need to be entered (They can be prescribed as continuous infusions or as 'Epidural Rescue Bolus' or PCEA with Background or PCEA Bolus Only)



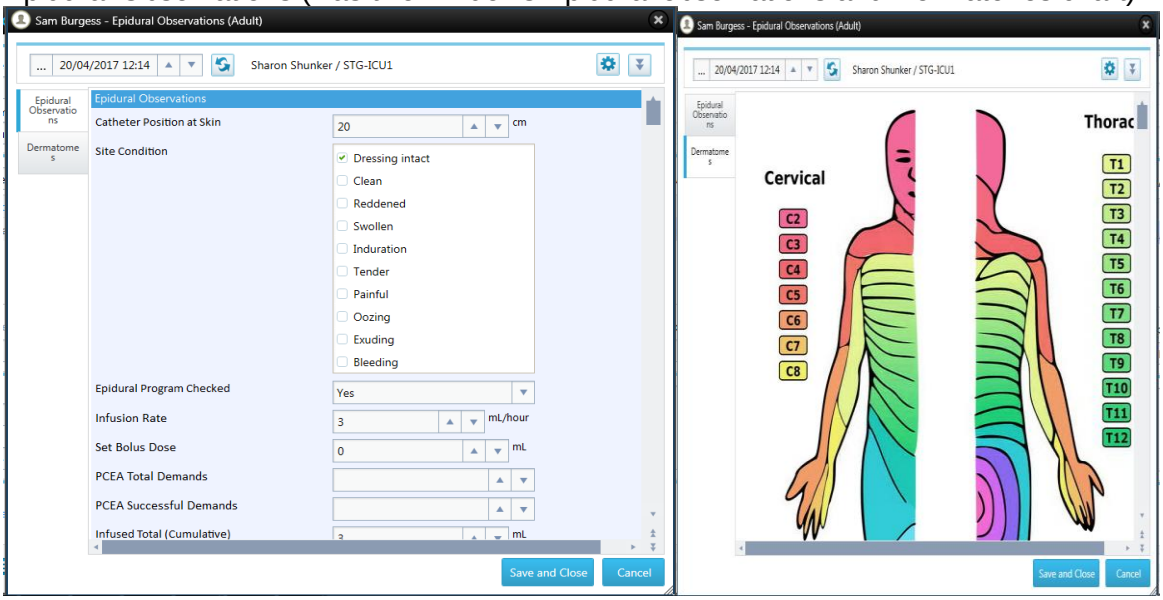
- Prescribe Epidural using the appropriate template.



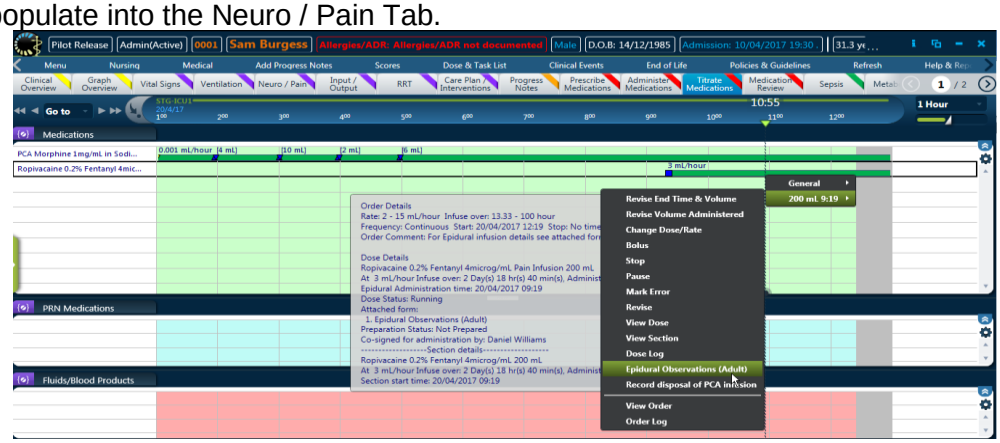
- Complete attached Epidural Order Form (e.g below for Infusion Only)



- Complete Epidural observations Form. Access this from 'Nursing' Menu → Observations → Epidural Observations (Has two windows Epidural observations and Dermatones chart)



- Ongoing Epidural hourly observations will be attended from the Titrate Medication tab or the Neuro / Pain
- It will populate into the Neuro / Pain Tab.

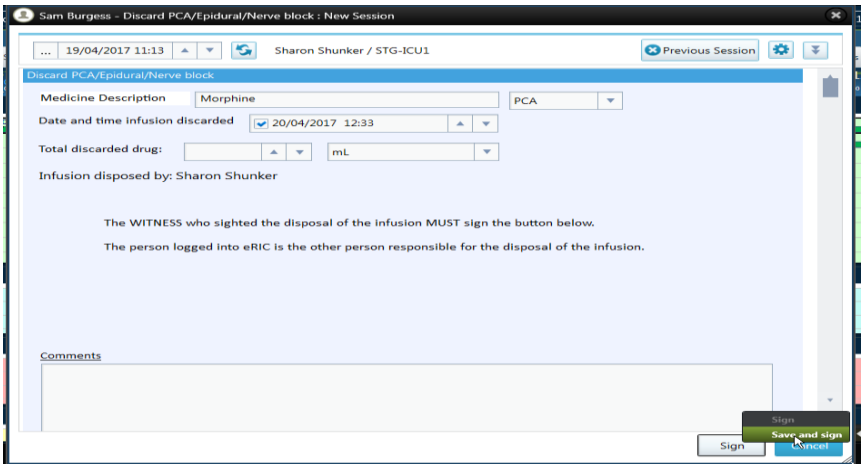


Nerve blocks

- Regional Nerve Block solution is similar to Epidural solution with the exception that the prescriber is required to prescribe 1 order per Nerve block site to satisfy legal requirements of nursing staff signing for initiation and cessation of separate infusions.

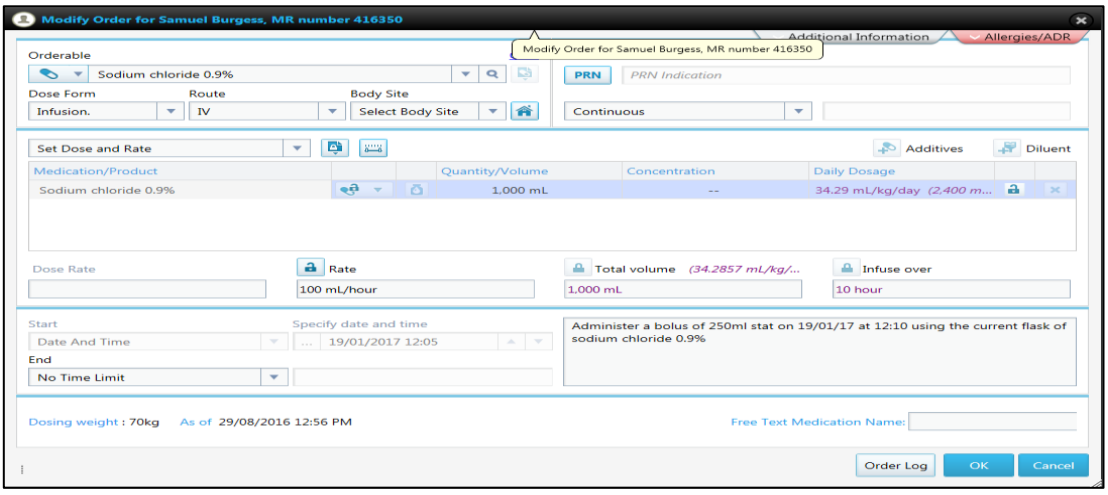
Discarding PCA /Epidural and Nerve Block Infusions

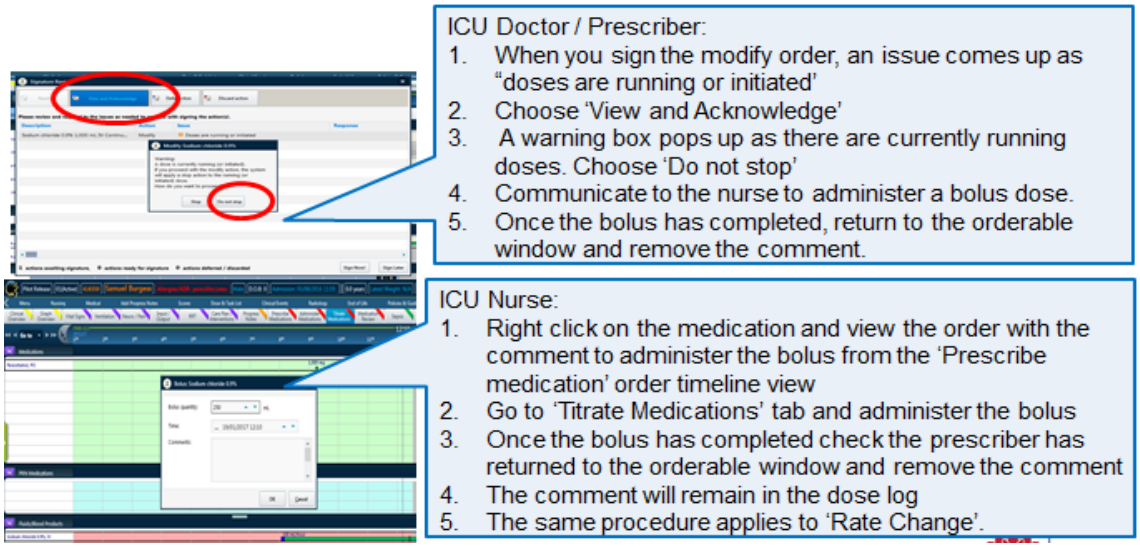
- The ICU Medical officer needs to discontinue the order.
- The nurse will stop the infusion from the Titrate Medication Tab.
- The form to be completed for Discarding PCA / Epidural and Nerve Block Infusions is accessed from right clicking on the infusion from the Titrate Medication Tab. It can also be accessed from the Current Dose Window.
- Complete the details including discarded volume
- The witness who sighted the disposal must sign the form. The person logged into eRIC is the other person responsible for the disposal of the infusion.



14.5.2 Bolus Fluid Order / Rate Change Prescription

- A bolus fluid order (or a change in rate for a few hours) can be prescribed from the current running maintenance fluid using the 'Comments' section of the existing order
- Go to Prescribe tab and right click on current maintenance fluid – select 'Modify'
- In the 'Comments' box the prescriber needs to specify bolus fluid, date and time of administration and that it should be given as a bolus using the current maintenance fluid flask
- Prescribers can also use the same procedure to specify a rate change such as increase to 250ml/hr for a few hours – need to include the date and time.

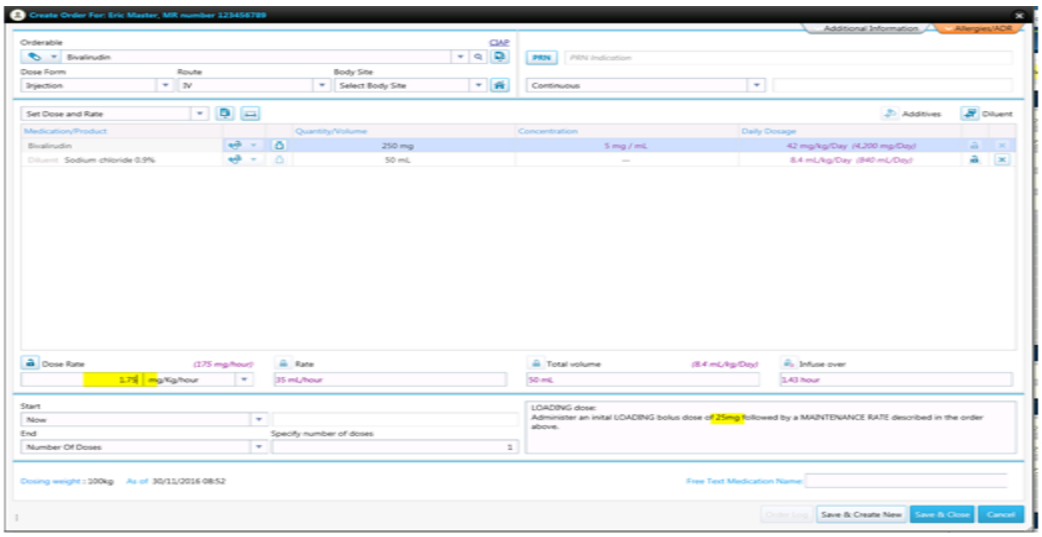




14.5.3 Continuous Infusions with Bolus Loading Dose

Prescription Example
This is an example of prescribing an infusion with a loading dose – the drug is bivalirudin with a bolus loading dose of 0.25mg/kg followed by a maintenance rate of 1.75mg/kg/hr.

Order screen after selecting the LOADING and MAINTENANCE template

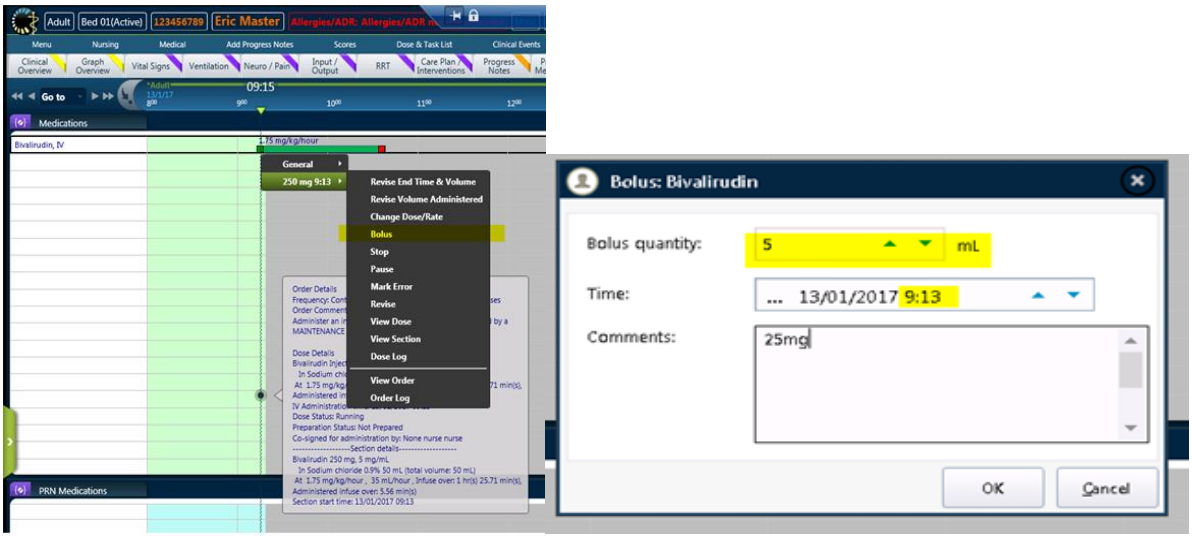


- The prescriber will need to type in the loading dose in the comments section. They will need to do the manual conversion of the recommended dosing of mg/kg to mg for this patient (0.25mg/kg for 100kg weight = 25mg). The maintenance dose rate will be included in the usual 'Dose Rate' or 'Rate' field. **The loading and maintenance dose template is used for one dose only. Subsequent maintenance dose should be prescribed with the maintenance dose template.**
- The administrating nurse needs to go to the 'Order Details' Window' read the order comment and recognise the loading dose. The nurse will give the loading dose as prescribed and then set the maintenance rate.

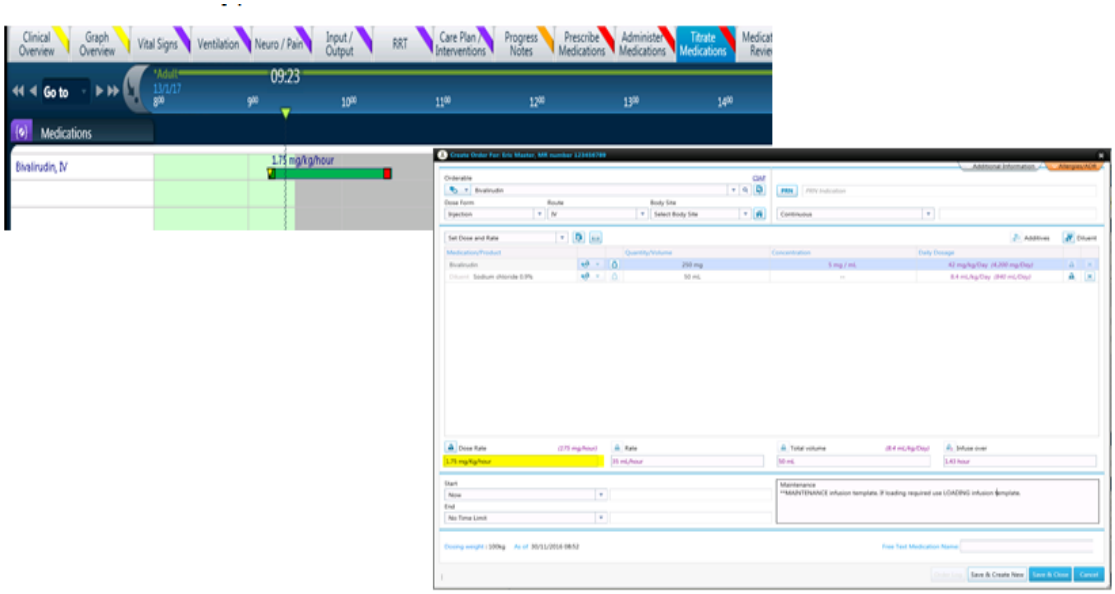
- The nurse then needs to 'Validate' the loading dose and maintenance dose

ICU Nurse:

1. 'Validate' the loading dose and maintenance dose
2. Validates the infusion at the prescribed maintenance rate. Go to the 'Titrate Medications' tab, right click on the dose at the start of the infusion and choose 'Bolus' (the 'Bolus' is used to indicate the loading dose)
3. Calculate the equivalent mg to mL conversion and enter it into the bolus dose screen (in the example previously, 25mg = 5mL). The time entered needs to reflect the time the bolus was given so the administration time may need to be modified to reflect the start of the infusion



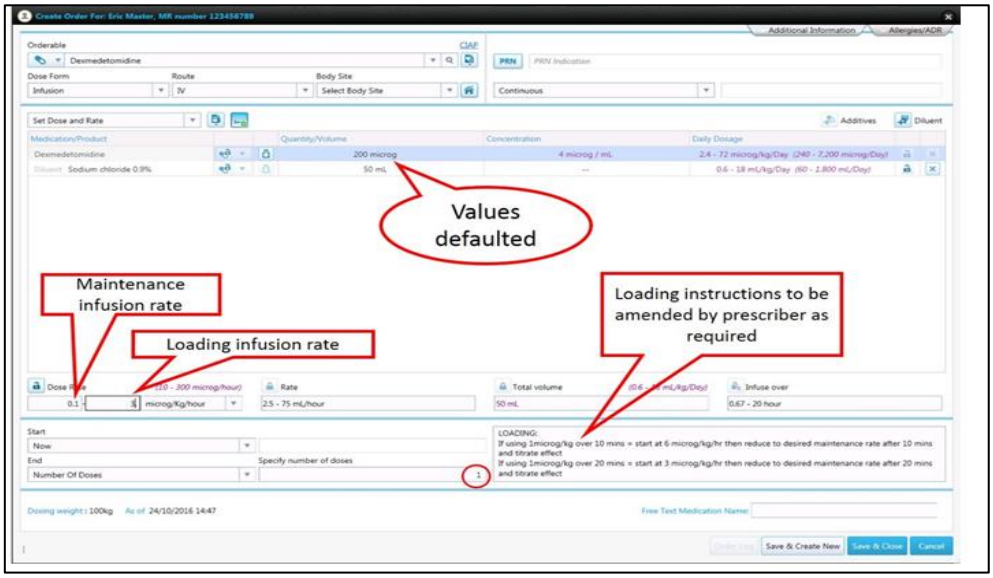
After clicking OK, an indicator messages that the bolus dose has been administered with the details in the dose log and floating tool tip. The infusion continues to run at the prescribed maintenance dose rate. If further doses are required, a separate order needs to be created using the maintenance dose template. The maintenance doses work similarly to the decision summary for infusions with a loading dose.



14.5.4 Continuous Infusions with Loading Dose

The following screenshots are reflective of prescribing Dexmedetomidine with a loading dose followed by a maintenance rate.

Order screen after selecting the LOADING and MAINTENANCE template

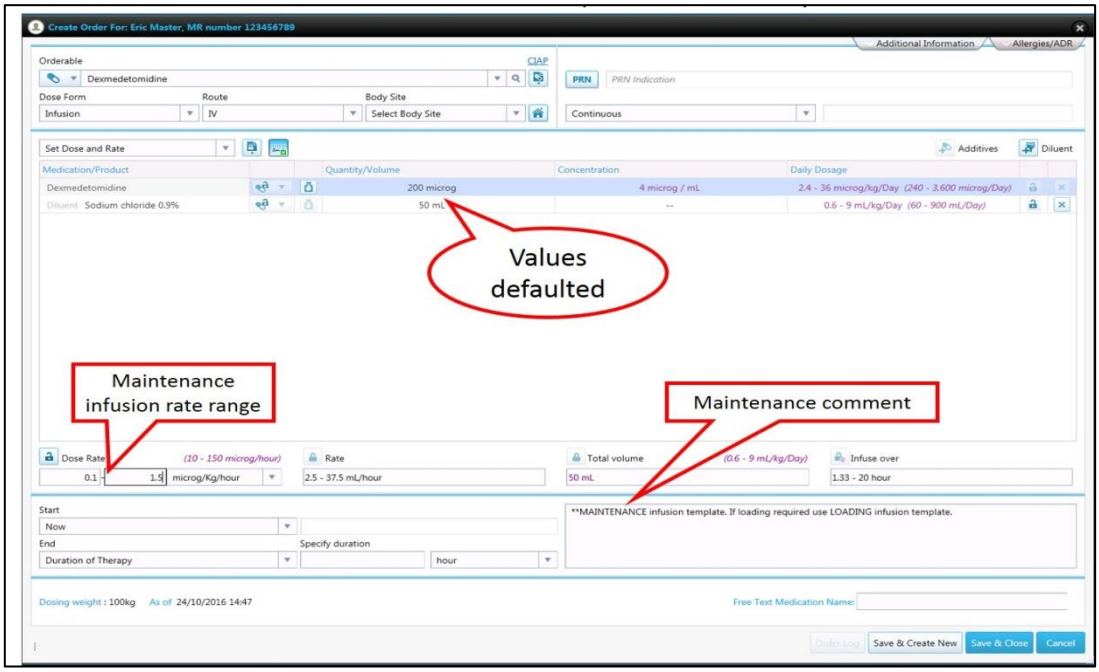


- From the template the following fields have their values defaulted into the order: Dose Form, Route, Frequency, Quantity/volume, dose titration button and number of doses which is 1 dose (order finished once one 50mL syringe is finished). The 'loading instructions' are defaulted into the comments field
- The dose titration field is selected by default. This allows the prescriber to order the infusion with a DOSE RANGE (maintenance infusion rate - loading infusion rate)
- The loading infusion rate (e.g. 0.1-3 microg/kg/hr) is entered per local protocol
- The 'loading instructions' for the infusion in the comments field can be amended as required. The comments that are not applicable will be removed.

Validating Infusions with Loading Dose
ICU Nurse:

1. Follow normal procedure for viewing, administering and validating new infusions
2. Check the comments section for the loading dose rate and duration of administration
3. Start the infusion with the LOADING dose
4. Specify the 'Dose Rate' starting rate as per the instructions shown on the prescription for the loading dose
5. After 20 minutes, go to the titrate tab and will change the dose/rate to 0.4 microg/kg/hr. This would be the rate for the remainder of the first syringe. In this case, the nurse must remember to lower the infusion rate after 20 minutes as there will be no active alerts to remind them

ICU Doctor / Prescriber:
Before the first syringe has finished, the doctor needs to prescribe the MAINTENANCE dose as a new order – this will be used for ongoing infusions.

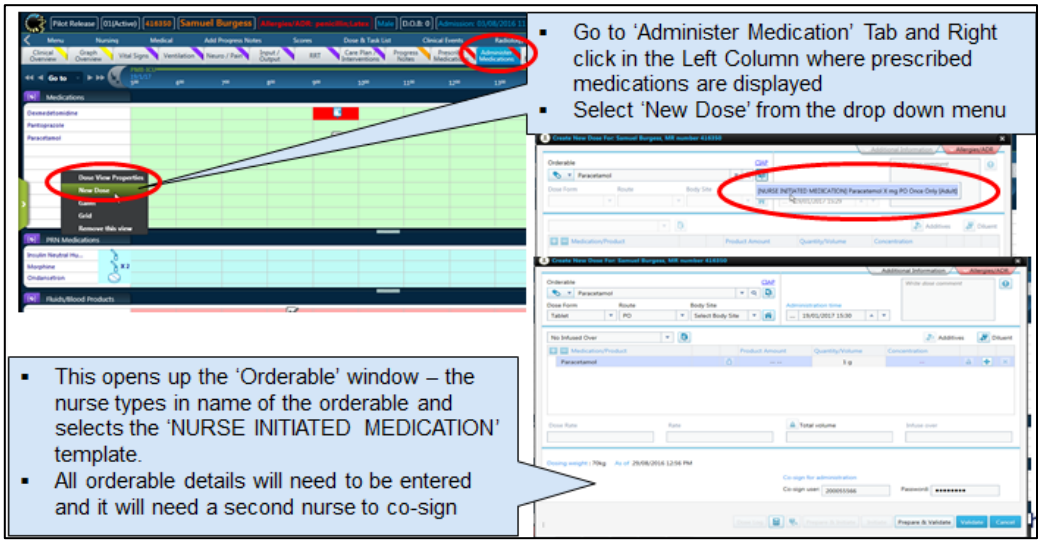


ICU Doctor / Prescriber:

- Create a new MAINTENANCE order once the LOADING dose and the MAINTENANCE dose for the first syringe is completed
- Select the Dexmedetomidine MAINTENANCE template. The same fields are defaulted, except for the comment field which will not contain any 'loading dose instructions'
- The maintenance rate range is entered (e.g. 0.1-1.5 microg/kg/hr) and the MAINTENANCE order is saved.

ICU Nurse
Administer and validate the new maintenance order.

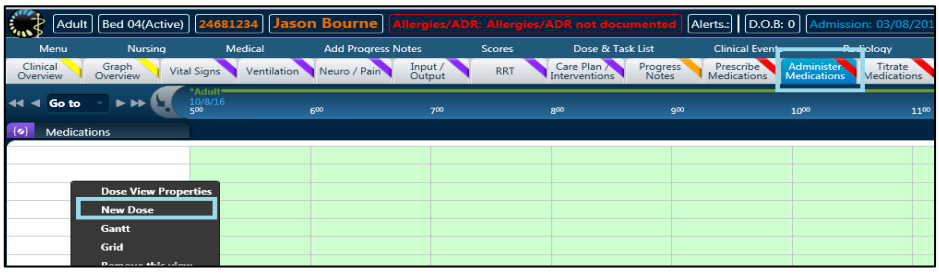
14.5.5 Nurse Initiated Medications



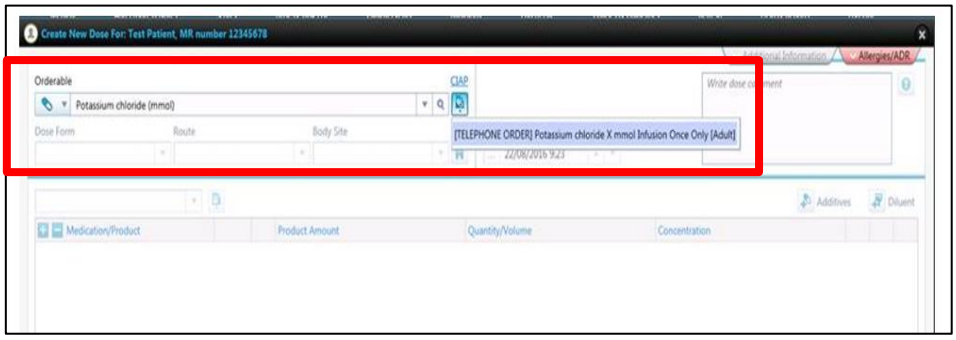
14.5.6 Telephone Orders

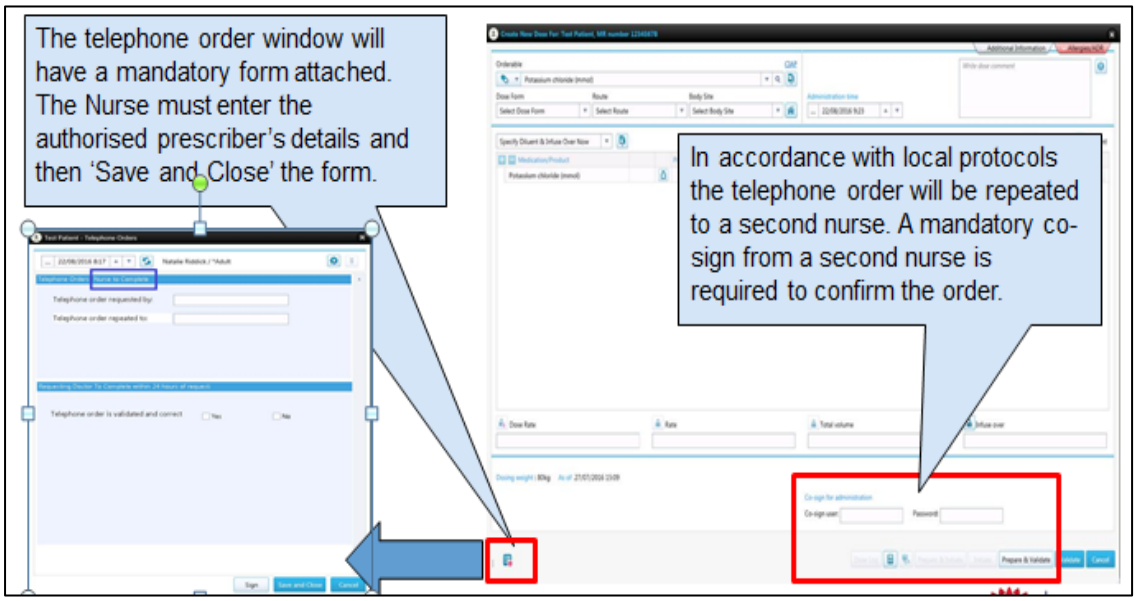
The telephone order is received and confirmed by two nurses as per local policy – this can be written into the progress notes and the order administered. The two nurses are then required to record it as a telephone order using the template and validate it.

- Telephone Orders can be recorded using the 'Orphan Dose Template' functionality which allows for the prescription of a one-off unplanned dose
- The Nurse receiving the telephone order navigate to the Administer Medications tab and right clicks in the medications Cardex view to order a new dose

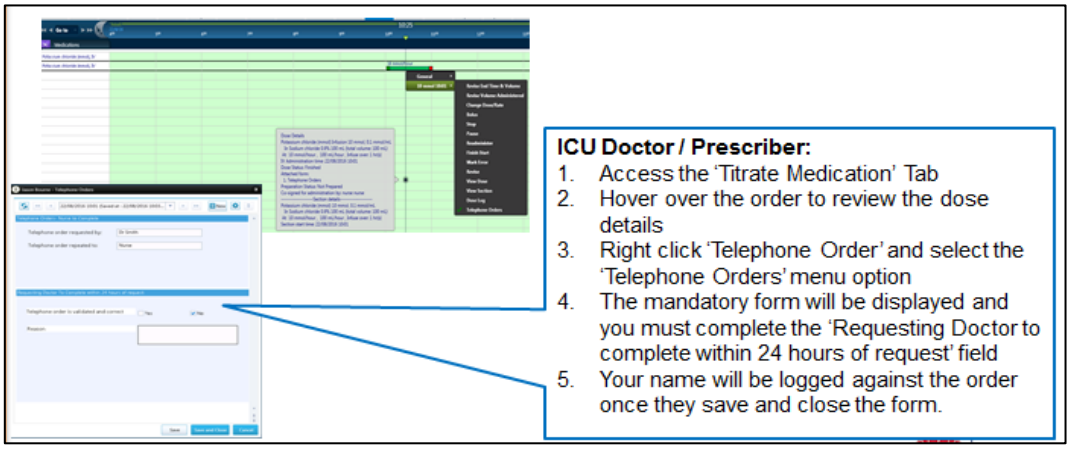


- The Nurse will type the orderable in the order search window and select the Telephone Order template attached to the specific medication. Each medication identified as likely to be required for a telephone order will have a separate orphan dose 'Telephone Order' template assigned. Most fields in the template will be blank and require input from the Nurse.



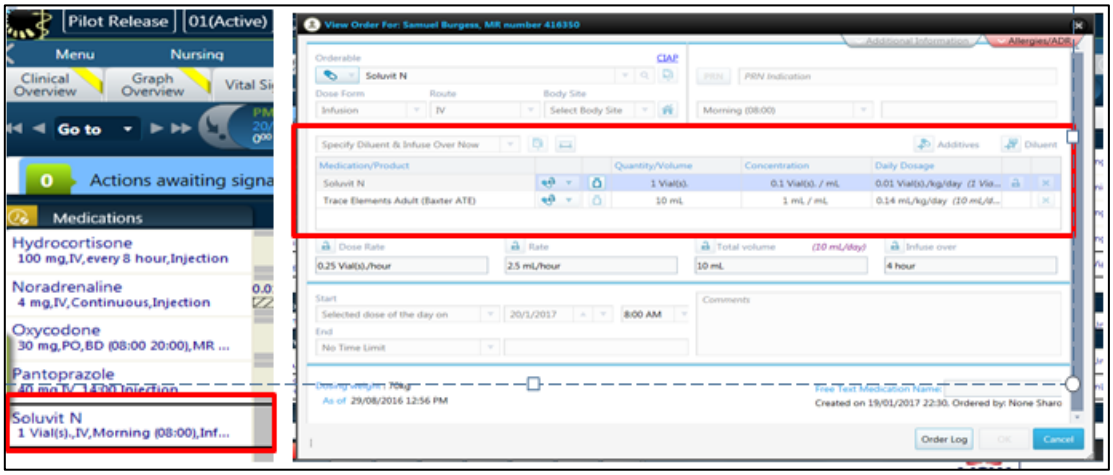


In accordance with New South Wales health policy the medical prescriber will be required to confirm the order is correct within 24 hours.

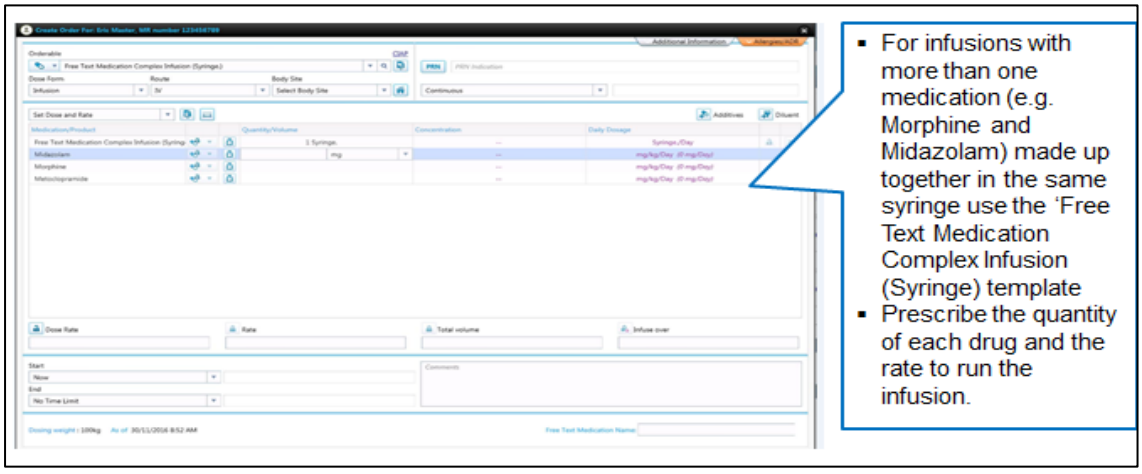


14.5.7 Infusions with multiple ingredients

When infusions are prescribed with multiple ingredients e.g. Additives such as trace elements added to Soluvit, this will not show on the Order Timeline view or Dose Task List. It needs to be checked from the 'Order Details' Window.



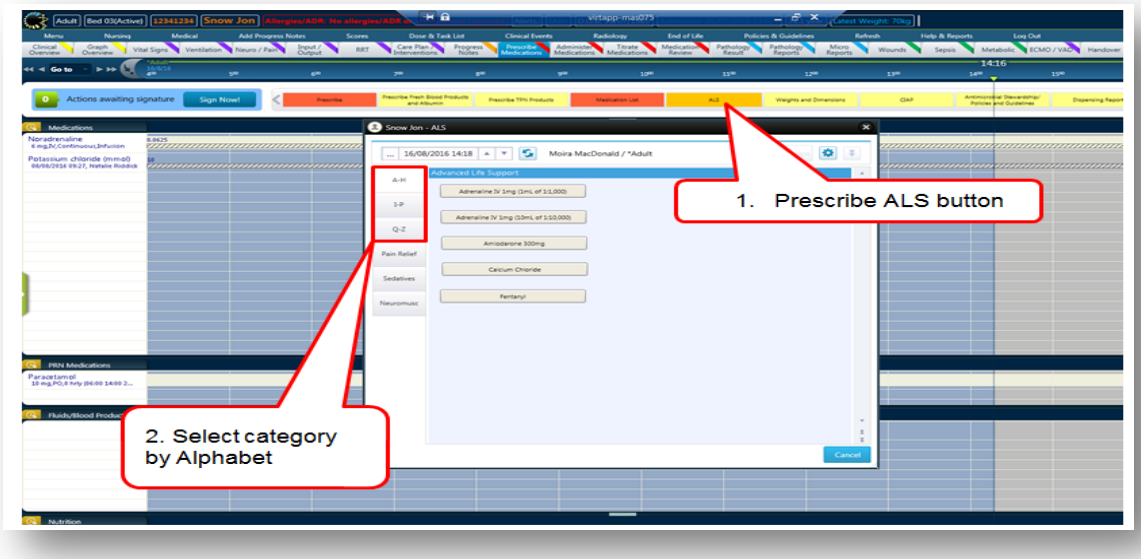
14.5.8 Free Text Medication Complex Infusion



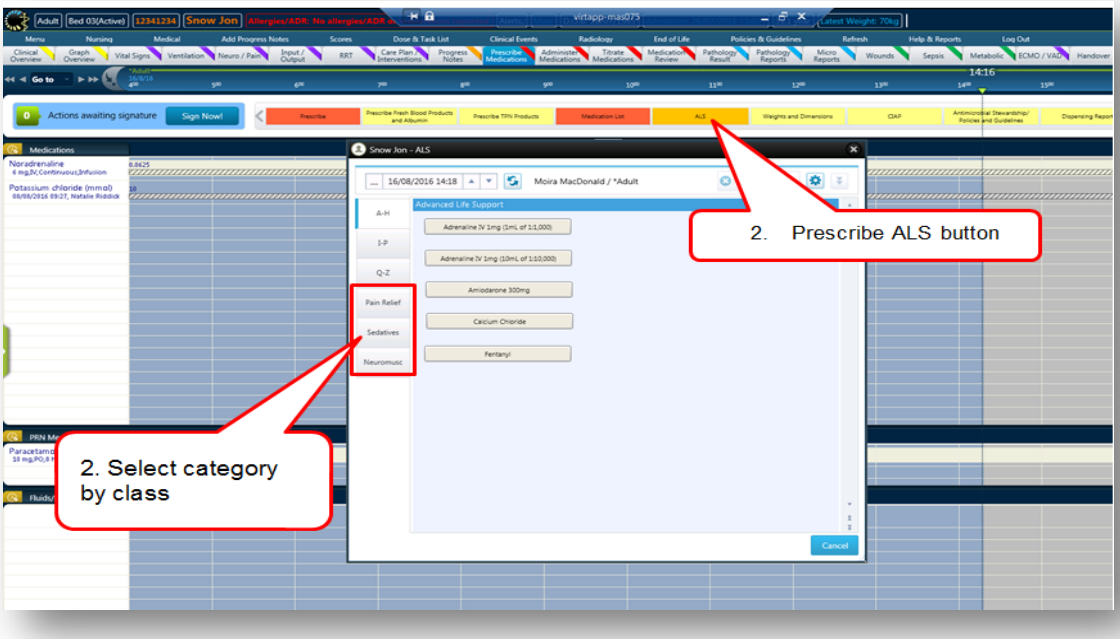
14.5.9 ALS Drugs

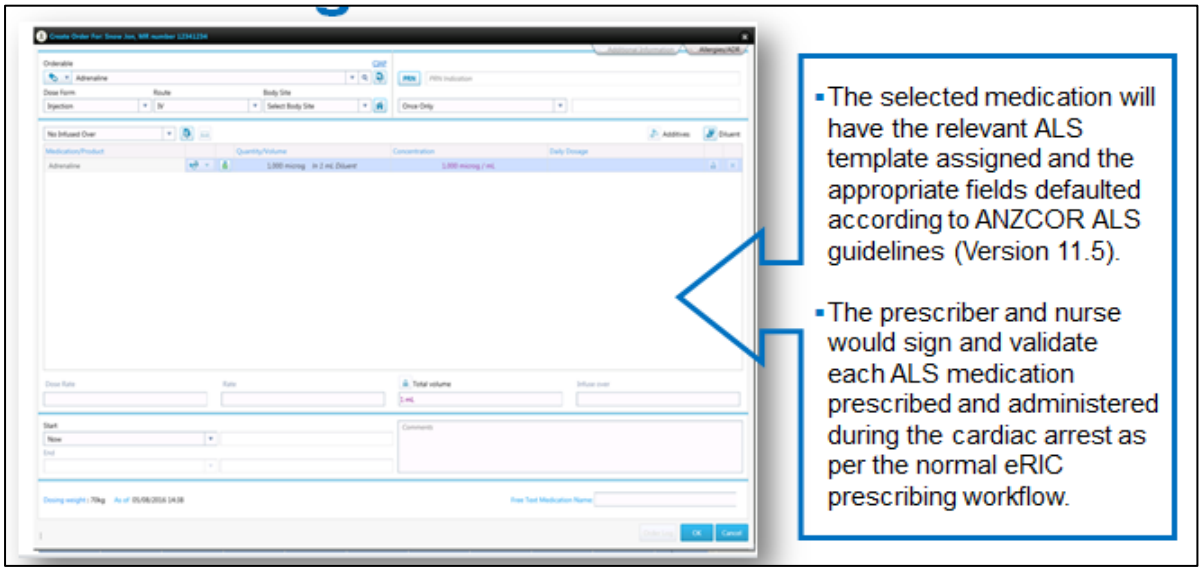
The Cardiopulmonary Resuscitation paper form is intended to be completed by hand **during** the arrest; however prescribing and validating of the ALS medications into eRIC is intended to occur **after** the arrest (preferably immediately after) by the medical officer and registered nurse.

- **Option 1** Prescriber selects the 'ALS' button on the Prescribe Medication tab. Each medication is grouped alphabetically i.e. A-H, I-P, Q-Z.



- **Option 2** Prescriber selects the 'ALS' button on the Prescribe Medication tab. Each medication is categorised according to their appropriate class.

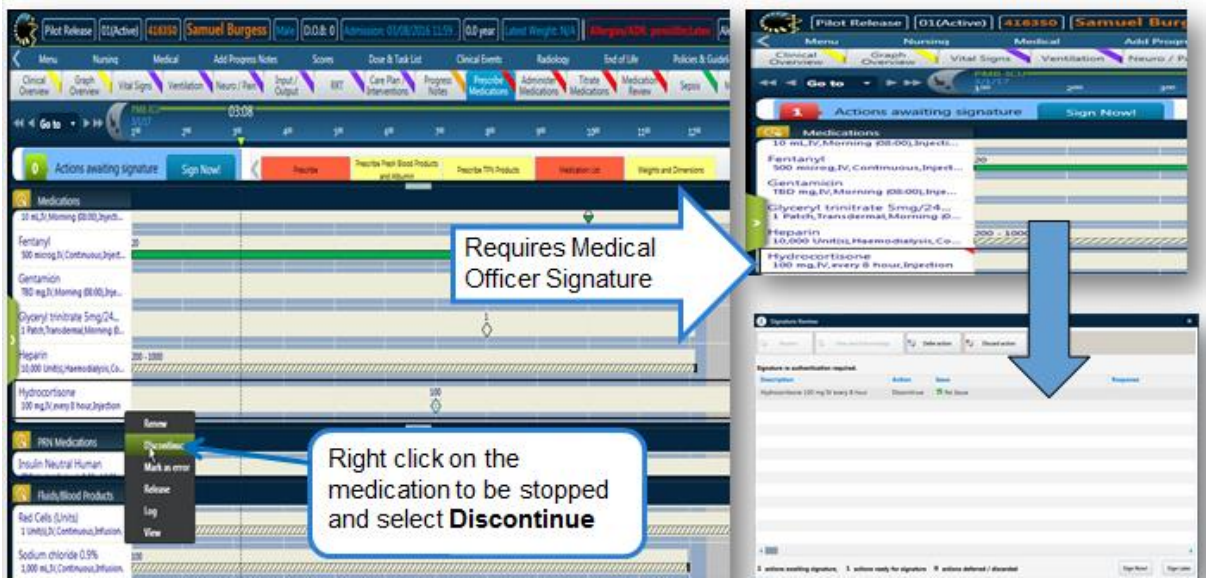




14.6 Discontinue Medication

When a medication needs to be discontinued, it is done from the 'Prescribe Medication' tab view.

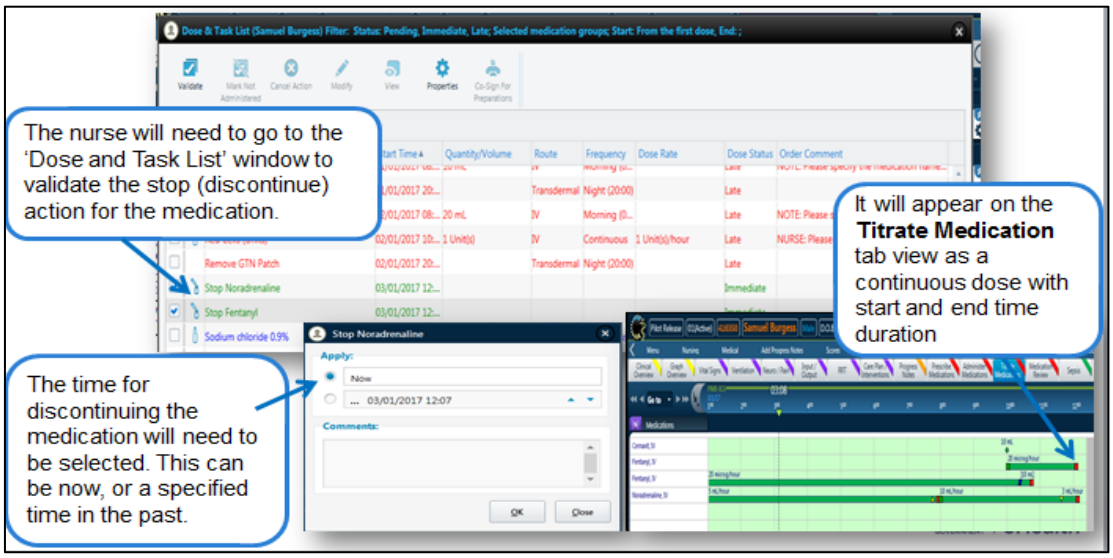
- Right click on the medication and select 'Discontinue'
- This will then flash as an 'action' awaiting signature
- Clicking on this opens the signature review window and the medical officer will need to sign for the discontinue action for the order
- It will not be discontinued if the action is not signed.



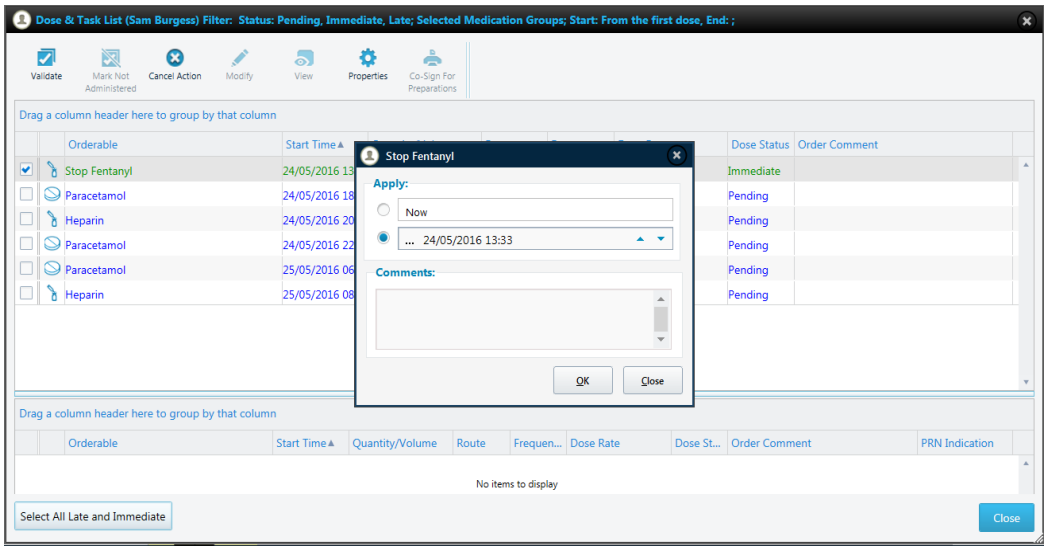
Discontinuing Infusions:
For IV Infusions

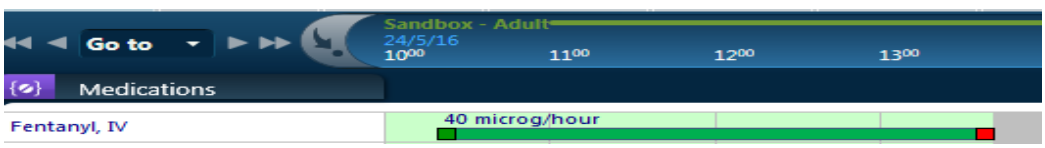
- Go to 'Prescribe Medication' tab view.
- Right click on the medication and select 'Discontinue'
- This will then flash as an Action awaiting signature

- Clicking on this opens the signature review window and the medical officer will need to sign the discontinue action for the order
- It will not be discontinued if the action is not signed
- The nurse will then need to go to the 'Dose and Task List' window to validate the stop (discontinue) action for the medication.
- The time for discontinuing the medication will need to be selected. This can be now, or a specified time in the past
- It will then appear on the 'Titrate Medication' tab view as a continuous dose with start and end time duration



Discontinuing and discarding residual volume of scheduled medication infusions – The comments box under the 'validate discontinue' window should be used to enter the volume discarded as well as the full name of the second clinician checking and witnessing the discarding of the medication.

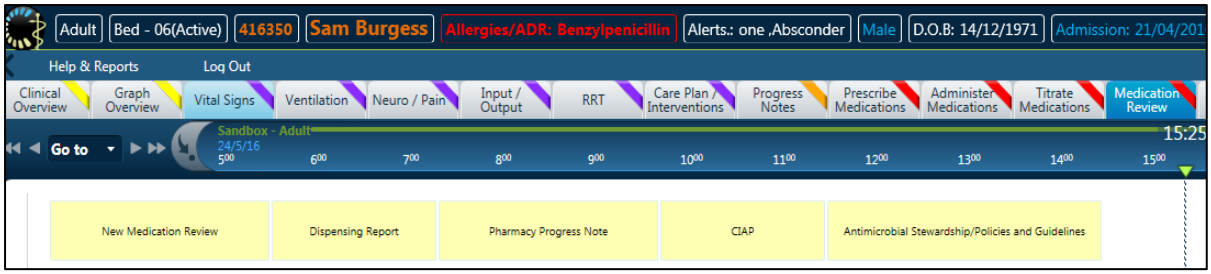




14.7 Medication Review Tab View

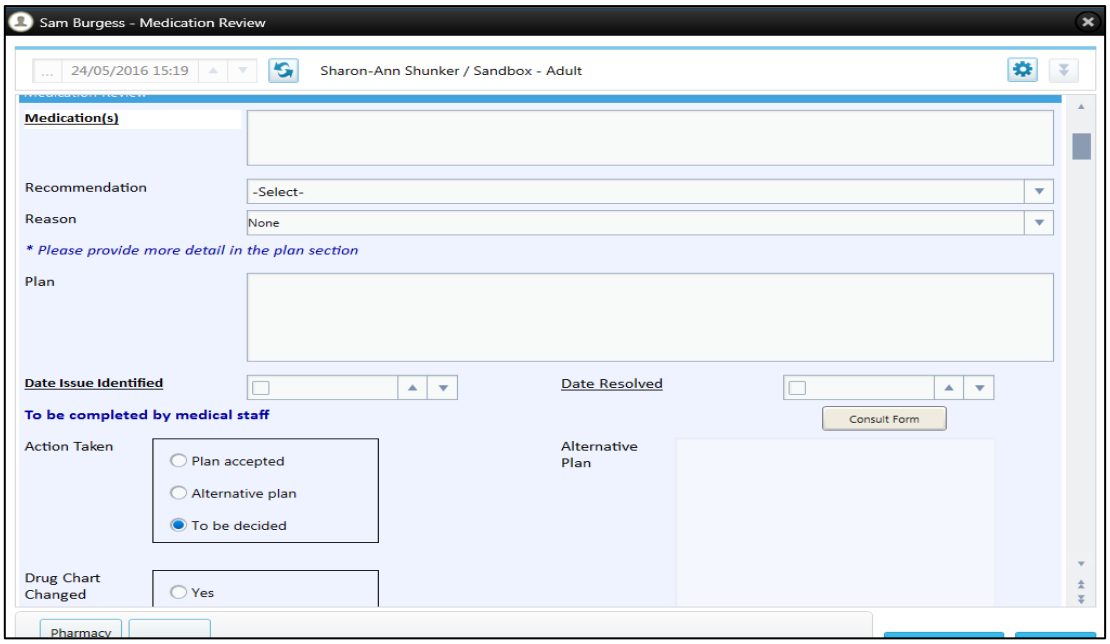
This view can be used by both Medical Officers and Pharmacists to review the patient's medication related issues. It includes:

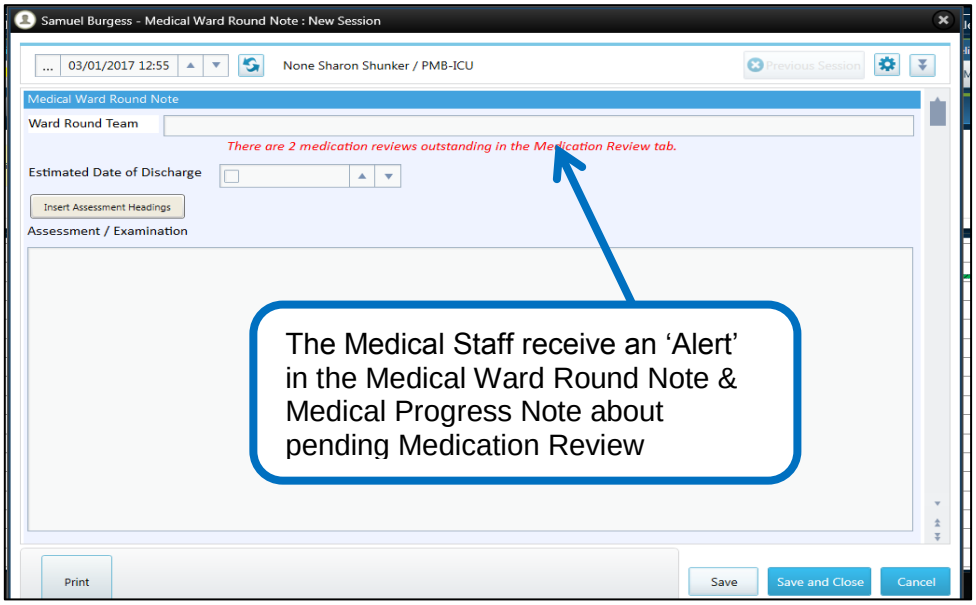
- New Medication Review Window
- Dispensing Report button (to print current prescriptions for pharmacy use only for dispensing)
- Pharmacy Progress Notes shortcut button
- CIAP (link to CIAP) button
- Antimicrobial Stewardship/Policies and Guidelines shortcut button.

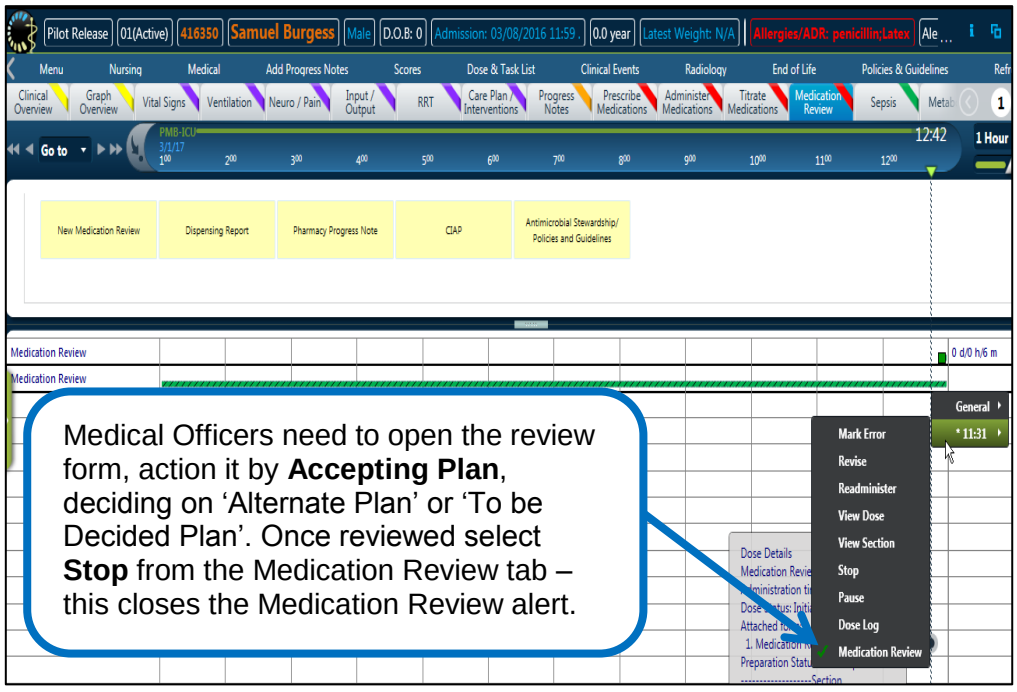


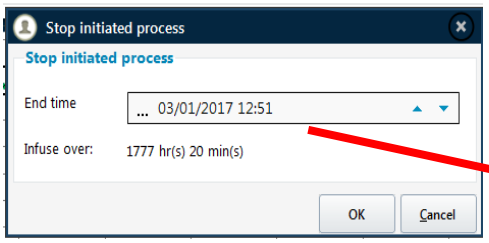
Medication Review Window
The Medication Review window that can be used to enter information about a medication issue that requires clinical review.

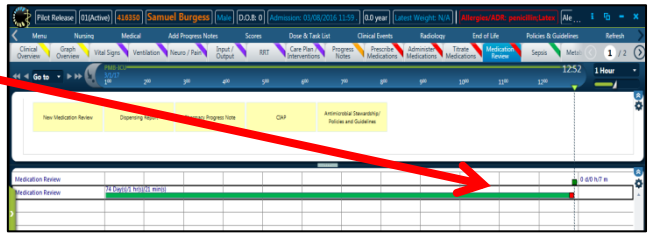
This Review Note is entered by the Pharmacist and Medical Staff receive an 'Alert' in the Medical Ward Round Note & Medical Progress Note.




Samuel Burgess - Medical Ward Round Note : New Session
03/01/2017 12:55
None Sharon Shunker / PMB-ICU
Previous Session
Medical Ward Round Note
Ward Round Team
There are 2 medication reviews outstanding in the Medication Review tab.
Estimated Date of Discharge
Insert Assessment Headings
Assessment / Examination
Print
Save
Save and Close
Cancel
The Medical Staff receive an 'Alert' in the Medical Ward Round Note & Medical Progress Note about pending Medication Review

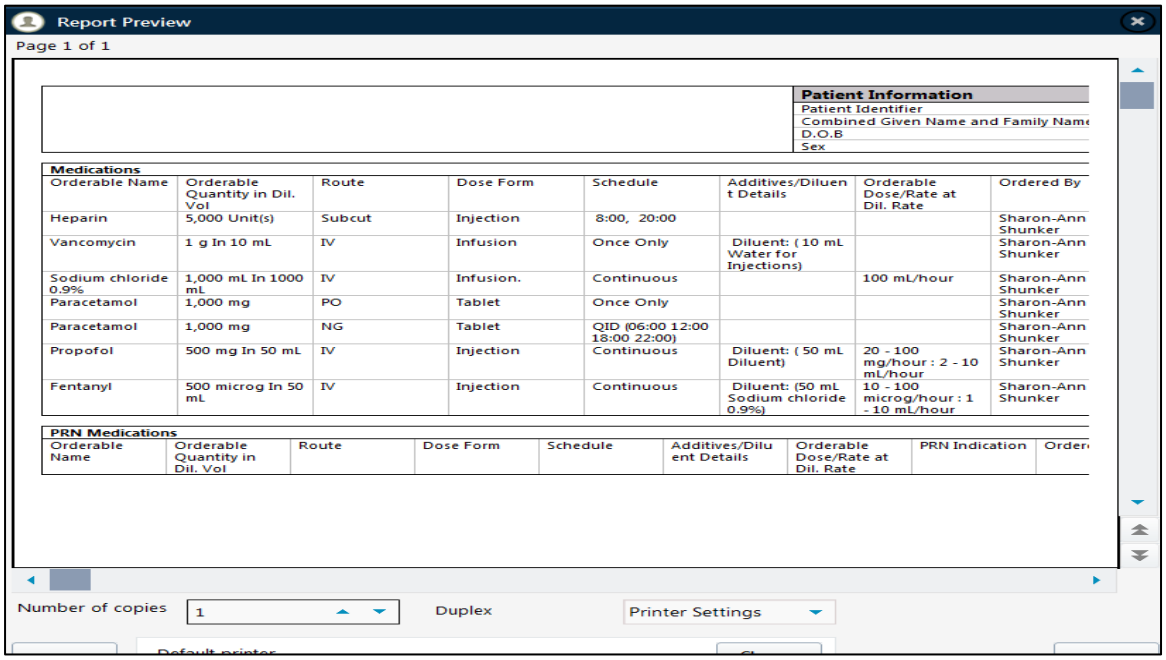

Pilot Release
01(Active)
416350
Samuel Burgess
Male
D.O.B: 0
Admission: 03/08/2016 11:59
0.0 year
Latest Weight: N/A
Allergies/ADR: penicillin;Latex
Menu
Nursing
Medical
Add Progress Notes
Scores
Dose & Task List
Clinical Events
Radiology
End of Life
Policies & Guidelines
Clinical Overview
Graph Overview
Vital Signs
Ventilation
Neuro / Pain
Input / Output
RRT
Care Plan / Interventions
Progress Notes
Prescribe Medications
Administer Medications
Titrate Medications
Medication Review
Sepsis
Go to
12:42
1 Hour
New Medication Review
Dispensing Report
Pharmacy Progress Note
CIAP
Antimicrobial Stewardship/ Policies and Guidelines
Medication Review
Medication Review
0 d/0 h/6 m
General
11:31
Mark Error
Revise
Readminister
View Dose
View Section
Stop
Pause
Dose Log
Medication Review
Medication Review
Dose Details
Preparation Status
Section
Medication Review is open
Medical Officers need to open the review form, action it by **Accepting Plan**, deciding on 'Alternate Plan' or 'To be Decided Plan'. Once reviewed select **Stop** from the Medication Review tab – this closes the Medication Review alert.


Stop initiated process
Stop initiated process
End time
03/01/2017 12:51
Infuse over:
1777 hr(s) 20 min(s)
OK
Cancel



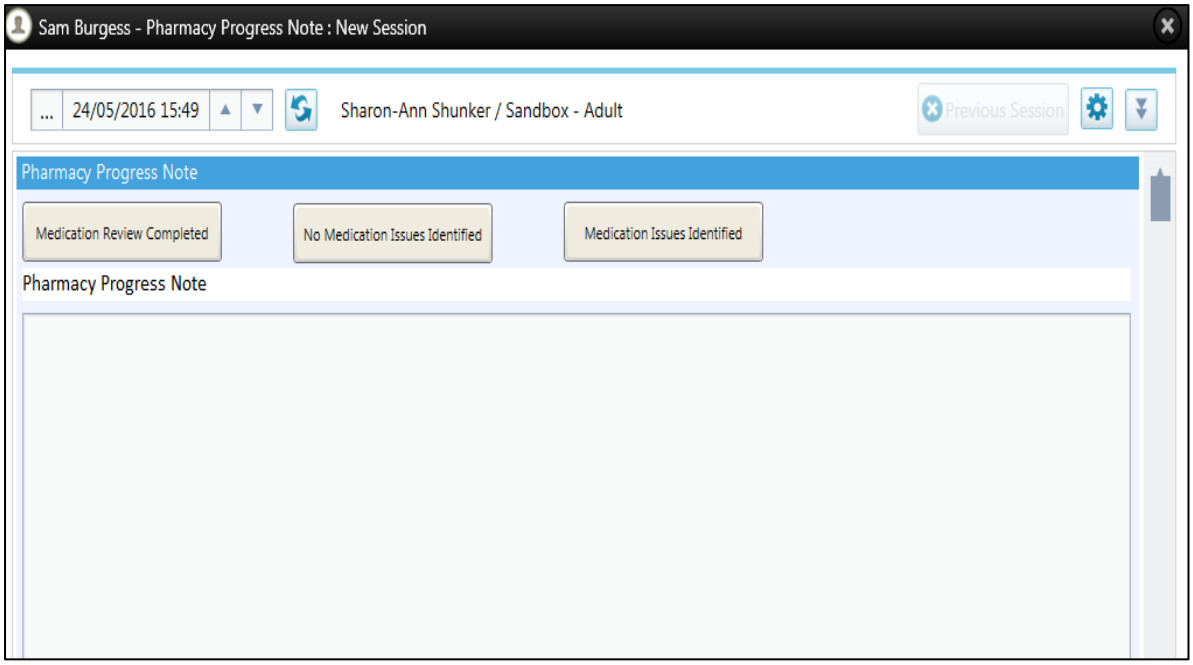
Dispensing report

The dispensing report can be used to print a report of all the medications a patient is currently on which can then be sent to pharmacy for dispensing. The default is to only show the current day's orders. If a future dose is required to be dispensed, the date default should be changed to include that day.



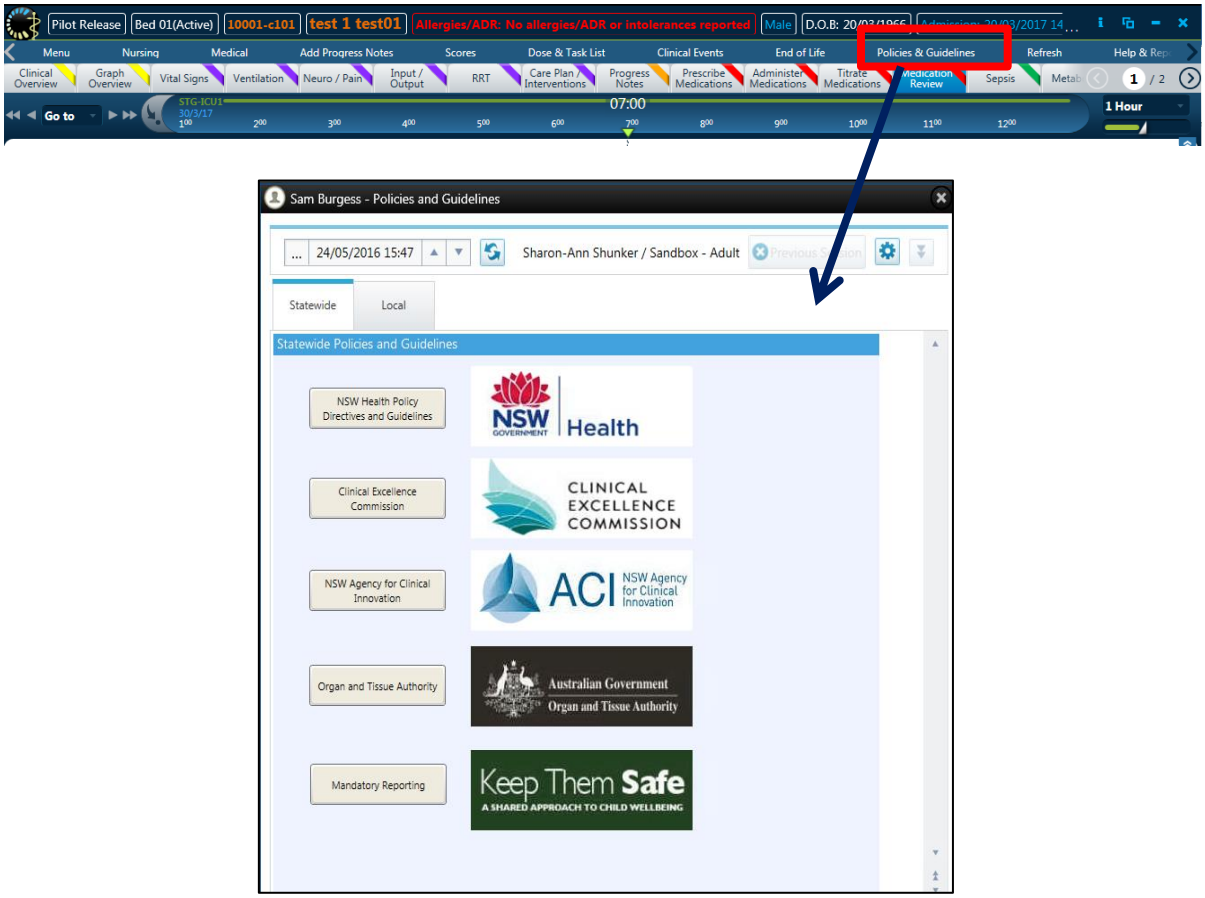
Pharmacy Progress Notes

This window enables a Pharmacist to enter notes regarding medications, and provides details if a medication review has been completed, as well as if any medication issues have been identified. A prescriber should refer to the Medication Review tab if any issues have been identified.



Antimicrobial Stewardship/ Policies and Guidelines
Within the Prescribe Medication tab and the Medication Review tab is the Antimicrobial Stewardship Policies and Guidelines button. The user will be redirected to the site's local Antimicrobial Stewardship Guidelines site.

The Policies & Guidelines Menu provides a link to statewide and local guidelines.



15. Medication Module Specialised Workflow Processes

These are important processes to be aware of when prescribing and administering medications in eRIC.

Prescribe Medication Specialised Workflow Processes

- **Revise Medication Action**: Revising a dose replaces all previous data on the dose and all previous changes.
- **PRN medication** – The maximum 24 hour dose must be entered in the comments section.
- **Changes to dose weight** – any changes that are made to the dose weight will result in a change of dose for all drugs for whom the dose prescription is weight based (e.g. prescribed as 5mg /kg/hr). If dose weight is changed, the medication should be prescribed again as a new order because the original weight is retained in the Order Details Window.
- **Brands** – for medication where the brand name is of significance – this needs to be entered in the 'Comments' box of the order entry window. The brand name will not be

visible on the 'Prescribe' OR 'Administer' medication tab and always needs to be checked in the Order Detail Window prior to the medication being administered.

- **Modify start date and time** - orders with a start date/time in the future, changing the start date/time in the 'Modify Order' window and clicking OK does not change the start date/time in the chart. Also does not create an action awaiting signature.
  - ➔ **Specialised Workflow Process** – DO NOT use 'Modify' to change start date or time
- **Reschedule Action** – When a dose is rescheduled – the starting dose time changes to incorrect dose time.
  - ➔ **Specialised Workflow Process** – DO NOT use 'Reschedule' action.
- **Revise End Time & Volume** – Unable to Revise End Time and Volume if any previous action was performed to that dose, e.g. after giving a bolus dose. The following message pops up 'You cannot perform this action since there are actions already performed after this time'.
  - ➔ **Specialised Workflow Process** – DO NOT use 'Revise End Time and Volume' action. Stop infusion that has finished and commence and validate the new infusion**.**

Administer Medication Specialised Workflow Processes

- **Discontinuing and discarding residual volume of scheduled medication infusions** – The comments box under the validate discontinue window should be used to enter the volume discarded as well as the full name of the second clinician checking and witnessing the discarding of the medication.
- **Rate Changes** – If the rate was changed but not documented in eRIC, the clinician needs to make the retrospective changes to rate in chronological order.
- **Administering and Validating Medication/ Fluids/ Enteral Feeds / Blood and Blood Products** – Always use 'View' button and check the parent order in the 'Order Details Window' to prepare the medication for administration. Once administered it can be signed for by selecting the 'Validate' button and validating that it was given from 'Current Dose' window.
- **Validating future doses will not trigger alert when frequency is 'Set Interval'** - Always check order details and do not rely on warnings, alerts and prompts**.**

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eRIC User Guide

Module 5: Discharge & Transfer

Discharge & Transfer

16. Overview Discharge and Transfer

This module is will provide users with a high level view and understanding of the procedures involved in discharging, transfering and transporting a patient from ICU using eRIC.

17. Discharge and Transfer Terminology

There is terminology for discharge and transfer that is specific to eRIC that you need to familiarise yourself with.

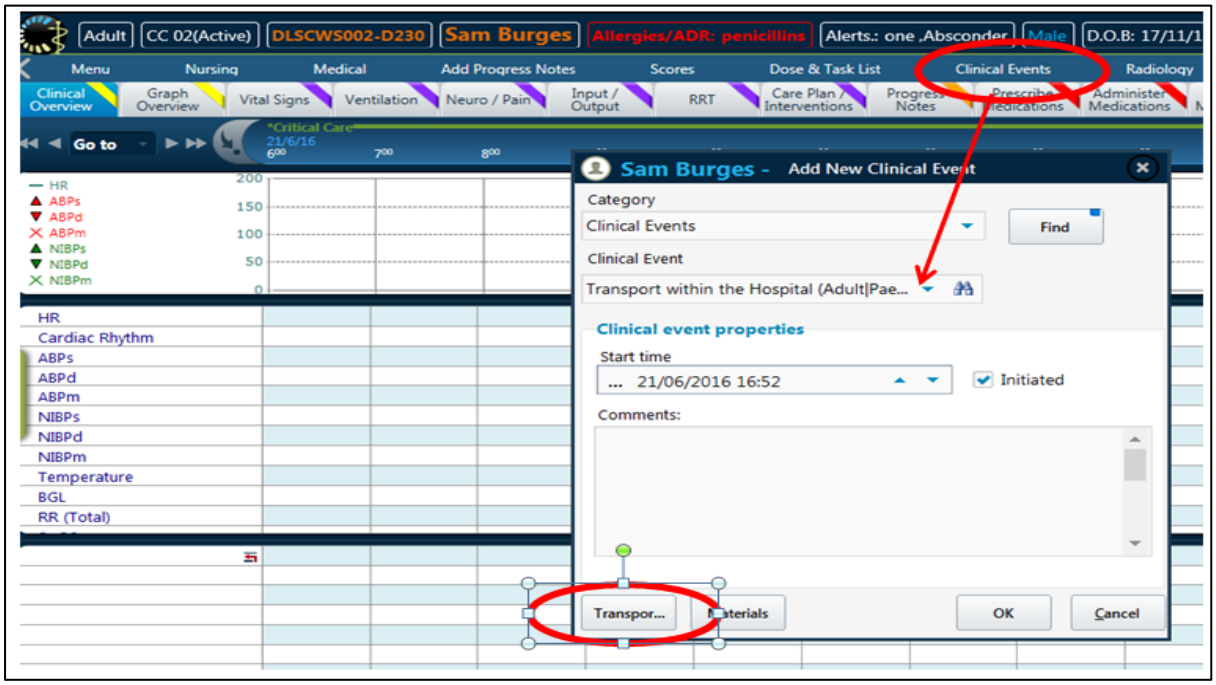
TERMINOLOGY	DEFINITIONS
Pre-admitted	The patient is allocated a bed in PAS which appears as the patient **not** being allocated a bed in eRIC
Admitted	The patient is allocated an ICU bed which appears as the patient being in an ACTIVE bed in eRIC**.** When a patient is registered with Admitted status and assigned to a bed in eRIC, data from medical devices begins to flow into the patient's clinical record.
Released	When a patient is moved out of the ICU ward, they are being discharged to another ward or facility. The medical record can still have some data entered and saved, results from Pathology and Laboratory can still be entered onto the flow sheet
Closed	Patient will not be returning for additional treatment, no data can be entered into the patient file. The file can only be viewed
Discharged	The patient is being moved from ICU to one of the following areas: ○ Discharged / Transferred to ward ○ Discharged to another hospital ○ Discharged home ○ Patient left against medical advice ○ Patient died in the ICU
Transfer/Transport	The patient is being transferred to another area in the hospital or out of the hospital for a short period of time, e.g. transport to radiology for CT scan or transport to operating

18. Transporting a Patient

This refers to the process whereby the patient is being transported to another area in the hospital or out of the hospital for a short period of time, e.g. transfer to radiology for CT scan or transfer to Operating Theatre or Cardiac Cath Lab.

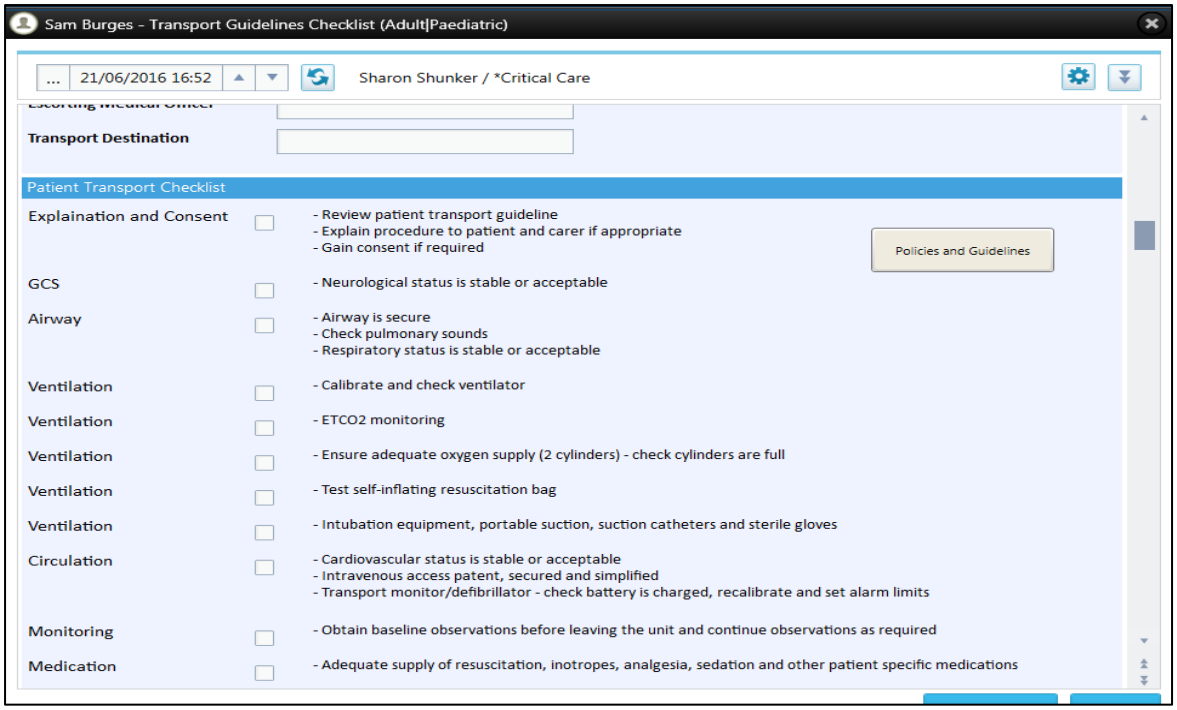
While a patient is in 'Transport', the flow of data from medical devices is stopped and the patient is not associated with a specific ICU bed.

- If a patient needs to leave for a procedure (example to Radiology for CT scan), then they need to be placed in transport status
- This is recorded as a Clinical Event
- Go to the **Clinical Event** menu → choose **Transport within Hospital**
- This opens the add new clinical event window
- Select Transport within Hospital and choose the start time
- When a patient returns, mark the end time to end the clinical event
- Open the **Transport Guidelines Checklist** from the button at the bottom of the 'Transport Clinical Event' Window (as seen below).

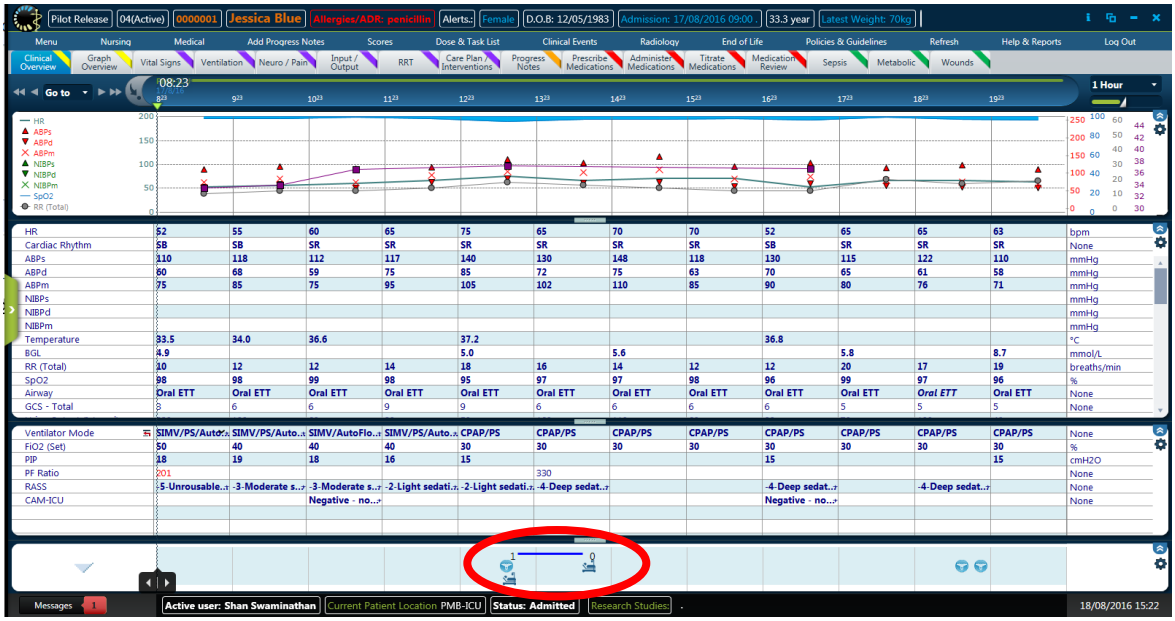


Transport Guidelines Checklist

This needs to be completed prior to transporting a patient out of ICU. It includes all the transport safety checks including checks for Neurological status, vital sign monitoring, airway safety, ventilation, circulation, monitoring, medications, etc.



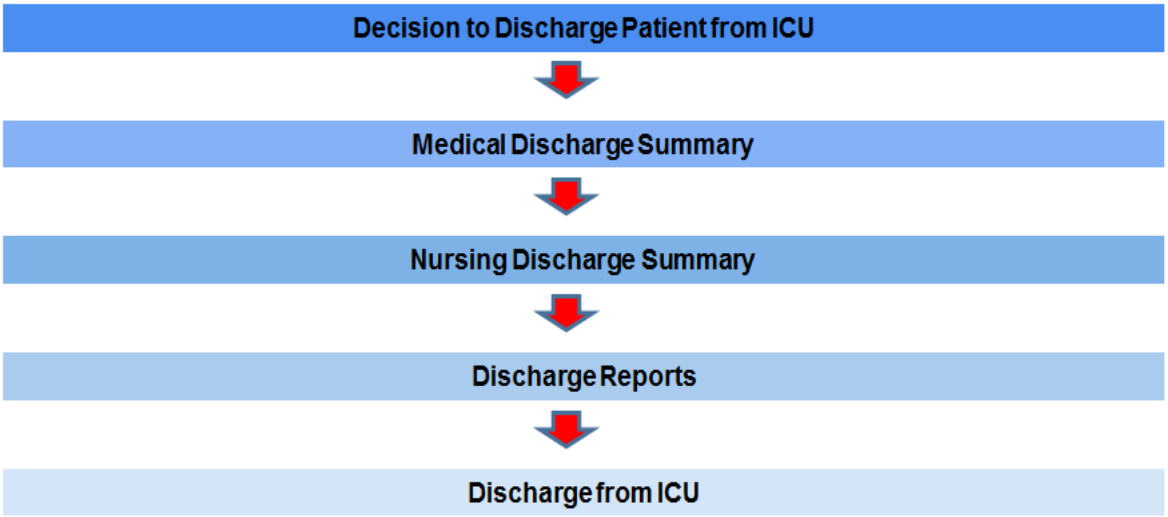
The transport will appear on the 'Clinical Overview' tab view under clinical events.



If transport is going to be prolonged (e.g. in Operating Theatre), the relevant and necessary forms should be printed, e.g. eNIMC, observation of vital signs. This can be done from the 'Transfer Print Bundles' located in **Menu → Print → Print Bundles → Transfer**.
In some areas the clinicians can login remotely to have read-only access.

Once a patient returns to ICU, reconnect all medical devices (refer to technical troubleshooting in Module 1 – Introduction). Enter any manual data that needs to be entered and mark the 'end time' to end the clinical event. Perform a head to toe assessment of the patient.

19. Discharge Procedure



Decision to Discharge/ Transfer Patient from ICU
Note to discharge patient made in Medical Ward Round Note.
'Unit Discharge Decision Date / Time' is completed.

Medical Discharge Summary
Update patient information, Enter Unit Discharge Date/Time, Discharge information, Medical Management Plan, Medication Reconciliation, prepare eNIMC (do not print till discharge is imminent)
The decision to discharge a patient is documented in the Medical Ward Round Note (information from the last ward round note will automatically feed into the Medical Discharge Summary).

Nursing Discharge Summary
Check admission and patient details, NOK informed, clinical data updated prior to discharge, complete nursing discharge checklist

Discharge Reports
Generate and print discharge documents and reports – can be done using the 'Print' bundles, print eNIMC, eHOC, EOLC forms, Resus Plan. Additional forms such as IV Fluid orders, Insulin chart, may need to be completed

Discharge from ICU
- Check that the 'Unit Discharge Decision Date / Time' is completed (in the Patient Ready for Discharge Form and the Medical Discharge Summary)
- Go to the 'Patient File' window and change the status from 'Admitted' to 'Released'. Check that the discharge date and time is correct
- The receiving ward will admit the patient to the ward bed in PAS , which will result in the patient being transferred out of ICU in PAS
- If patient is being discharged to another hospital or home, then they need to be 'Released' in eRIC and discharged in PAS by the ICU Ward clerk or ICU Nurse.

19.1 Decision to Discharge/ Transfer Patient

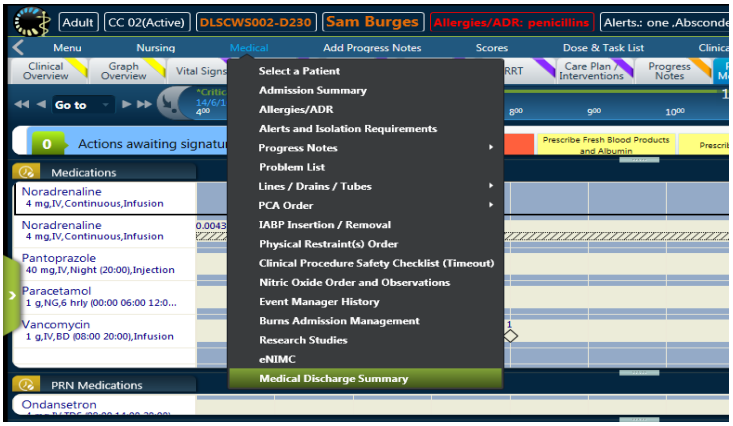
The most common discharge / transfer scenarios include:

- ICU to ward within the same hospital
- ICU to different hospital/facility
- ICU to home
- Patient left against medical advice
- Patient died in the ICU

The decision to discharge a patient is documented in the Medical Ward Round Note. Information from the last ward round note will automatically feed into the medical discharge summary.

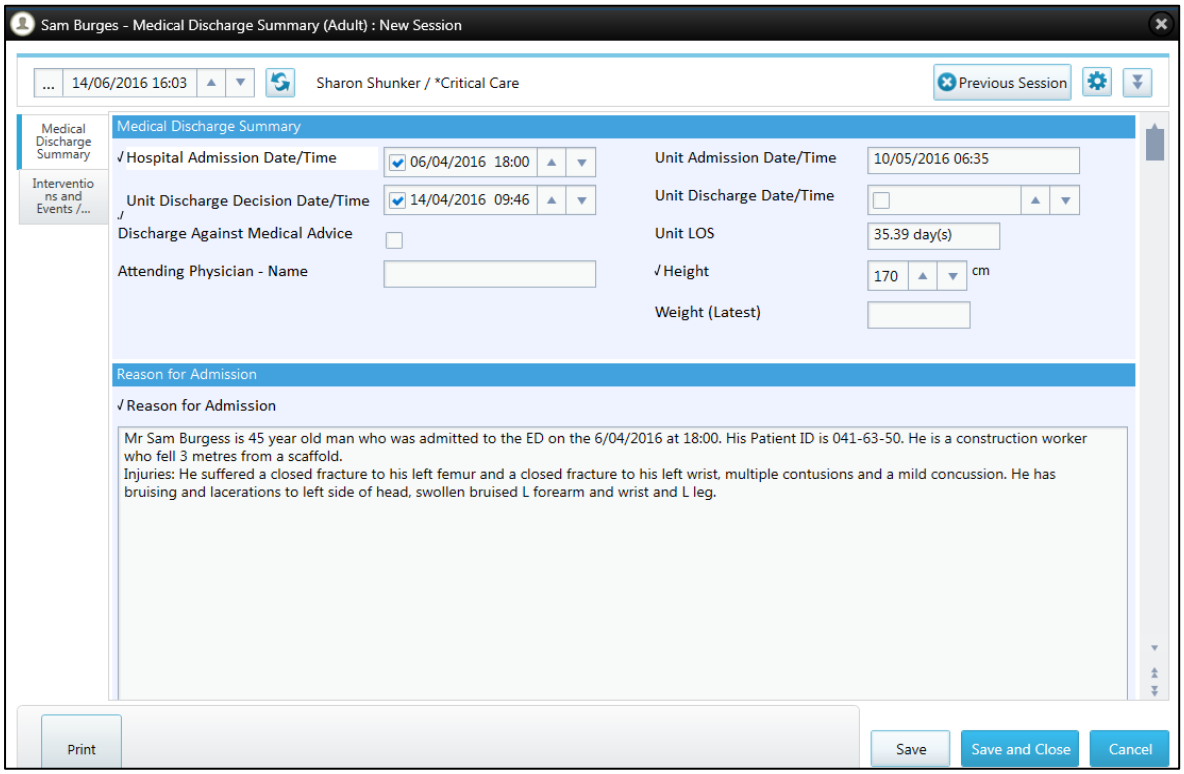
19.2 Medical Discharge Summary

The Medical Discharge Summary is accessed from the Medical Menu.



There are two tab views on this form that need to be reviewed:

1. Medical Discharge Summary
2. Interventions and Events / Plans



1. **Medical Discharge Summary –** Information about length of stay, who was the attending physician at discharge and overview of their past medical history and reason for stay.

The Unit Discharge Decision Date and Time *OR* 'Discharge Against Medical Advice' must be entered. This is important for tracking delays to discharge. It will feed from here into the Patient Ready for Discharge form OR vice-versa.

The 'Medical Discharge Summary' has data pulled into it to help auto complete the form. This data includes:

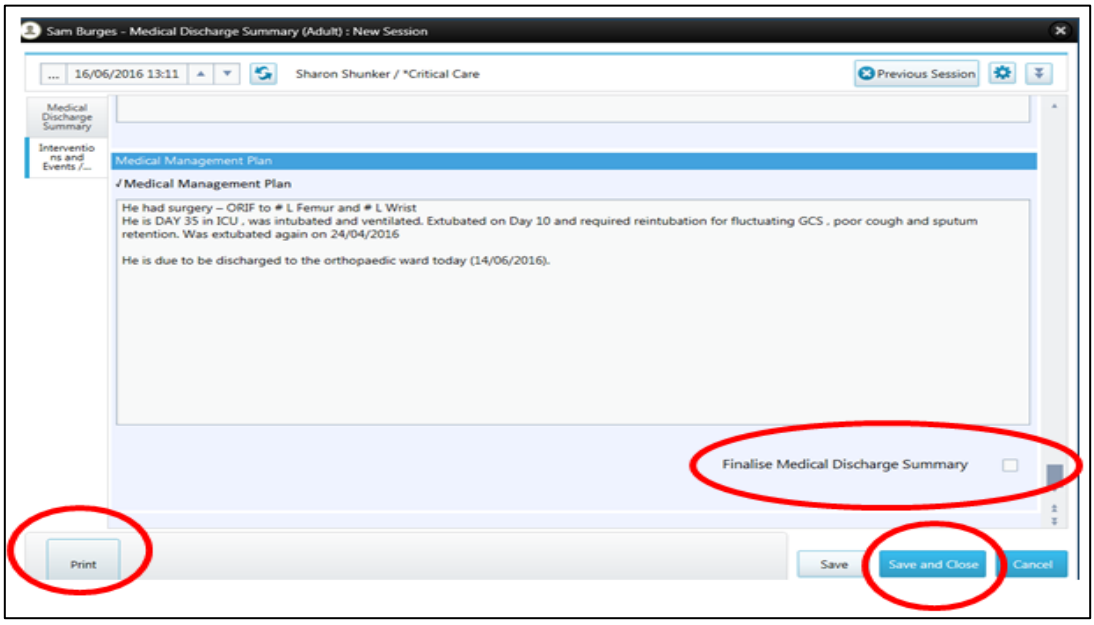
- **Unit Admission Date/Time –** This will pull in the admission date of the patient
- **Unit LOS –** This is a formula parameter and will automatically calculate the length of the patient's stay (based on their admission and discharge date)
- **Reason for Admission –** This pulls from the Admission Summary Form (Completed by Medical Officer)
- **Past Medical History –** This pulls from the Admission Summary Form (Completed by Medical Officer).

At the bottom of the medical discharge summary TAB there are three buttons:

- **Print eNIMC –** Opens the eNIMC launcher form. From this new form the medical officer can follow the instructions and then print the eNIMC. (this should only be printed when discharge is imminent.
  NOTE: Print all pages of the eNIMC
- **Admission Summary –** Opens the admission summary form for review
- **Allergies –** Opens the patient Allergies information for review.

2. **Interventions and Events / Plans –** Contains information about the patient's stay, if any significant events occurred during their stay and a medical plan for discharge. This tab contains two forms which allow for data to be pulled in from other sources in eRIC.
   - **Significant Interventions and Events –** Located on the Medical Ward Round Note form
   - **Medical Management Plan –** Located on the Medical Ward Round Note form. This makes the Medical Ward Round Note form a very important form to keep updated and accurate as this feeds vital information to the discharge summary.

Once all information has been completed, tick the check box at the bottom of the 'Interventions and Events' window that says 'Finalise Medical Discharge Summary'. The summary can be printed using the 'Print' button and then 'Save and Close' the window.



Medication Reconciliation

ICU to Ward Discharge & ICU to different Hospital/Facility
- Review patient's current medications in eRIC from the **Prescribe Medication** tab view.
- Cease / discontinue unrequired medications in eRIC
- Review outpatient medications and any other medications the patient may have been on prior to arrival in ICU
- Prescribe all (old, new, modified) medications that will be required on discharge from ICU into eRIC
- Review **Administer Medication** tab view to ensure all doses that are due have been administered and validated
- When discharge is imminent (and the discharge time has been confirmed) the eNIMC will need to be generated. Check medication on eNIMC and print ALL pages of eNIMC.

ICU to Home Discharge
- Follow same steps as above
- Instead of printing eNIMC, the patient will need a medication discharge prescription.

Patient left against medical advice or Patient died in the ICU
- Review and cease all medications in eRIC.

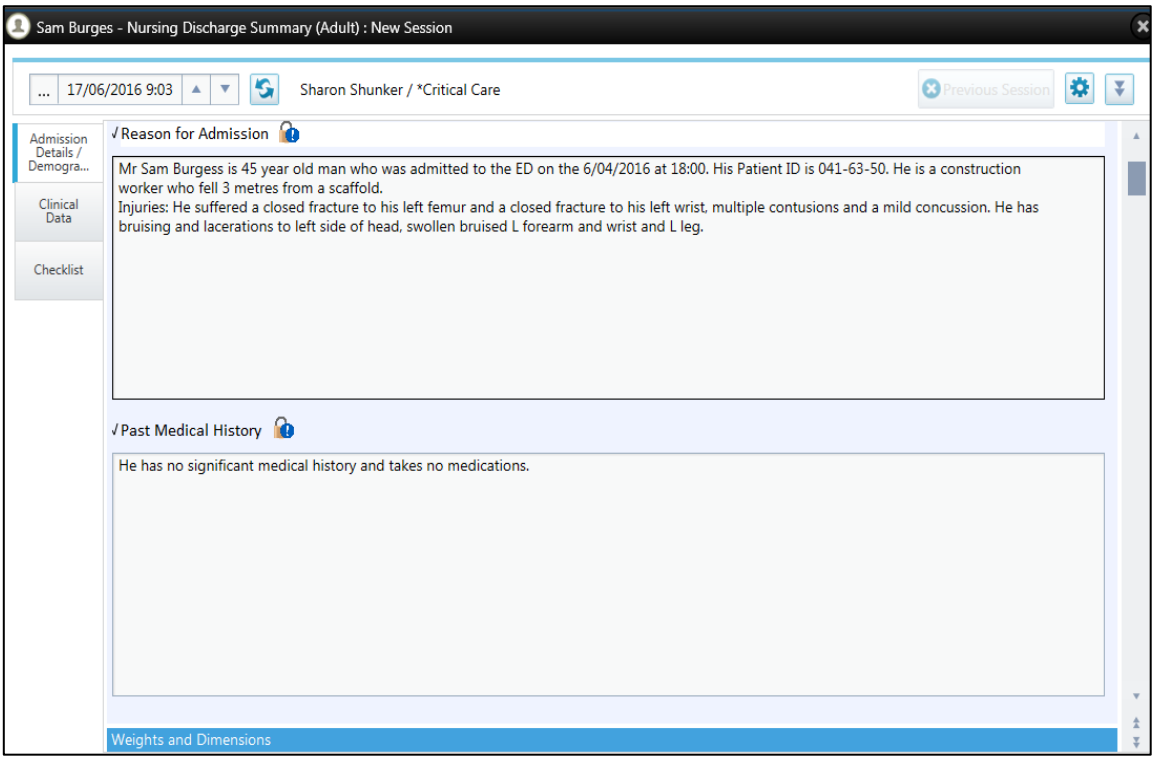
Allergies / ADRs and Alerts
- Review allergies and ADRs. Chart allergies status and ADRs in eMR
- The medical officer should check that allergies / ADRs are also accurately recorded on the eNIMC
- Document pregnancy status into eMR (if detected in ICU)
- Enter all Alerts into eMR.

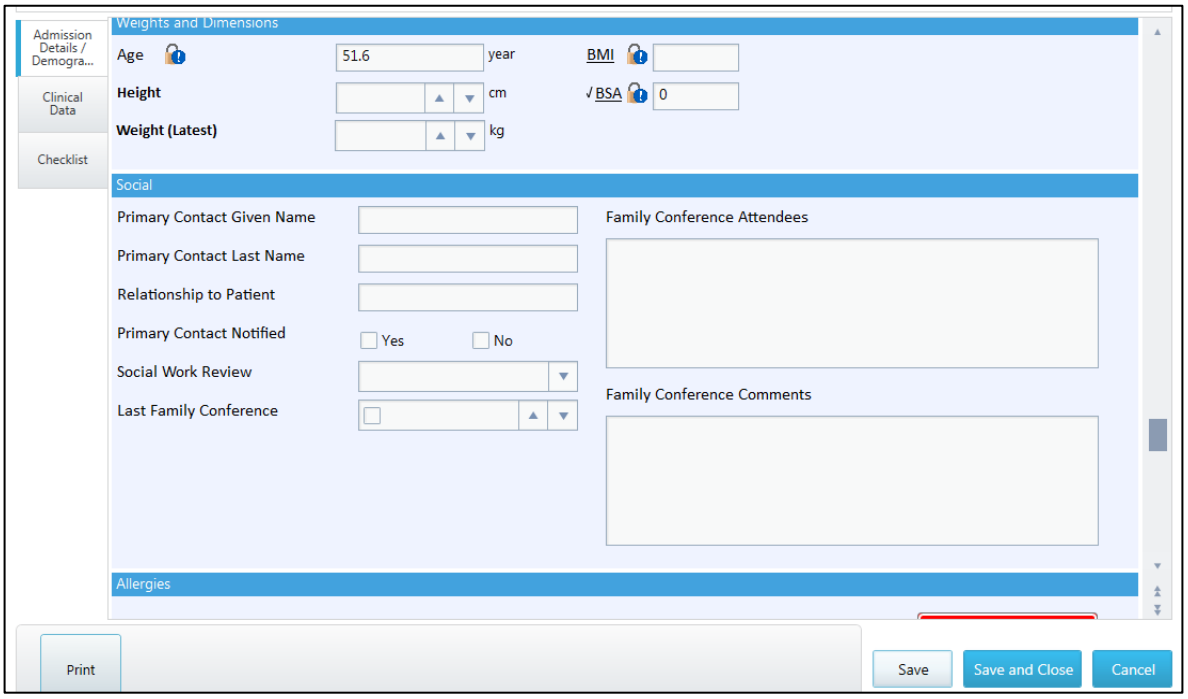
19.3 Nursing Discharge Summary

- For a patient discharge to be complete, the Nursing Discharge Summary needs to be completed
- The Nursing Discharge Summary is accessed from the Nursing Menu
- This form contains fields that are auto populated and cannot be edited. These fields are marked with a locked field symbol, and the data within the locked fields are populated from other forms completed during the patient's stay.

There are three tabs on this form that need to be reviewed:
1. **Admission Details / Demographics:** an overview of the patient; why they have been admitted and their previous medical history. Information on the patient's weight and dimensions and their current family contacts and status.

This tab contains areas on the Nursing Discharge Form that have locked fields. This is a list of the fields in this tab:
- **Reason for Admission –** populates from the Admission Summary Form (Completed by Medical Officer)
- **Past Medical History –** populates from the Admission Summary Form (Completed by Medical Officer)
- **Weights and Dimensions –** This needs to be entered with the latest current weight
- **BMI & BSA –** a formula parameter that is calculated based on the patient's height and weight
- **Social –** includes information on Primary Contact, Social Work Review and last Family Conference
- **Allergies –** review allergies and update status if necessary.

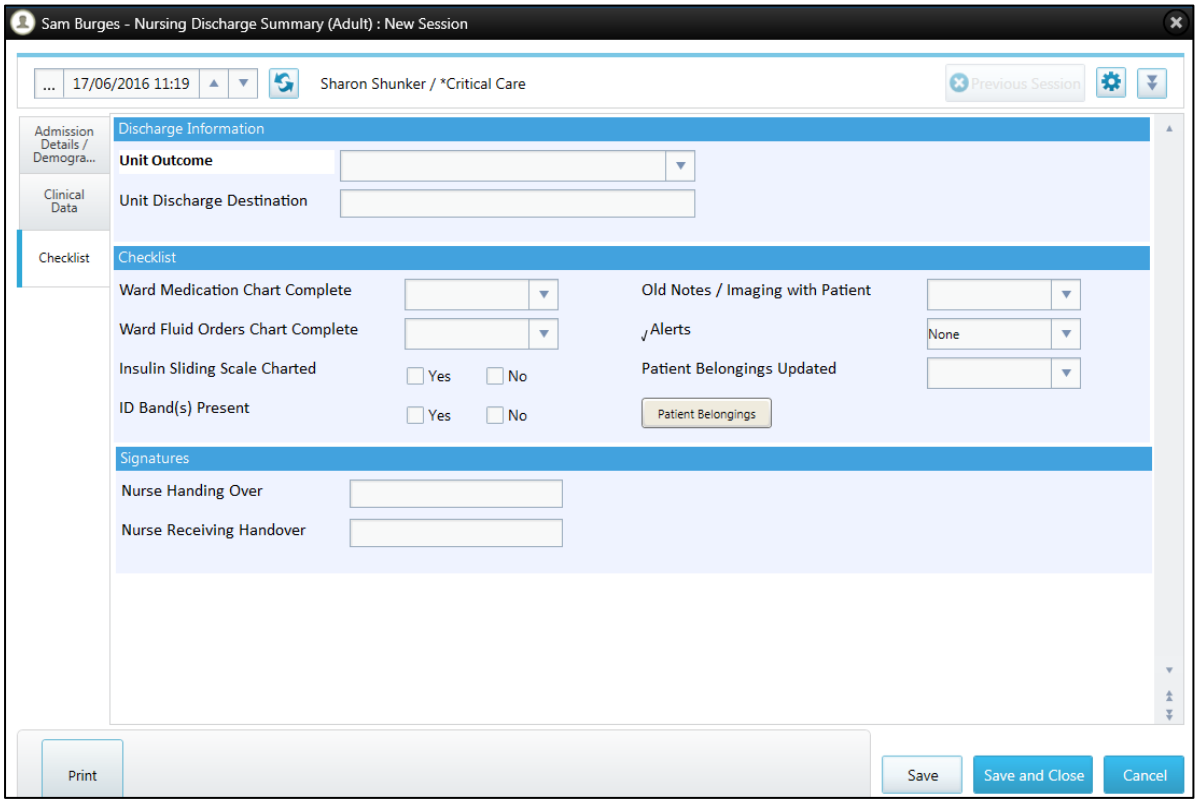




2. **Clinical Data:** This tab view is updated with information on the patient's most recent vital sign observations and clinical information using a system-based approach. All of this data needs to be manually entered (using most recent data), each section has a comments box to enter additional information. Information includes:
   - **Neurological –** GCS and Pain Scale
   - **Respiratory –** Airway, O_2 administration, respiratory observations, Tracheostomy information.
   - **Cardiovascular –** Cardiac rhythm, HR, Blood pressure
   - **Metabolic –** Blood glucose level, temperature

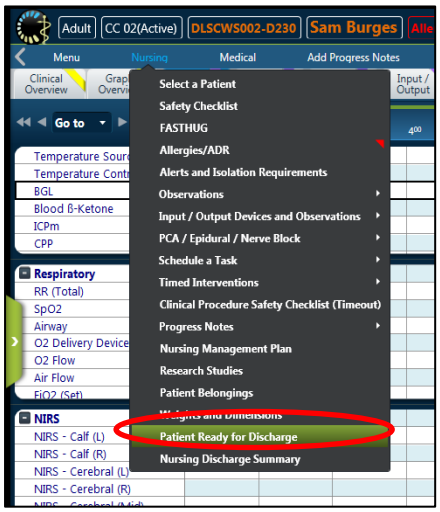
- **Gastrointestinal –** information on feeds, bowels last opened date, patient's diet information can be entered in the GI comments box.
- **Renal –** IDC details and urine output
- **Integumentary –** Skin assessment, pressure area information and pressure area care management plan
- **Lines /Drains / Tubes –** This section will show the status of any Lines / Drains / Tubes running during the previous and next 24hrs.

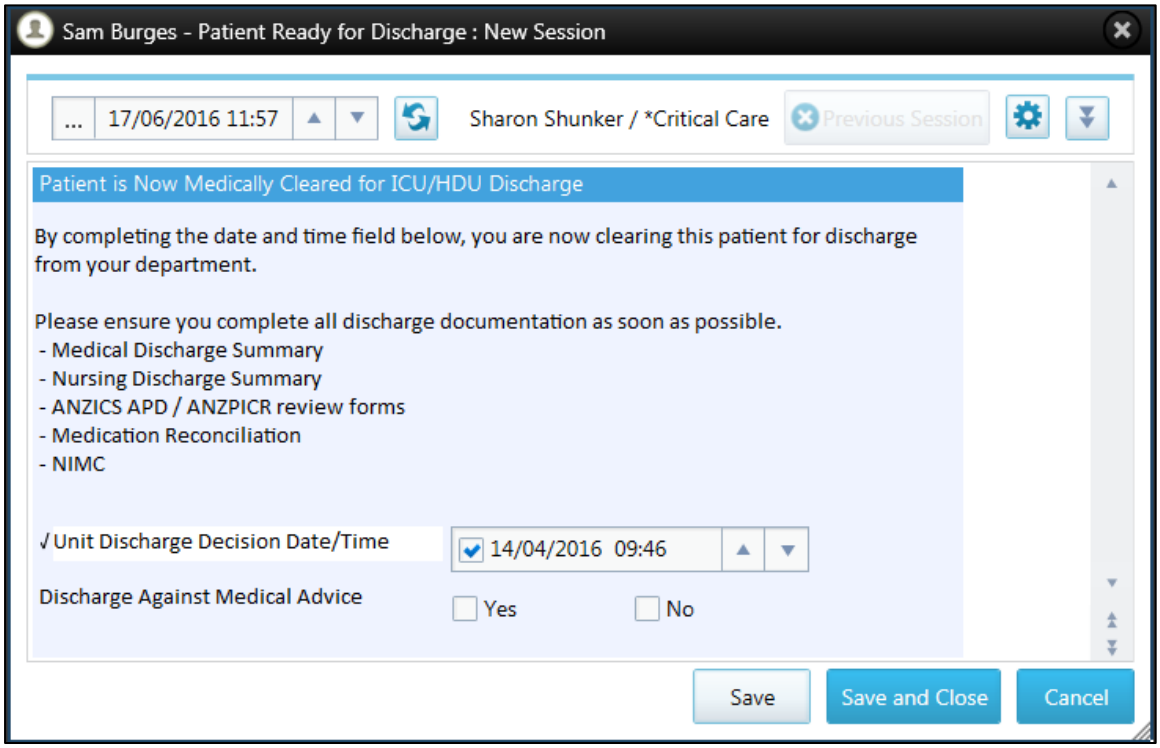
3. **Checklist:** This tab is used to ensure all actions necessary for patient discharge are completed.
   - Discharge Information – outcome i.e. survived ICU, transferred to another ICU/ HDU/Hospital, died in ICU. Information on discharge destination
   - Check that the medication chart (eNIMC), fluid orders chart and insulin chart are completed. Check that the patient has an ID Band, old notes, imaging and belongings with them. Check for any alerts
   - When the ICU nurse hands over the patient in the ward, they will need to log in to eRIC. After completing the handover of care, the names of both the ICU nurse handing over, as well as the receiving nurse taking over care of the patient, needs to be entered in the signature box on the checklist tab.



Patient Ready for Discharge Form

This is accessed from the Nursing Menu and can be used to check that all discharge documentation has been completed. The Unit Discharge Decision Date/Time ***OR*** 'Discharge Against Medical Advice' MUST be filled out (this is important for tracking Exit Block and delays to discharge).





The Unit Discharge Decision Date/Time can and should be updated based on clinical requirements, ie if a patient deteriorates and is not fit discharge until a later date – the revised decision date/time should be updated within eRIC.

- If the 'Unit Discharge Date and Time' changes due to any reason – need to add a comment under 'Cell Properties' stating that the Unit Discharge Decision has been reversed. This will display on the 'Patient Ready for Discharge Form' with a comment indication.
- When the patient is due for discharge – update the 'Unit Discharge Decision Date and Time' and add another comment.

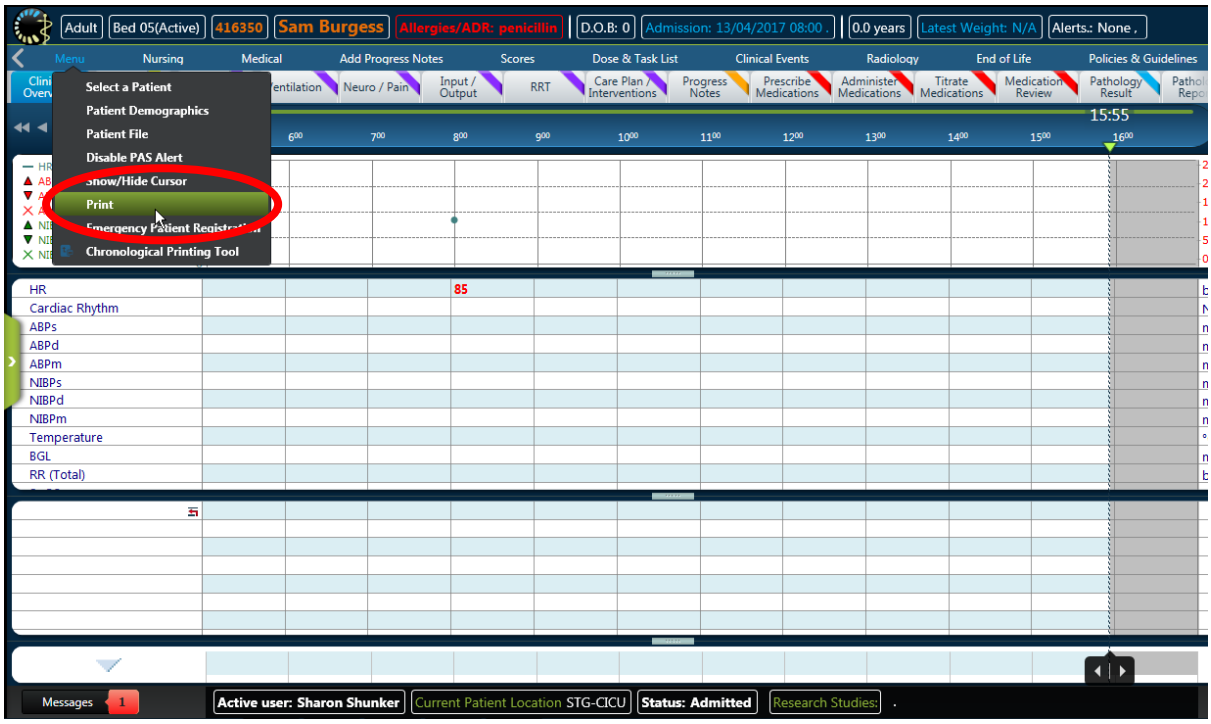
Scheduled Tasks

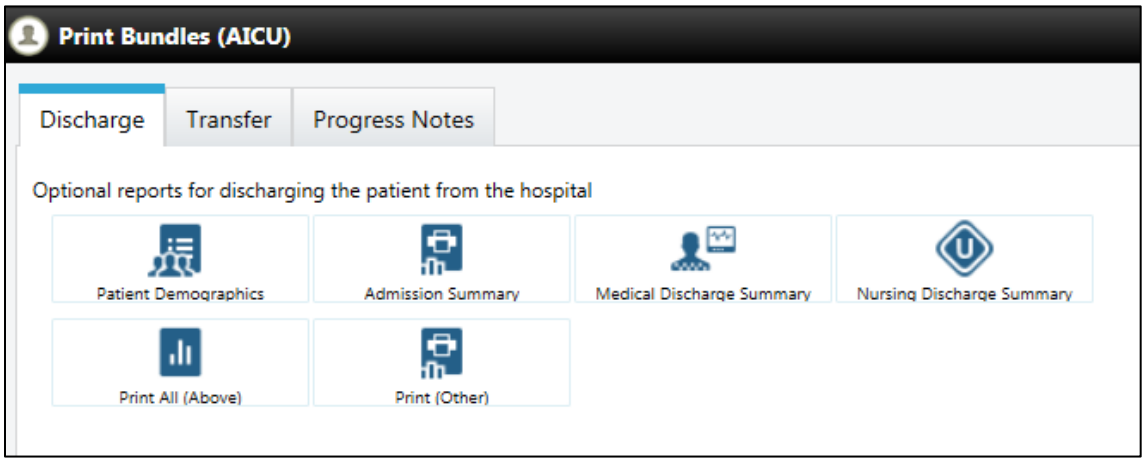
Go to the Care Plan / Interventions Tab and select all scheduled tasks and discontinue them.

- To discontinue (stop) a task in the order profile view, uncheck the box next to the task or by clicking on menu arrow of that task and selecting discontinue.
- This uncheck action needs to be approved (validated, signed for) and therefore adds an action to a nurse's shopping cart.
- After clicking Sign Now, a similar signature window appears under the action column instead of **Create**, the action is **Discontinue.**

Print Bundles

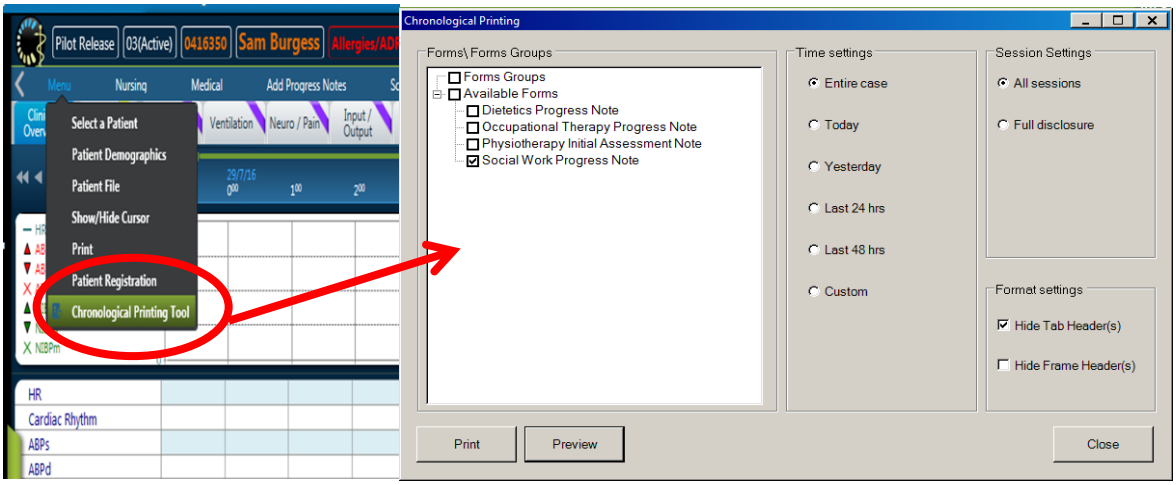
All relevant discharge documents can be printed from the 'Print Bundles' accessed from the 'Menu' → 'Print'.





Chronological Printing Tool

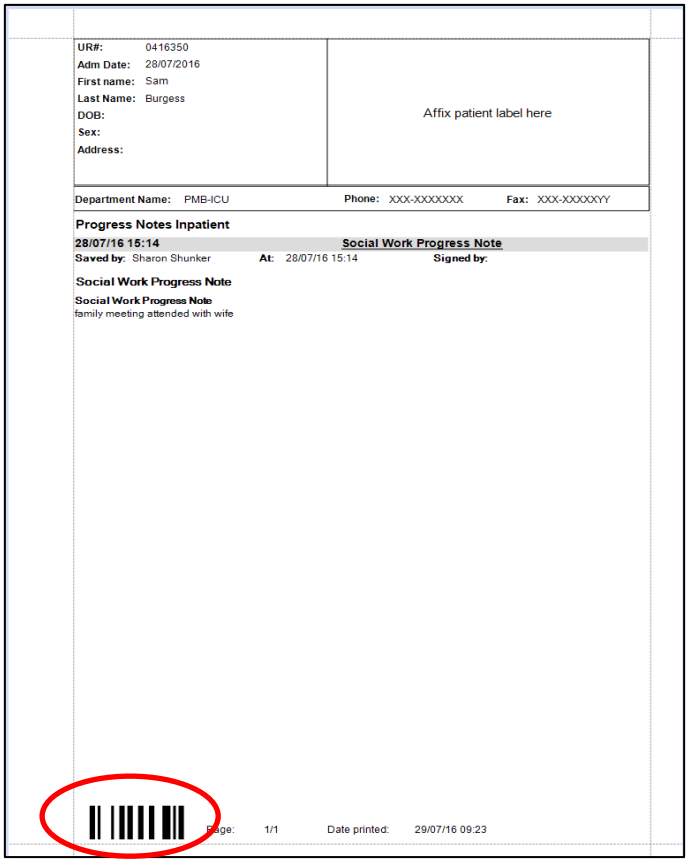
The Chronological Printing Tool can be used to print chronological reports for selected times and sessions.



Chronological Printing Tool - DOB and Phone number not being displayed and Patient's address are partially displayed in the header in CPT reports. Within Patient Demographics sessions, DOB and Address gets captured correctly and Home Contact 1 displayed as PAGER PERSONAL.

The recommended solution: Staff should be made aware to recognize this issue. This will need to be checked and manually entered or patient label attached.

NOTE: when printed, a barcode will appear on the bottom of the form that needs to be crossed out.



19.4 Discharge Reports

The discharge reports that need to be completed include:
- Medical Discharge Summary (print from print bundles)
- Nursing Discharge Summary (print from print bundles)
- eNIMC – print from tab at the bottom of the Medical Discharge Summary
- eHOC – can be generated from the 'Medical Menu' → eHOC OR 'Nursing Menu' → eHOC. The eHOC will be generated on-screen into a PDF viewer. Within the PDF viewer the user may save or print the report. eHOC needs to be manually published to eMR.
- EOLC Forms:
  - Advanced Care Directive - there may be a scanned document for the advanced care directive
  - Resuscitation Plan in eRIC - in addition, the hospital/state-wide resuscitation plan document should be completed
  - Declaration of brain death form - needs to be completed for organ donation brain dead patients
  - Donation after circulatory deaths form - needs to be completed for organ donation patients who are for donation after circulatory death.

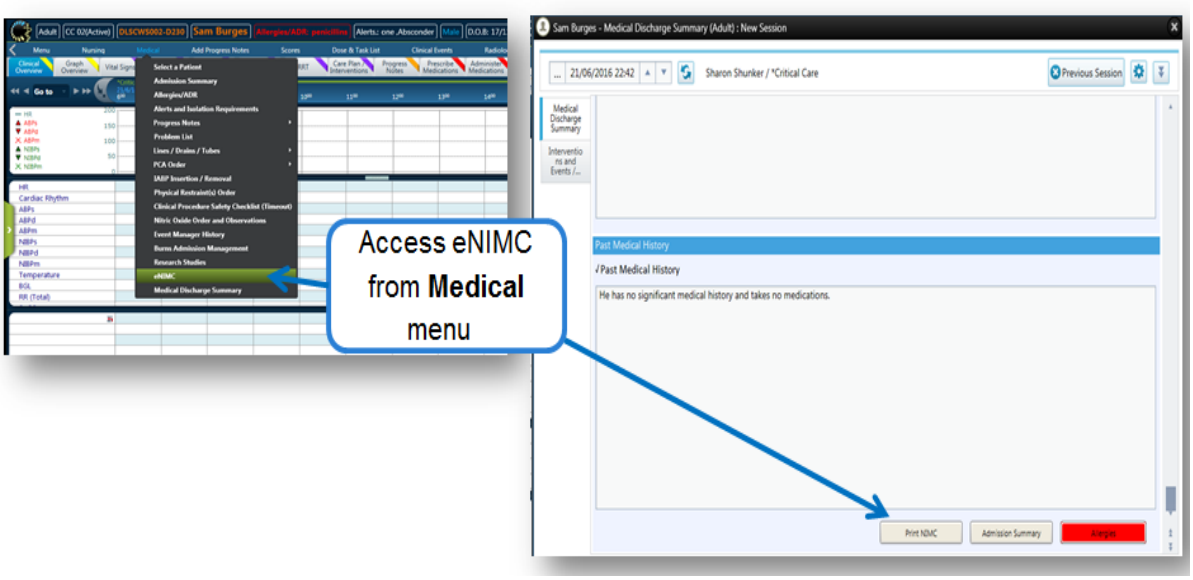
Additional paper ward-based forms that may need to be completed include:
- IV fluid order form
- Insulin chart
- PCA / Epidural Form
- Chemotherapy Chart

Additional paper ICU-based forms that may need to be completed include:
- ANZICS APD/ ANZPICR review forms.

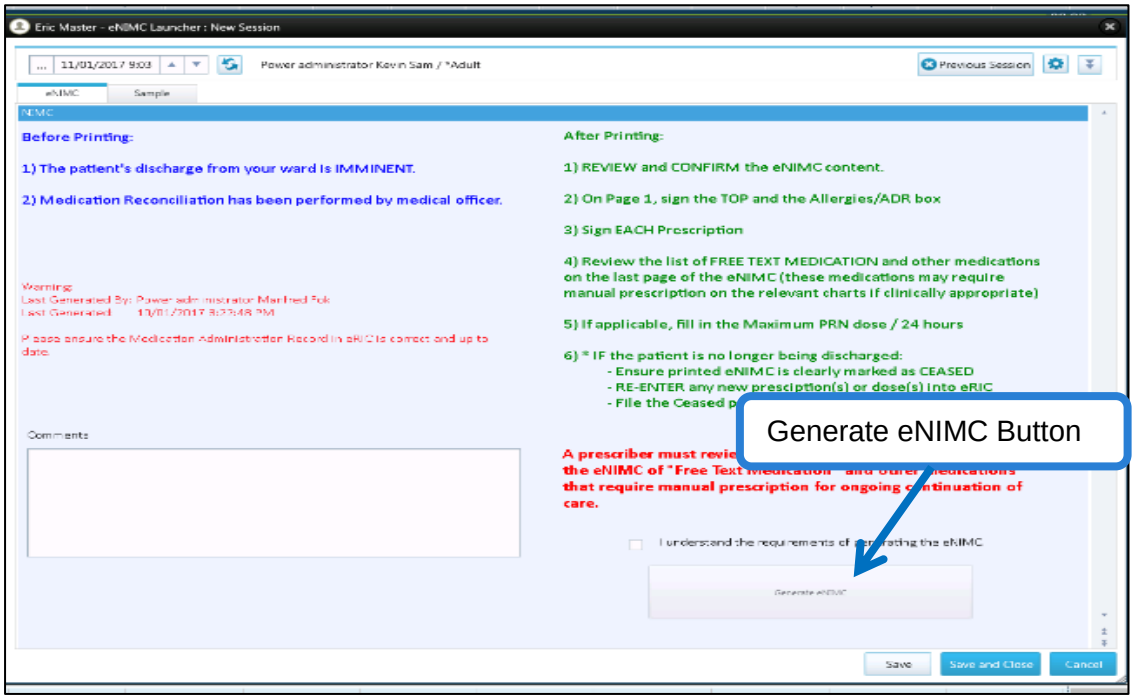
For patients who die in ICU:
- Death Certificate
- Coroners Referral and checklist

19.4.1 eNIMC (electronic National Inpatient Medication Chart)

This is an electronic version of the National Inpatient Medication Chart (NIMC)
- The design for eNIMC aims to replicate the format and content of the current NSW standard paper NIMC as far as possible into a format that is printable from eRIC
- Medications and other substances currently not appearing on the paper NIMC - will not be printed on the eNIMC
- The eNIMC is intended to support the transition of patients from ICU to the ward
- It can also be printed to support medication management where the patient is temporarily absent from the ICU for a prolonged period. For example, while in the operating theatre or Cath lab, or attending a test or procedure out of the department.
- The eNIMC can be launched via:
  - The Medical Discharge Summary (at the bottom of the form)
  - Or by navigating to **Medical** menu → **eNIMC.**



Clicking on the eNIMC button will open an *eNIMC pre-generation screen* which provides tips for the clinician prior to printing and after printing eNIMC. A warning message is displayed on screen if the eNIMC PDF has been generated previously.



A major benefit of the eNIMC is to reduce transcribing errors and improve legibility and patient safety.

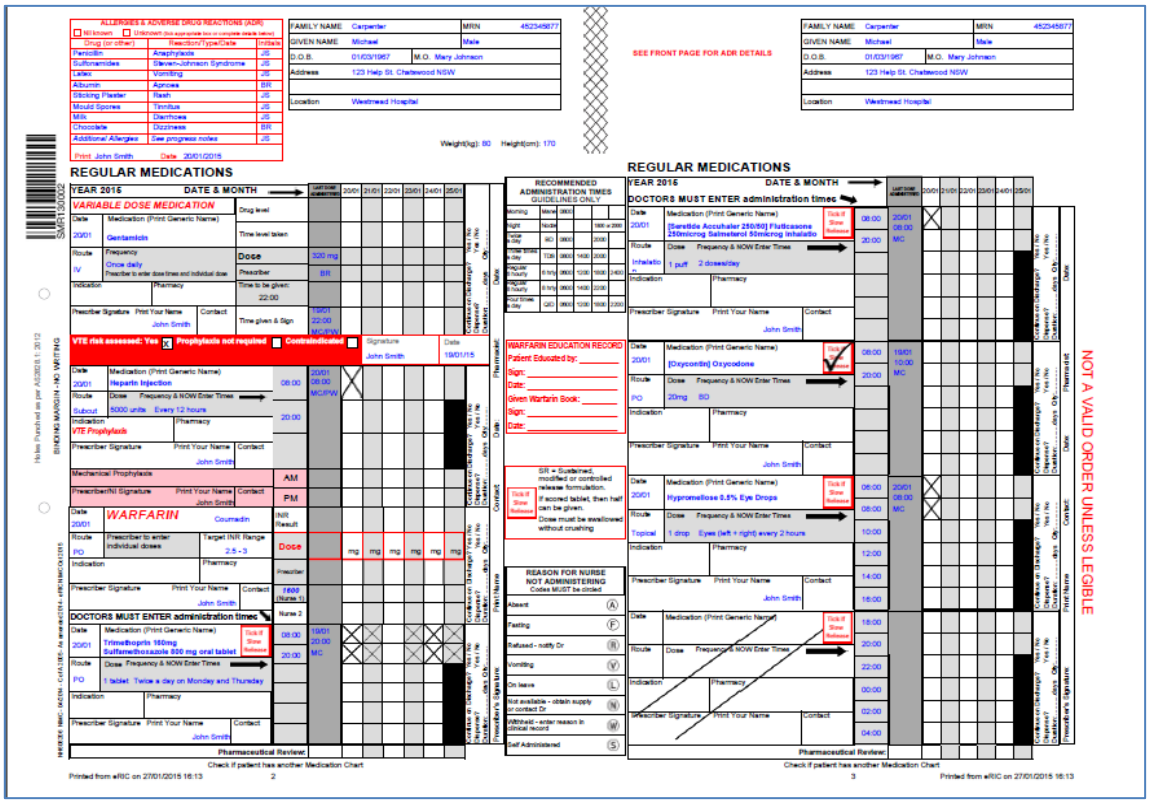
Before Printing

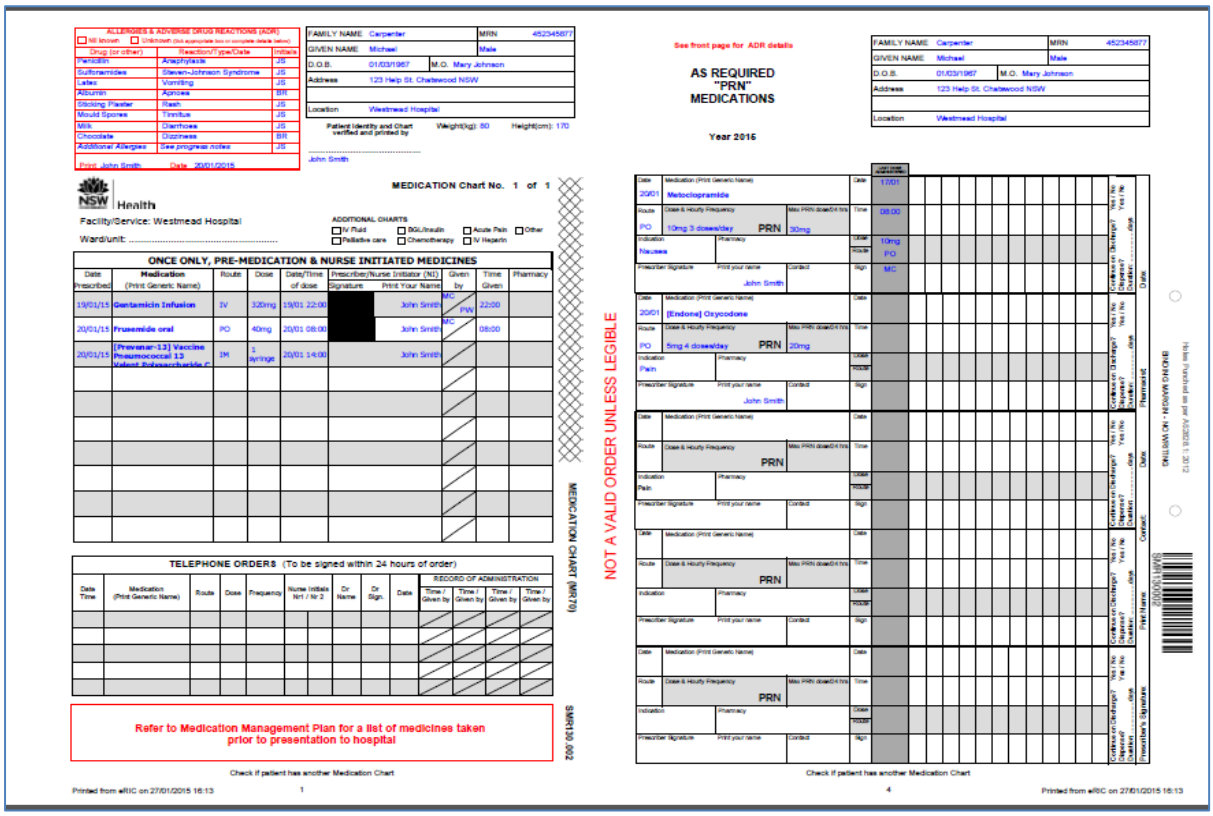
- Ensure that the discharge is imminent – approximately 30 minutes before actual predicted time to leave ICU to avoid the need of dealing with the printed eNIMC should the discharge decision be reversed
- Check that a medical reconciliation has been performed by the ICU Medical Officer.

After Printing

- Review and confirm the eNIMC content (compare with Prescribe Medication and Administer Medication tab views)
- Fill in and sign the VTE Risk assessment details; if applicable, manually prescribe mechanical VTE

- Maximum PRN doses must be manually entered
- **NOTE:** Check all Free Text Medications on the last page of the eNIMC and manually enter all Free Text Medications
- Additional prescribing on a paper NIMC may be needed if the maximum number of charts has been printed (10 charts)
- **NOTE:** Verify and sign the Allergies/ADR details at the top of Page 1 and Page 2 on every chart printed. If there are more than nine Allergies/ADR, handwrite initials on the last row, next to 'Additional Allergies. See Progress Notes'. If PRN medication is prescribed, fill in the maximum 24 hour dose
- The eNIMC must be signed at the 'Top' of Page 1 on every chart
- Each medication order must be signed (Indication for the medication must be entered where clinically appropriate)
- In the rare case where the medication name does not appear in its entirety due to the size of the available space, the clinician may choose to handwrite the missing characters.
- Provided the clinician is authorised to generate the eNIMC PDF, and the acknowledgement checkbox is ticked, the PDF for eNIMC is displayed on screen for preview and verification by the clinician
- The clinician then has the option of printing the eNIMC or cancelling out of the preview without printing. In the latter case, eRIC continues to be used for prescribing and administering.
- If the patient is no longer being discharged:
  - Ensure eNIMC is clearly marked as ceased
  - Re-Enter any new**/updated** prescriptions **and/or administration** into eRIC
  - File the ceased paper eNIMC into the patient file.





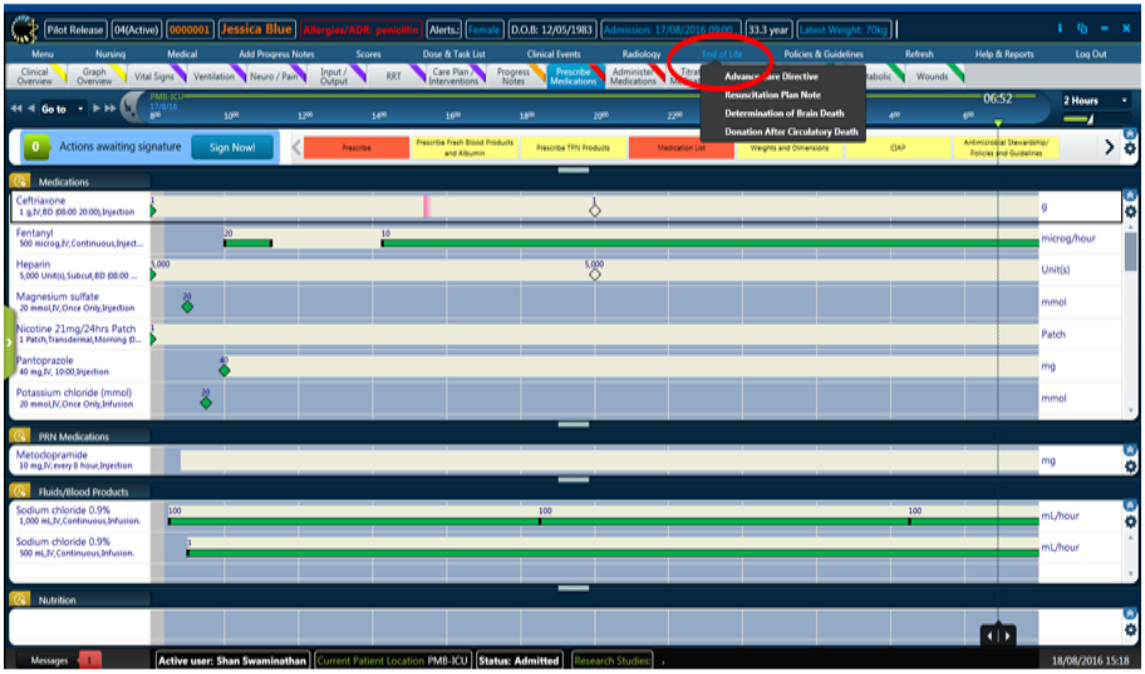
- Check if additonal charts are required. A separate paper-based order form may need to be completed for:
  - IV fluid order form
  - Insulin chart
  - PCA / Epidural Form
  - Chemotherapy Chart

Once printed, the verified and signed eNIMC is the source of truth for medication and can be used for prescribing/administering additional medications as required. eRIC should **no longer** be used for prescribing/administering unless the discharge decision is reversed.

The eNIMC is affected, when at any stage during prescribing in eRIC, the user validates the dose and then later modifies the dose quantity in the Titrate Medication section. What will happen is that when the eNIMC is generated – for that medication - the last administered section for the dose quantity prints '0'(ZERO) . It will happen for the following types of medications (PRN, Variable dose, VTE, Warfarin).
The recommended solution: Medical staff need to be reminded that the previous documented administered doses in the generated eNIMC need to be checked that they are accurate AND not '0'.

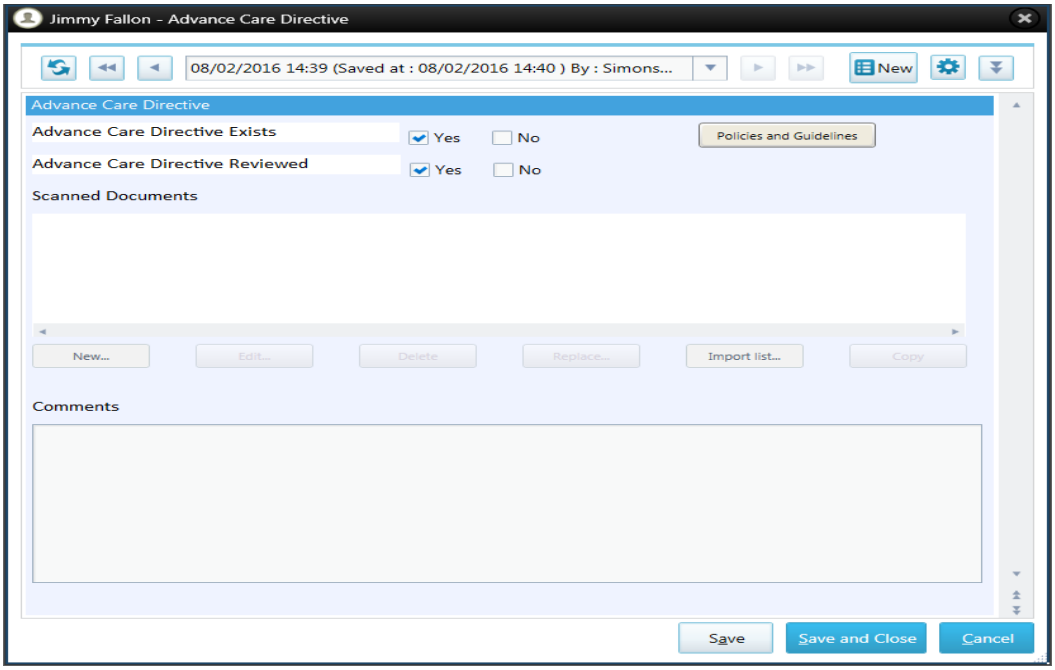
19.4.2 EOLC Forms

End of Life Care forms can be accessed and printed from the 'End of Life' menu.



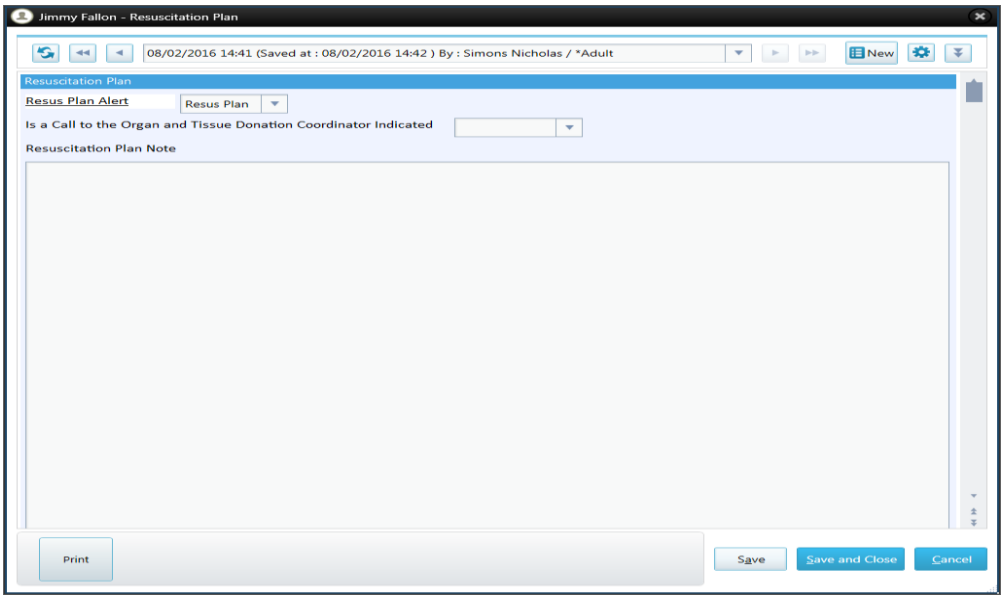
Advanced Care Directive

The advanced care directive window contains information on whether the patient has an existing advanced care directive which has been reviewed. A paper-based version of the advanced care directive should be completed and included in the discharge reports.



Resuscitation Plan

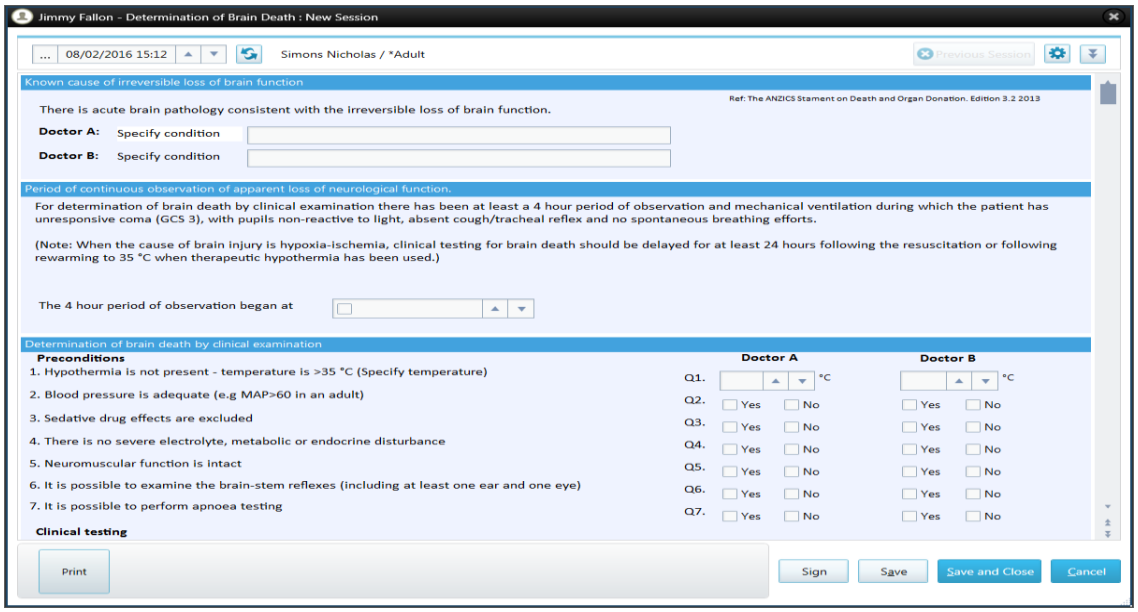
- This form allows clinicians to formulate a resuscitation plan for patients in ICU
- The form has a Resus (Resuscitation) Plan alert parameter on it that indicates if there is a Resus Plan in place
- If there is a plan, the form should be saved with 'Resus Plan' selected. This alert will change the Title bar for that patient to indicate that a Resus Plan has been put in place
- On discharge from ICU, the hospital/state-wide resuscitation plan document MUST be completed.



Declaration of brain death (needs to be completed and printed for organ donation brain dead patients)

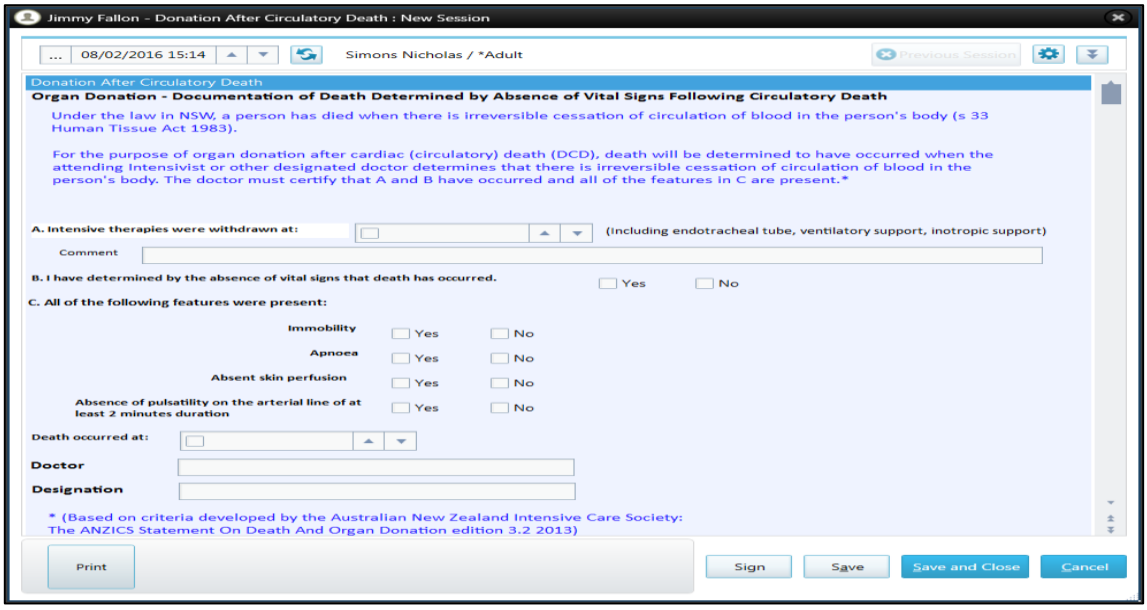
This is a copy of the current state form for determination of Brain Death in a patient.
This form requires two doctors to complete it, for it to be a valid document.

- The first doctor completes the form → select **Sign** → **Save** and **Sign** → enter user name and password.
- **NOTE:** A second doctor must click on **New Session** → enter all assessment findings → select **Sign** → **Save and Sign** → Enter user name and password → select **Save and Close** to ensure entered data is saved for that session**. If the second doctor verifying brain death only clicks on 'Sign' – the data entered will not be saved.**



Donation after circulatory death needs to be completed and printed for organ donation patients who are for donation after circulatory death.

This a copy of the current state form for documentation of Death in a patient following circulatory death. The attending Intensive Care Consultant or other designated doctor determines that there is irreversible cessation of circulation of blood in the patient's body and all the criteria for organ donation after circulatory death have been met.



19.4.3 electronic Handover of Care (eHOC)

The eHOC Report provides a Clinical summary of the patient's ICU stay

- The eHOC is an electronic Hand Over of Care report that has been developed in extensive consultation with clinicians, from within and outside the ICU
- It is generated at the time of patient discharge from the ICU
- The eHOC Report can be used by all clinical staff and:
  - used for handover of care by ICU to clinical staff on the ward the patient has been transferred to
  - used for handover of care when the patient is discharged out of ICU to another hospital.

eHOC: Sections and Sub-sections

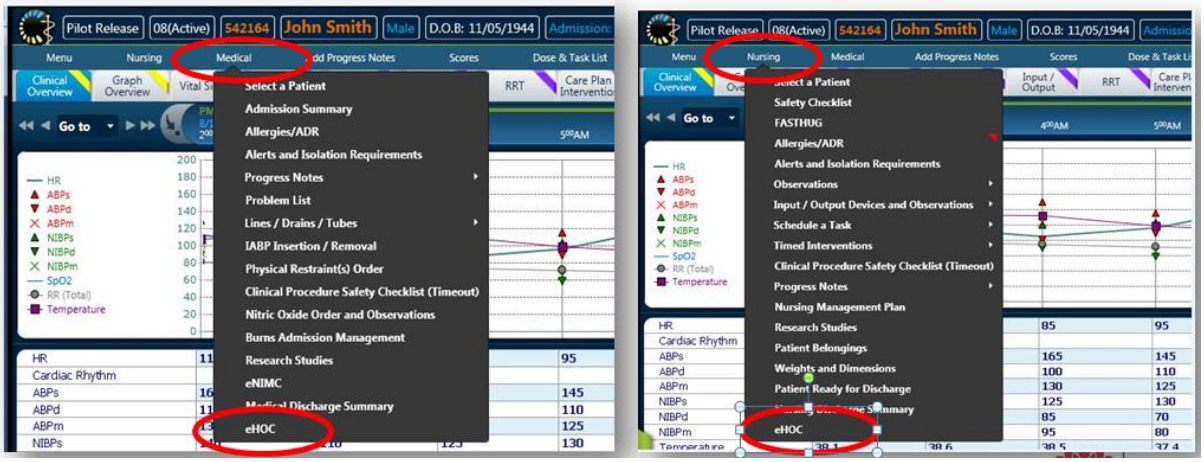
- Administrative Details
- Event (this ICU Admission)
  - Problems /Diagnosis
  - Medical History
  - Clinical Synopsis
  - Clinical Interventions Performed
- Nursing Discharge Summary
- Medications
  - Current medications at the time of discharge from ICU.
  - Medications withheld in ICU
  - Outpatient medications ceased within ICU
  - Anti-microbial medication administered in ICU
- Medical Plan
- Vital Signs (24 hours prior to transfer)
  - Pulse and Respiratory Rate
  - Blood Pressure

- Temperature
- Fluid Balance
- Weights and Heights (latest)

- Resuscitation Plan
- Referrals / Consultations

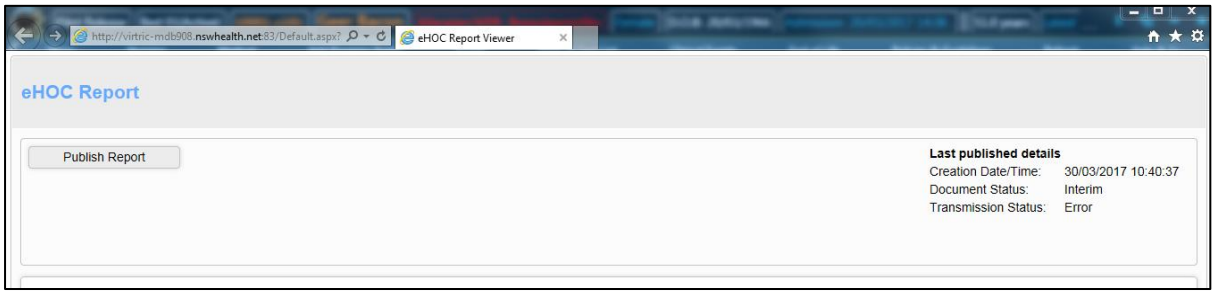
eHOC: How to Generate

- The eHOC can be generated from the 'Medical Menu' → eHOC OR 'Nursing Menu' → eHOC
- The eHOC will be generated 'on-screen' into a PDF viewer
- Within the PDF viewer, the user may save or print the report
- The eHOC can also be manually published to eMR

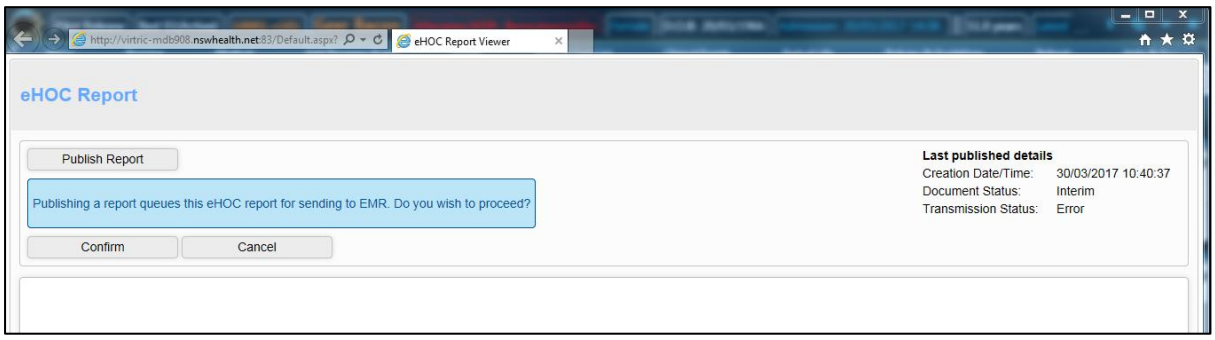


Publishing eHOC to eMR

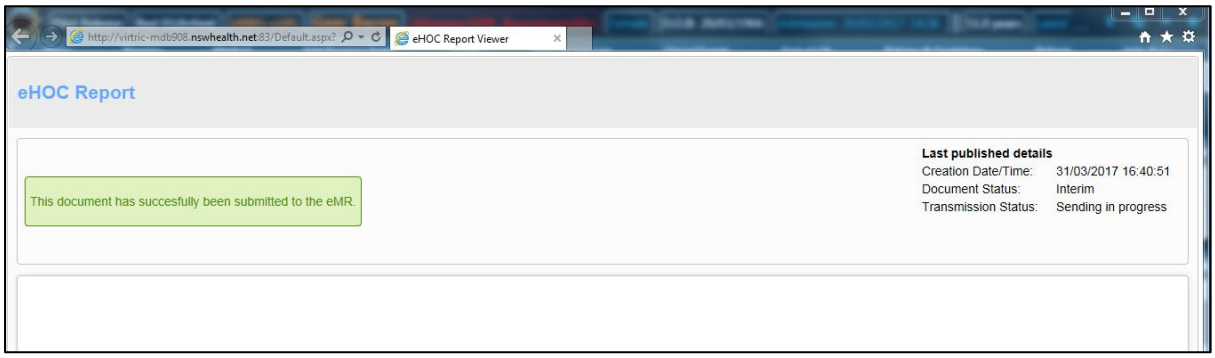
The eHOC when generated can be published to eMR



- Click on the 'Publish' button

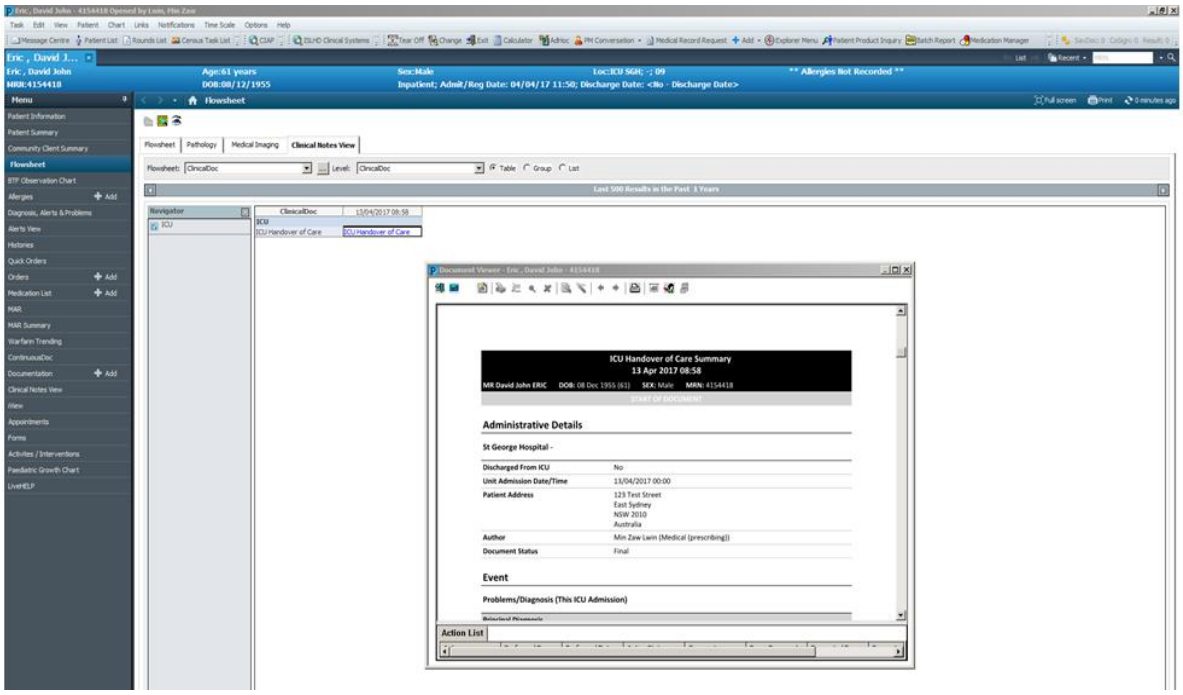


- Click on Confirm if you want to proceed with sending the eHOC report to eMR

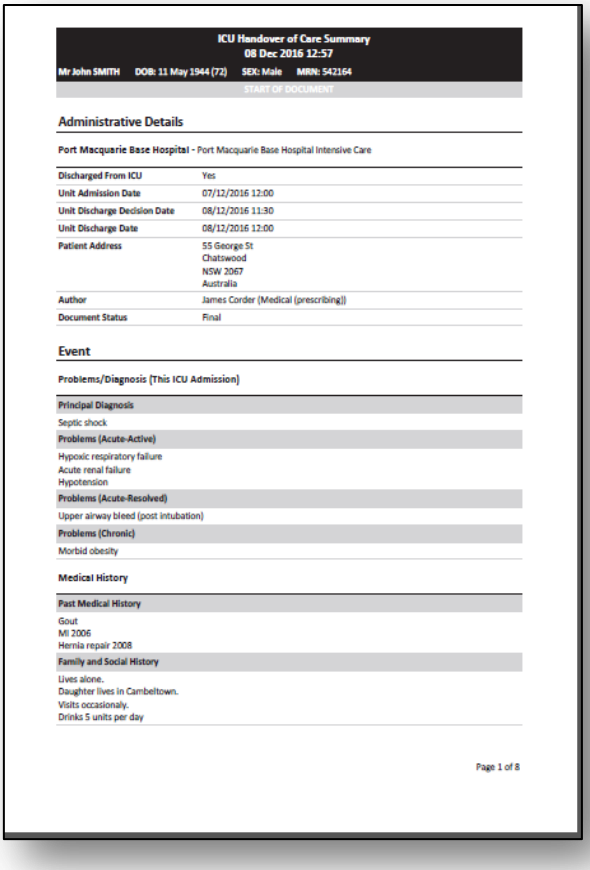


- A message is displayed confirming that the document has been successfully submitted to eMR.

Location of eHOC in eMR



Example of an eHOC



ICU Handover of Care Summary
08 Dec 2016 12:57
Mr John SMITH DOB: 11 May 1944 (72) SEX: Male MRN: 542164

START OF DOCUMENT

Administrative Details

Port Macquarie Base Hospital - Port Macquarie Base Hospital Intensive Care

Discharged From ICU	Yes
Unit Admission Date	07/12/2016 12:00
Unit Discharge Decision Date	08/12/2016 11:30
Unit Discharge Date	08/12/2016 12:00
Patient Address	55 George St Chatswood NSW 2067 Australia
Author	James Corder (Medical (prescribing))
Document Status	Final

Event

Problems/Diagnosis (This ICU Admission)

Principal Diagnosis
Septic shock

Problems (Acute-Active)
Hypoxic respiratory failure
Acute renal failure
Hypotension

Problems (Acute-Resolved)
Upper airway bleed (post intubation)

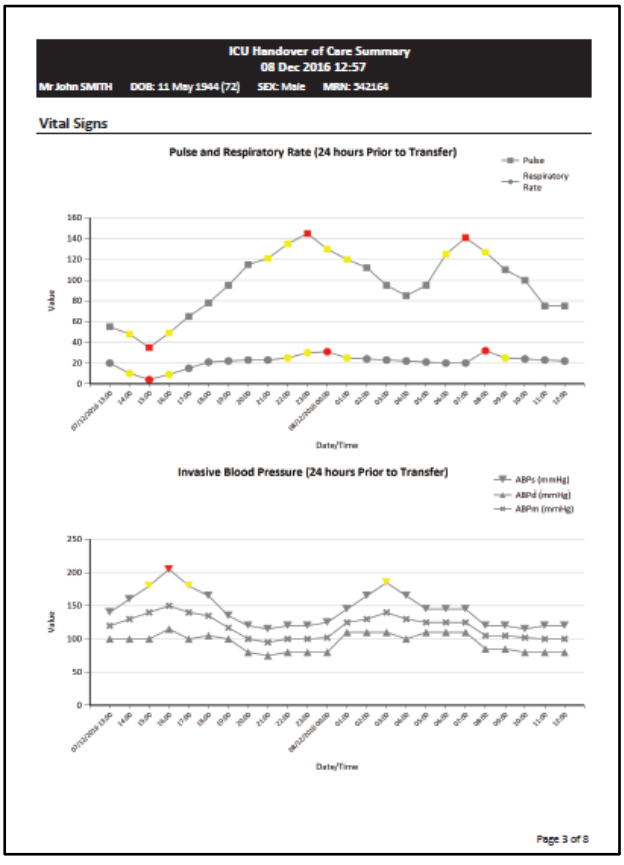
Problems (Chronic)
Morbid obesity

Medical History

Past Medical History
Gout
MI 2006
Hernia repair 2008

Family and Social History
Lives alone.
Daughter lives in Cambeltown.
Visits occasionaly.
Drinks 5 units per day

Page 1 of 8



ICU Handover of Care Summary
08 Dec 2016 12:57
Mr John SMITH DOB: 11 May 1944 (72) SEX: Male MRN: 542164

Vital Signs

Pulse and Respiratory Rate (24 hours Prior to Transfer)

Invasive Blood Pressure (24 hours Prior to Transfer)

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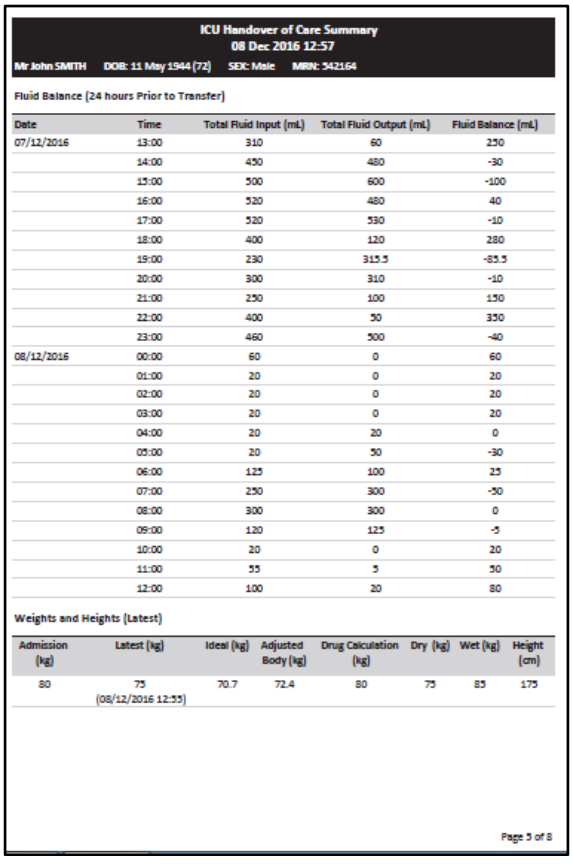

ICU Handover of Care Summary
08 Dec 2016 12:57
Mr John SMITH DOB: 11 May 1944 (72) SEX: Male MRN: 542164

Fluid Balance (24 hours Prior to Transfer)

Date	Time	Total Fluid Input (mL)	Total Fluid Output (mL)	Fluid Balance (mL)
07/12/2016	13:00	310	60	250
	14:00	450	480	-30
	15:00	500	600	-100
	16:00	520	480	40
	17:00	520	530	-10
	18:00	400	120	280
	19:00	230	315.5	-85.5
	20:00	300	310	-10
	21:00	250	100	150
	22:00	400	50	350
	23:00	460	500	-40
08/12/2016	00:00	60	0	60
	01:00	20	0	20
	02:00	20	0	20
	03:00	20	0	20
	04:00	20	20	0
	05:00	20	50	-30
	06:00	125	100	25
	07:00	250	300	-50
	08:00	300	300	0
	09:00	120	125	-5
	10:00	20	0	20
	11:00	55	5	50
	12:00	100	20	80

Weights and Heights (Latest)

Admission (kg)	Latest (kg)	Ideal (kg)	Adjusted Body (kg)	Drug Calculation (kg)	Dry (kg)	Wet (kg)	Height (cm)
80	75 (08/12/2016 12:55)	70.7	72.4	80	75	85	175

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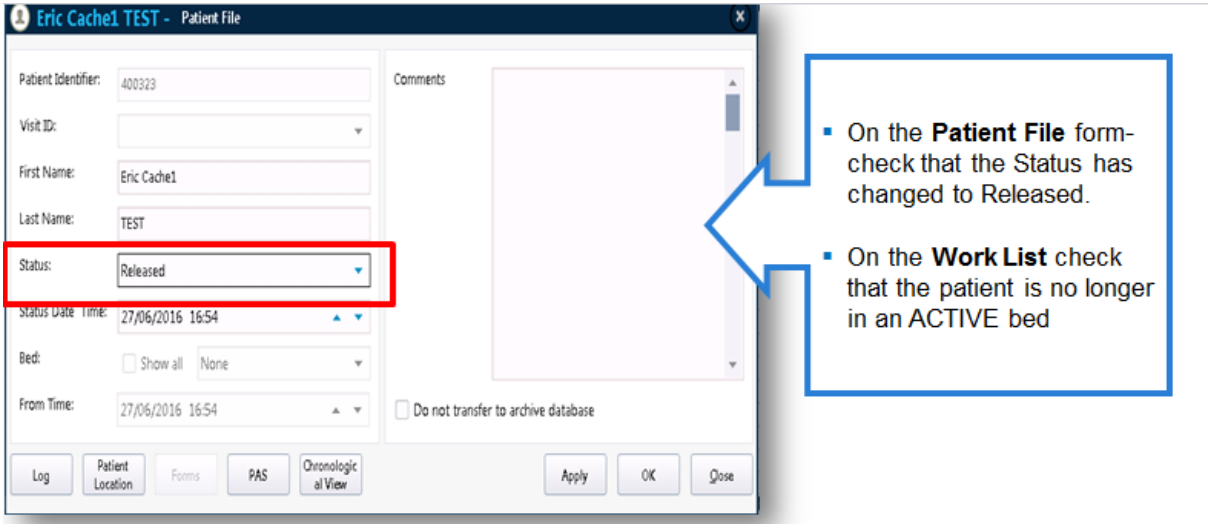
19.5 Discharge from ICU

The discharge process is completed once the patient is ready to be sent out of ICU and received into the area to which they are being discharged.

For patients being transferred to another ward in the same hospital:

- The patient's status needs to be changed to 'Released' in the 'Patient File Window'. This is done by the ICU nurse or the ICU ward clerk
- The receiving ward will admit the patient to the ward bed in PAS
- In all cases, once the patient's status is 'Released' in eRIC, this will stop data from any device updating the patient's record and remove the patient's association to the ICU bed in eRIC; **but** medications will continue and hence a medication reconciliation needs to be done.



For patients being discharged home, those who leave against medical advice and those who die in ICU:

- Ensure that the medical and nursing progress notes are updated and details about the patient's discharge or details about the patient's death are documented
- The ICU Ward Administrative Officer or ICU Nurse needs to go to 'Patient File Window' and manually change the patient status to 'Released' in eRIC. They also need to discharge the patient from ICU in PAS
- While the patient is in 'Released' status - data can still be entered in eRIC
- Once the patient status is 'Closed' - no data can be entered in eRIC. The file can only be viewed
- **For CIS Manager**: Do not change record status to 'Closed' until all documentation is complete
- For Brain Death patients, **enter 'Brain Death' time as date and time of death** (the patient is only 'Released' from eRIC and discharged from PAS after the retrieval surgery ***or*** transfer out of ICU is completed)

Change in patient status

- '**Admitted**' to '**Released**' – This is updated in the 'Patient File' window by the ICU nurse or ICU ward administrative officer, when the patient is discharged out of ICU
- **Released Status – Closed Status** - This should be a manual process, performed by the CIS manager, and done on a case by case basis, when deemed clinically appropriate, and once the medical record is completed

- **Closed Status – Archive Database - T**his is an automatic process which will occur after the patient has been in a closed status for 48 hours. This allows the production database to remain relatively small, and therefore keeps performance of the production database fast.

NOTE:

- Medications, Infusions that were running and Lines, Drains & Tubes that were insitu at the time of discharge will be stopped by the CIS manager when the status is 'Closed'

Searching for Released Patients

The 'Patient Search' on the Work List drop down menu can be used to search for the 'Released Patient List'.

- This opens up a Patient Search Window
- If you know the Patient First Name, Last Name and or MRN – you can perform a Basic Search
- If not – click 'Advanced Search', this opens the 'Advanced Search' box (for example for 'Released' patient search choose Field = Patient Status, Field Operator = Is, Value = Released). After entering details for searching Click 'Run' to start the search.

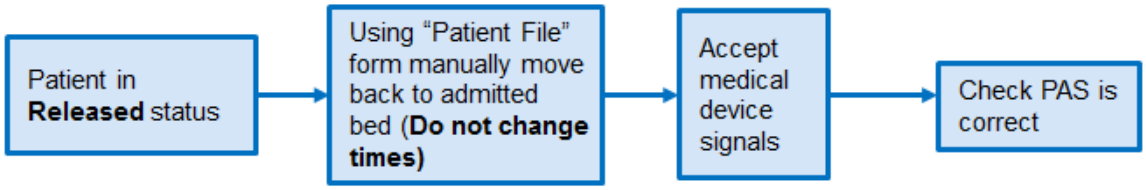
Cancelling a Discharge /Transfer

- The discharge may need to be cancelled.

OR

- The wrong patient may have been incorrectly discharged.

Actions to be followed if either of the above occurs:



20 Discharge and Transfer Module Specialised Workflow Processes

- The need to print paper forms as required, when the patient is being transported from ICU to other areas /departments within the hospital that do not use eRIC. e.g. OT, Radiology. These departments will have view-only access
- The Nursing Handover Checklist requires the signature of the handing over ICU nurse AND the receiving ward nurse. The ICU nurse will need to log-in to eRIC on the ward and enter the name of the ward nurse receiving handover on the ward.