paperlite

NHS
The Newcastle upon Tyne Hospitals
NHS Foundation Trust

Adult Critical Care Guide for Nurses

eRecord

An introduction

Paperlite is the project within Newcastle Hospitals aiming to move the traditional written healthcare documentation on to an electronic format within the familiar erecord programme produced by Cerner.

This has the following advantages:

- More easily accessible from remote locations and by multiple staff members at the same time
- Reduces reliance on paper notes which can be bulky and get lost or damaged
- Much easier to read than traditional doctors' handwriting(!)
- Integrated multidisciplinary patient notes rather than separate notes for different teams resulting in reduced duplication
- Easier to gather information for audit, research, report writing and M+M
- Ability to track who is accessing the notes and at what time

The major disadvantages are as follows:

- Less familiar to us than writing on a sheet of paper or completing a familiar form.
- Requires training for staff
- May initially feel more time consuming
- Reliant on trust IT infrastructures

Looking at the experiences of other hospitals nationally and internationally, there is an appreciation that clinician's experiences of moving to an electronic health record can be mixed but we hope with some patience and adequate training and support, this project can be received positively. The project will not stop at 'go live' but be subject to continuous quality improvement from IT and clinical staff working closely together. Your feedback is essential to that process and all constructive comments will be listened to and acted on when possible.

This guide is aimed at complementing the support you will have on the ward from IT and superusers so that, with time, paperlite will come to enhance your ability to provide the best possible patient care to critically ill patients in Newcastle.

The Adult Critical Care Paperlite Team
Newcastle Hospitals

Contents

Getting started

Log in to your computer. Most staff should use the system of tapping in and entering your passcode rather than typing your username and password as it is faster.

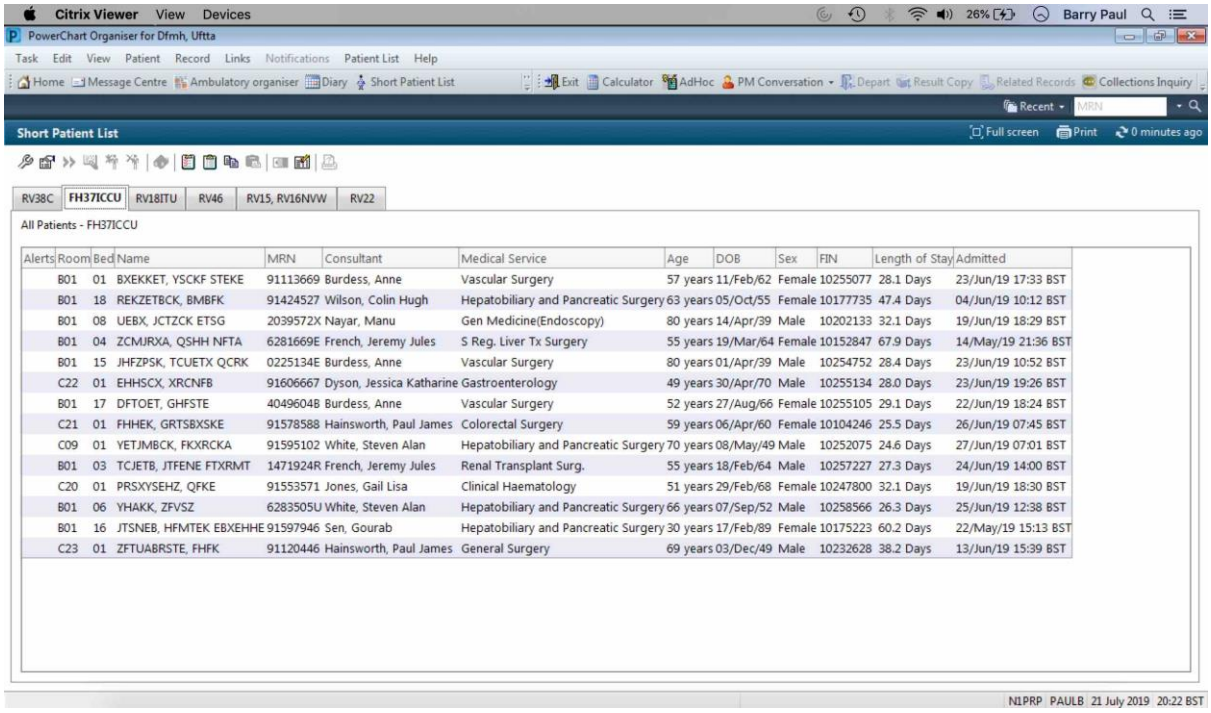
Wards 37 and 21 at FRH and ward 18 at the RVI will have dual screen bedside computers. On one screen, load up powerchart for erecord. On the other screen, load up careaware. Careaware is the Cerner package for displaying patient information that will replace the ICU paper chart. Ward 38 at the RVI will have a bespoke solution with some beds having a single, larger, enhanced monitor. This means that users will have to flick between powerchart and care aware as necessary.

Configuration of personal viewing options

Ideally this should be sorted out prior to critical care 'go live' but if you haven't had a chance to do that, it should be the first thing you do after logging in so you can use the system most effectively.

1. Sort out your patient list for where you work

All nurses will need to set up their short patient list if not already done – many will already have this and be familiar with it (see below).



2. Set up your navigator bands

All nurses **must** set up appropriate navigator bands for their area to ensure they can work. To do this….

- Go to assessments/fluid balance
- Select ‘View’ on toolbar
- Select ‘Layout’
- Move across the relevant available document types and order them as follows:-

1 Adult icu quickview
2 Adult icu systems assessment
3 Intake/ output
4 Adult icu lines and devices
5 GI tubes
6 CRRT
7 Nuth ventricular assist devices
8 VADs and ECMO
9 Short clinical assessment

You can start arrowing up and down to prioritise as necessary.

Once complete, this will only work when you go to another patient and then back again or alternatively log out and back on again.

3. Customise your iView

Go to customise view (indicated as an icon of an eraser rubbing out cells just above the navigator bands). You can customise by ticking or unticking what you want to appear on iView. This will work for the patient you are looking after but won’t change your views for all future patients.

4. Customise your Critical Care Workflow

When you click on Critical Care Workflow (dark left hand menu), there are a number of views. You should have:-

Critical Care Admission (the doctor’s clerking area)
Critical Care Daily Review (the consultant ward round)
Critical Care Summary (a summary page with lots of useful information)
Patient timeline (another view for looking at some results)

If you want to get rid of unnecessary menus, click the ‘x’ next to it. If you click on ‘+’ you will see some other menus. The critical care handover page may be of use to you. We would advise that you turn off the paediatric menus as they are not necessary.

Care Compass

This is an important page for nursing staff and will be the basic starting page. It provides a list with the relevant care teams, suggested care plans and other self-explanatory information. In order to avoid staff from accessing information they don't need and protect patient confidentiality where possible, you have to establish a relationship with a patient before you can view information.

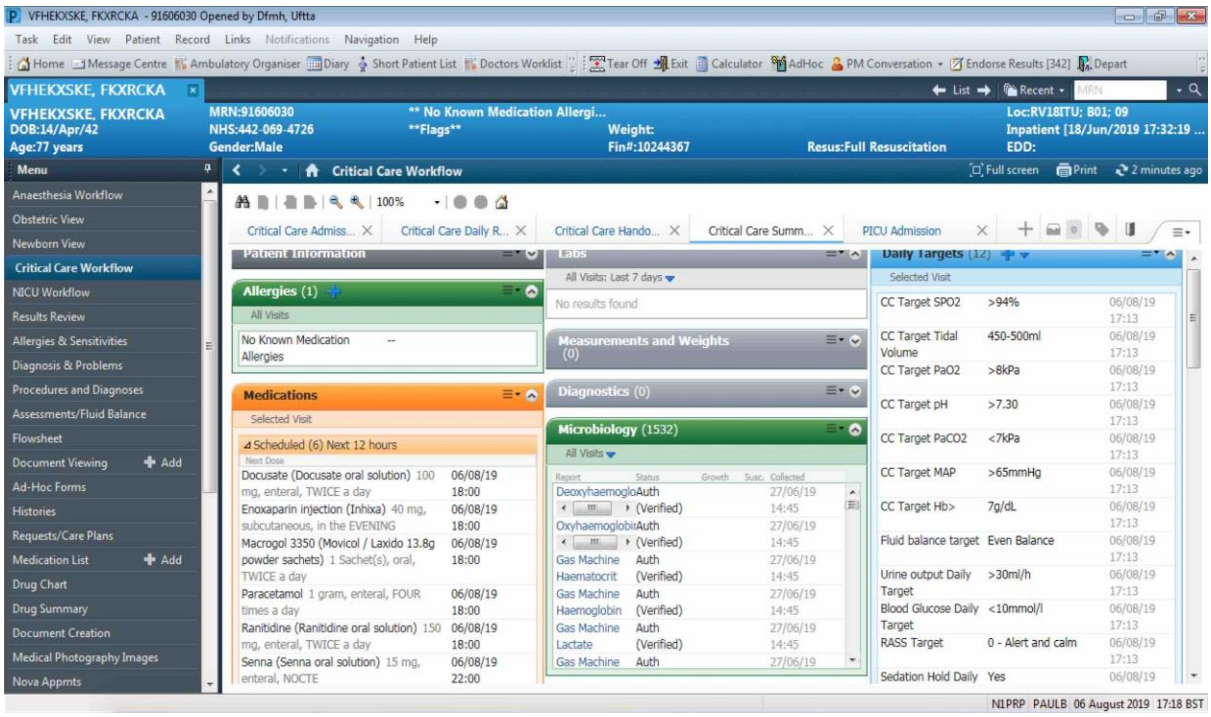
An overview can be seen which might be particularly useful for the nurse in charge to see how many tasks are required for each patient and a graph can display when the tasks are due. This should help in identifying which nurses are likely to be busiest at certain times and allows for planning of the day and who might need support.

Critical Care Workflow

Go to critical care workflow on the left hand side (dark grey menu). Assuming you have configured the menus, you will see, at least, critical care admission, daily review, summary and patient timeline. (You may have chosen to have other menus too).

The critical care admission screen is for the medical team to clerk the patient. The daily review is designed for the consultant ward round. The summary provides an overview of important patient information that will be relevant to clinical staff. Examples include a display of what the critical care targets are for that day from the ward round eg "MAP>65mmHg, SaO2 94-98%, bilevel ventilation at night and pressure support ventilation during day".

Critical Care Summary



The Critical Care Summary Page may be a good page to keep the bedside computer on for the patient as it gives a large volume of important information relating to your patient.

Some menus are more useful for others and staff can reorder menus and change colour codes according to their individual preference. To do that, move your cursor to the icon just below the refresh button with 3 horizontal lines and a down arrow. This will allow you to change the layout and to drag and drop menus higher or lower depending on how important you think they are.

The blue plus icon can be clicked to add more information eg if you want to add a new target parameter, click the blue '+' on daily targets or if you want to add a new clinical note, click the blue '+' on the clinical notes section.

Assessments/ Fluid Balance – a key area for clinical staff

The assessments/ fluid balance section on the dark section on the left is a crucial area for critical care nursing staff – a very large portion of data entered goes here!

Check that you have all the appropriate navigator bands available.

1 Adult icu quickview
2 Adult icu systems assessment
3 Intake/ output
4 Adult icu lines and devices
5 GI tubes
6 CRRT
7 Nuth ventricular assist devices
8 VADs and ecmo
9 Short clinical assessment

Please note the spinal observations of full limb power are to be found in – Adult ICU Systems assessment – Neurological – Neuromuscular Extremities Assessment

If you don't, then follow the instructions set out earlier in this guide. Once you're up and running, you need to do the safety checks for the start of your shift:-

- Go to the Adult ICU quickview navigator band
- Environmental safety checklist
- Click on blue bars with yellow light to allow documentation of the time as now
- Complete all answers for your shift as you usually would.

You may need to associate your patient with the monitor and ventilator. Most of the time, when taking over from a patient this will already be done but clearly you need to know so it can be done when you're admitting a new patient in to a bed space. To associate a device, click on the little picture of a monitor above the navigator bands. When you hover over it, it will say 'associate'. You can search for devices by name and then follow the on screen instructions.

In the gridded section (iView) there are lots of timed parameters. You can search for parameters by typing what you want in the 'find item' section. You can filter results by clicking on the critical, high, low, abnormal and other boxes but I'm not sure how often that will be used. To the right of that, you can graphically see which sections have been filled in and where there are normal and abnormal results.

Completing iview – documentation of clinical information

Work your way through the various navigator bands and complete the information for your patient. At first glance, it can appear that there are an enormous number of questions to complete. Some parameters will automatically appear through the BMDI feed to speed things up – those still need to be confirmed and, once that's done, click the green tick. If a parameter doesn't come through the feed, you'll need to input it manually.

Not all parameters need to be completed. A general rule of thumb should be that if you didn't document it on paper beforehand, we don't expect you to do it electronically so please try not to worry. The reason for you seeing some irrelevant questions is that we have moved from bespoke paper documents for your ward to a standardised electronic form that needs to work across all critical care units. Speed of completion will improve with getting used to the system.

You might also notice that the unit of measurement for a parameter is wrong – that's just a mistake. We've tried to fix these during testing but will have inevitably missed some. Please feed back to us and we'll fix it.

When completing iview bands, you don't need to use the mouse. You can use arrows up and down to go through questions, answer questions with the space bar and move to the next question with the return key. Some people find the mouse easier – do what works for you!

When you have completed your assessments always click the green tick button to register the responses.

Lines, drains and tubes

Completion of documentation of lines, drains and tubes is performed in the assessments/ fluid balance section. These electronic assessments replace the documentation that was previously completed on, for example, the blue form for central lines or the green form for cannula.

- Choose the device you want to document for
- Double click the grey band for the line
- Choose the relevant activity – for nurses it will mainly be assessment.
- Complete as necessary.

Electronic fluid balance chart

Go to ‘intake and output’ navigator band within Assessments/ Fluid balance. You will see boxes to complete that are hopefully self-explanatory. Headlines appear below the navigator band and numbers can be completed in the white boxes.

Our infusion pumps are not ‘BMDI compatible’ yet which means the infusion device won’t talk to the computer – the information will be by manual input. We do plan to introduce this in the future but it will take some time.

Fluids and drug infusions are, of course, still prescribed by medical staff. The fluids are now prescribed on e-record rather than an IVT chart though so when they are started they will be counter checked electronically now like we do with drugs.

When an infusion is prescribed e.g. noradrenaline, right click on the infusion and click ‘record details’. Click on the yellow fields and complete. The infusion volume should be your initial rate. To begin the bag, you will need to have a ‘witnessed by’ countersignature. Click ‘apply when all the information is in.

We will document rate changes of drug infusions like propofol, noradrenaline etc in the fluid balance section. Please alert doctors to this if they ask!. Currently the rate changes require a second signature if the recommended workflow is followed. The pharmacy team are working to remove this but it will be there for Go Live, therefore please record rate changes by adding a comment to the infused amount unless you have a colleague who can do the second signature. If a patient has been unstable for a period with a lot of fluctuations, add a comment when the patient is stable stating the current rate, the previous time period and the range that has been used .

Changes in doses of drug infusions will need to be documented in the drug section too in the future but not now.

Blood products will continue to be prescribed on paper and you will need to manually enter the volume in to the appropriate sections.

General fluid input or output should be documented within an hour period rather than selecting an exact time which is not required. Please choose the right scale – to do this go to ‘options’ at the top of the screen, then ‘select time scale’ and select ‘hourly – 12 hour shift’.

You may notice on your screen a ‘clinical range total’ – this is the total fluid balance for the patient over the whole admission. Today and yesterday’s balance appear above the grid.

The running balance won’t count until you have ‘green ticked’ your values.

If you have a patient on CVVH, do all your fluid balance in the CVVH navigator band please.

CRRT (Continuous Renal Replacement Therapy)

This should be prescribed by the medical staff first but this hasn't been made completely mandatory before getting started. If the doctor doesn't know how, direct them to 'Requests/ care plans', then 'add', then search for 'CRRT' and then complete the powerform.
The calcium infusion for citrate will be prescribed as before paperlite.
The process of completing the information on the iview bands is hopefully self-explanatory. Please note that there are a number of iview bands that are not necessary – if you didn't document it before, don't do it now! Some units are wrong when we have tested the system - we are trying to fix this.

Care Plans – Creating a favourites folder

The completion of careplans is a core part of nursing documentation and paperlite brings with it a significant change to how you will work. The design of the electronic careplans is based on the model designed by Cerner but the content has been put together by senior nursing staff in NUTH who were also responsible for the previous paper version.

When you first use the system, you will need to add the frequently used care plans in to your favourites folder to make life easier for you in the future.

To do this, go to 'Requests/Care Plans' in the dark left hand menu. Click 'Add'. Make sure the search function has 'contains' rather than 'starts with' (a useful tip throughout powerchart!). Type in "critical care' and you should see 'Critical Care – Care Plan' come up. Right click on this and select 'Add to favourites'

Although a bit tiresome at first, you should then add all of the following to your favourites folder (using the same method of searching, right clicking and then adding to favourites) as it will save you lots of time in the future:

- Critical Care – Care Plan
- Critical Care – Pressure Ulcer Care Plan
- Critical Care – Too Unstable to Turn
- Critical Care – Bowel Management System
- Hygiene
- Urinary Catheter
- Moving and Handling Assessment
- Experiencing Diarrhoea
- Experiencing Constipation
- Critical Care Falls Assessment
- Referral to Outreach
- Referral to Acute Pain

You can, of course, add other care plans as you see fit but the group felt these were likely to be the most commonly used.

Top tip: *when you left click on a care plan once, if you are on full screen, the care plan will appear behind your screen and you might think nothing has happened and be tempted to click again thinking it hasn't worked! This will mean you open the same care plan multiple times. If you find that you've done this, go to the grey blue screen in the middle of your screen entitled 'view', highlight the unnecessary care plan, right click and select 'remove'.*

Critical Care – Care Plan

Add 'critical care - care plan' and then click 'done'
Select the admission phase in the blue/grey section entitled 'view'
Pick the IPC Sample intervention if the patient needs swabs e.g. from ED or from another hospital.
The Chest X-Ray intervention is only if the patient needs this – most won't.
Click on 'initiate now'
Click on 'orders for signature'
Click on the missing details box, answer each question for the orders:

- Physio referral – once
- Critical Care Falls Assessment – twice a day
- Critical Care Physiotherapy – Once
- Critical Care Pressure Ulcer Assessment (Calculate tool) – Twice a day
- Hygiene – PRN=Yes
- Moving & Handling Care plan – PRN=Yes
- Urinary Catheter – Once a day, PRN = Yes
- Referral to Inpatient Dietician – Department = Adults, Speciality = Critical Care, Interpreter Required – Yes/No, Reason for Referral – Oral Nutritional support/Tube Feeding

Handy Hint – Start typing into the frequency box to choose the frequency you need

Click Sign
Hit Refresh

You can complete the 'Document in plan' tab to record which activities have been completed.

Return to Orders tab and select Ongoing Care Phase.
Review each group to make sure the appropriate interventions are selected (ticked)

Unstable Neurological Status has some unticked features
Wound group – remove tasks that do not apply – either Remove sutures/clips or Remove drain for example.
Irretrievable disease – inform relevant clergy

Select initiate now
Click orders for signature

Click on missing details

Record weight, height – as required

Sign
Refresh

If the patient is on RRT, then select Renal Replacement Therapy phase of the care plan.

Initiate now
Orders for signature
Sign
Refresh

Document in plan

Every 2-3 hours update the checklist to tick off the interventions that you have completed.

In Requests/Care Plans select the Document in Plan tab.

Tick off the interventions that have been completed.

You can document interventions that have not been completed

Patient Task list

Open the patient task list

Complete any overdue tasks as soon as possible, reschedule the task if appropriate or record the reason why something as not completed to remove it from the list.

Look at the tasks that are scheduled for your shift.

Now into hourly cycle of obs

Transfer/Discharge

Go to requests/care plans
Select the Transfer/Discharge phase of the Critical Care – Care Plan.
Choose the appropriate tasks from the list
Initiate now
Referral to RACI – frequency once

On transfer to the ward, you should add a Critical Care Handover note following face-to-face handover with the ward nurse. To do this, go to the critical care handover section of critical care workflow. Scroll down to ‘Critical Care Handover’ which is in blue at the bottom of the light grey menu on the left. Briefly complete the form. In the section entitled ‘person handing over and person receiving handover’, complete the details. Click ‘sign/submit’

The nursing chart – CareAware

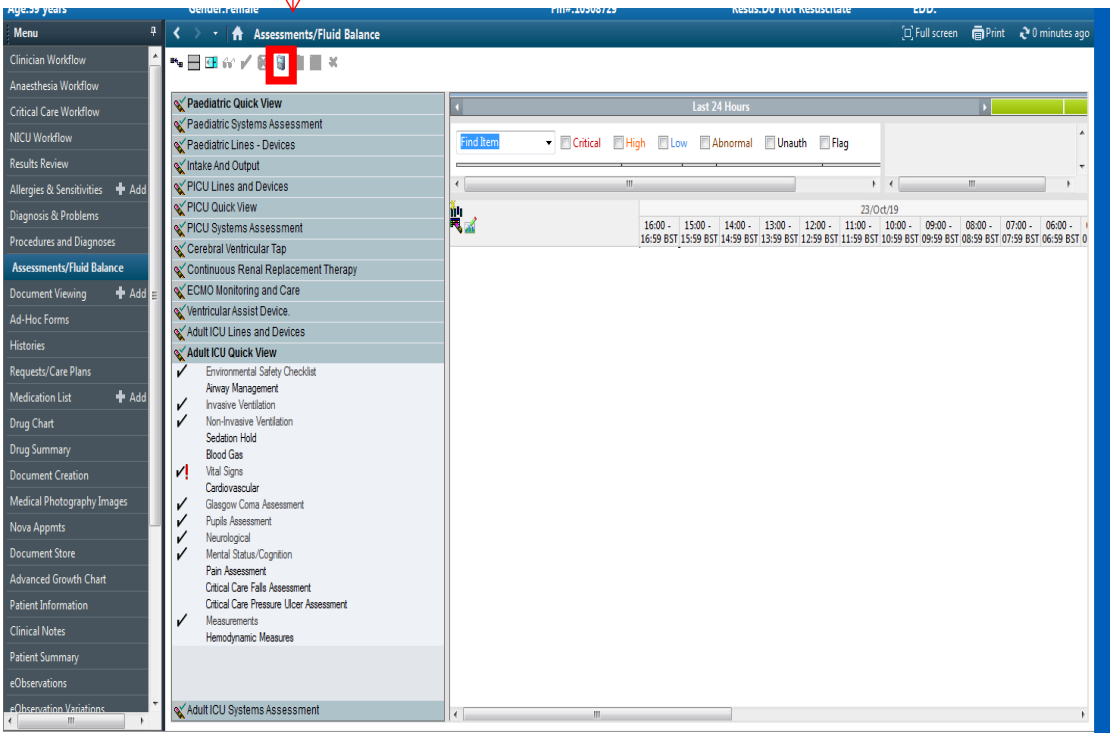
This programme receives information from compatible devices to create an electronic version of the nursing paper chart. The nurses still have to confirm that the information sent is correct before it appears. It can be accessed from the menu in a similar way to surginet or powerchart as ‘Critical Care Personalised’ which is a red icon. You then have to login using your usual username and password.

Once logged in, you can do an individual patient search or create a list of your ward e.g. for ward 18 type ‘rv18itu’ and then click ‘find encounters’.

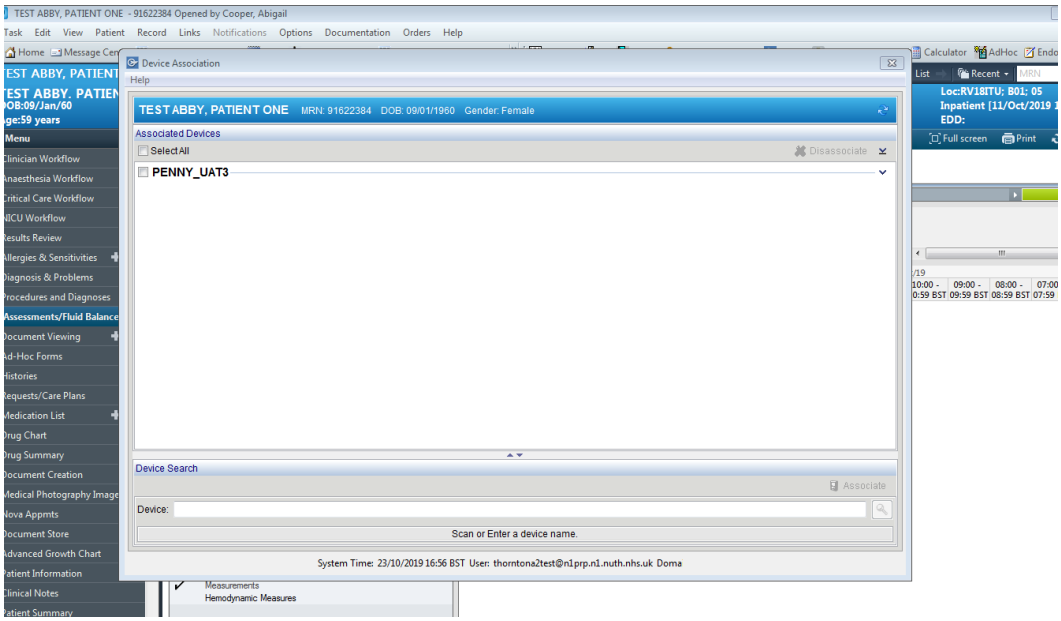
The information presented should be self-explanatory. Most critical care units will have a separate screen for careaware and powerchart. If you want to move in to powerchart from careaware on one screen, click on the powerchart icon.

Associating a monitor/Ventilator to pull the information into CareAware

From the Assessment/fluid balance navigator band, go to Adult ICU quick view. Press the associate device button at the top of the grey section.

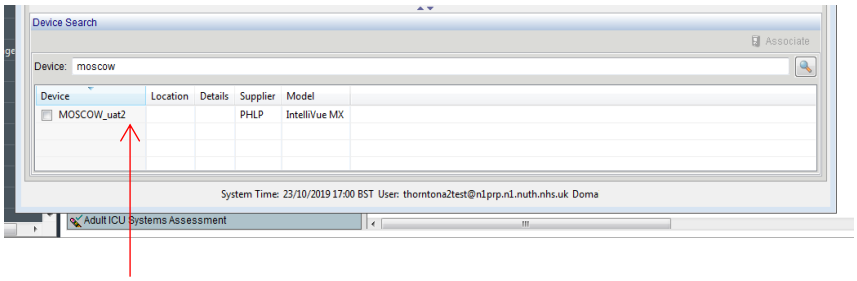


This screen will then open.



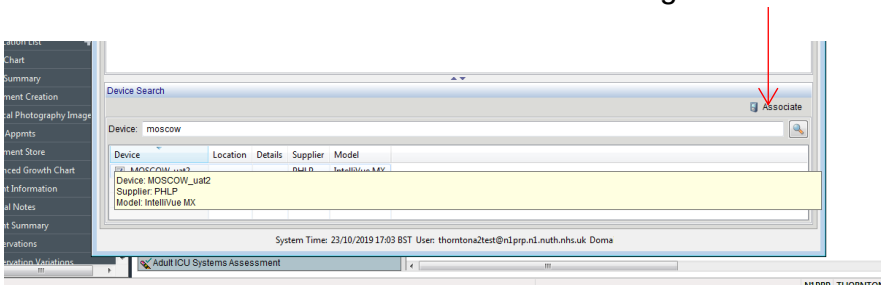
Please look at the monitor/ventilator and identify the name. It will be a large black and white label on the machine. The top section shows devices that are associated

already. To associate a device type the name into the White device field under device search (I have used Moscow as an example).

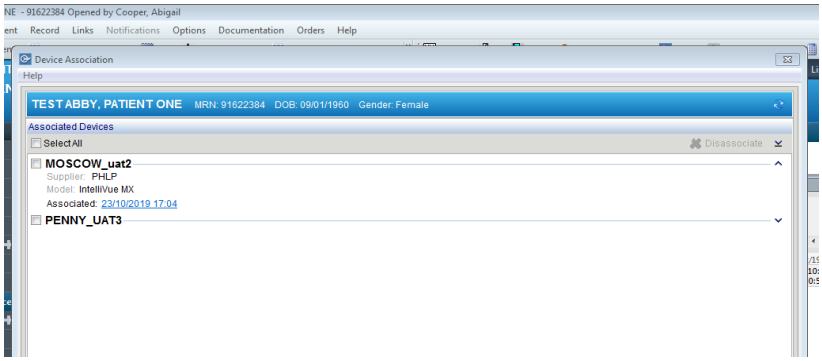


The name of the device will appear in the white section, tick the white box next to the device name.

This will activate the Associate button on the right hand side.



Press this button and the name of the machine will move to the top section. This means the device is associated.



Press the white cross in the top right to close this window.

Go to vital signs in the Adult ICU quick view. Press the black multi column button to insert a column with the current time stamp. Double click in the blue bar. This will pull the data from the machine. I may take one minute to pull across when the device is first associated. Check the reading are correct and press the green tick to validate the readings. The numbers will turn black.

Go back to care aware, click the refresh button on the top right and the data will pull to care aware. You need to pull the data in and validate at the frequency appropriate for your patient

Documentation that is staying on paper - scanning documents

We will continue to document some information on paper. Examples of documents that will stay on paper are:

Triplicate forms from endoscopy that are completed after using the bronchoscope
Consent forms
Organ donation pathways including declaration of death by neurological criteria
Blood transfusion documentation

All such forms should be completed as we currently do and will need to be scanned in according to trust standards and uploaded to the electronic patient record. Clearly we should NOT be scanning any documents using any of our personal electronic devices!

Completion of forms as part of guidelines

A number of critical care guidelines have forms where we tick boxes and insert data as part of the guideline to act as an aide memoire and ensure we make the right decisions at the right time. Examples include the secondary brain injury prevention document, management of patient's post cardiac arrest and blunt thoracic trauma guidelines.

The paperlite team feel that clinical staff should be encouraged to continue with this practice. Completion of such information helps improve outcomes but also represents duplication of documentation as the parameters are documented elsewhere. Therefore, when the paper form is complete, provided all the information is documented elsewhere electronically, it can be disposed of in the confidential waste. If the clinical team feel strongly that it should be kept, the form can be scanned in.

Patient Task List

This gives a list of outstanding issues that need to be completed. If you click on them, it will send you to where you need to be.

How to place a routine referral to other disciplines (routine)

This might be useful to place a referral to another non-medical team e.g. acute pain team, diabetic nurse, and palliative care nurses. Go to 'Requests/Care Plans' and type in 'referral to'. Select the appropriate option and complete the documentation.

Capacity Management

This is a new piece of software which will mainly be utilised by ward clerks and senior nurses on duty. There is separate training for this and the feeling is that it is fairly intuitive. Examples of where it can be used are in the ordering of deep cleans

and requesting porters who will be carrying an ipod touch each to aid with communication.

Useful terms

Ad-Hoc Charting – Allows for entry of static, point-in-time clinical documentation into patients' charts. Only those with privileges to perform ad-hoc charting can access the appropriate menu commands to launch a particular documentation tool.

Biomedical Device Integration (BMDI) – A process that allows for information collected on external biomedical devices, such as vital sign monitors, to be sent to the electronic health record. A clinician will validate, within the electronic health record, that the information is accurate.

Care Compass – An innovative, interdisciplinary summary workflow solution that helps the collaborative care team organize, prioritize, and plan patient care by providing the right information at the right time. The solution includes real time order and result notification.

Care Set – A set of commonly requested orders grouped together for ease of order entry.

Electronic Health Record (EHR) – The collective electronic medical records of a patient or a population of patients.

Electronic Signature – An electronic means of indicating that an individual verifies the content.

Encounter – Describes a particular instance when a patient is registered within the healthcare system (e.g., hospital, clinic, daycare, homecare, or any other department where they receive service). It is a single patient interaction, such as patient registered as inpatient, patient registered as outpatient.

End-user – Any person using the electronic health record, including physicians and hospital staff.

Flowsheet – A spreadsheet of a selected patient's clinical results for a certain time span. All types of results are arranged on a grid that is sorted by result categories on one axis, and by time increments or specific times on the other axis. Any result can be opened to view its creation history, status, and, when applicable, its comparison to normal values for its result type. New results can be entered into the flowsheet by electronic capture (handheld devices at the bedside, for example), by direct charting, or by feeds from other systems. The data is refreshed automatically at user-defined intervals, or can be refreshed manually at any time.

I-View (Interactive View) – Clinical documentation in a flow sheet, which allows for trending and comparison.

Lighthouse Programs – Evidence-based tools embedded into clinical ordering and documentation through Cerner applications. The Lighthouse Programs can be designed to drive clinical improvement in key areas eg • Prevention of venous thromboembolism (VTE). • Prevention of sepsis and its complications. • Prevention of pressure ulcers (PU). • Prevention of hospital-acquired infections.

Medication Summary – The summary page of the eMar that shows the patient's medications, including last doses given, types of medications given, and discontinued medications.

M-Page (Millennium Page) – It pulls together information from other documents to create a view that is meant to inform different disciplines and workflows in their work (i.e., "Lines tubes and drains" Mpage).

PowerForms – One-time electronic documents that live in an AdHoc folder before they are completed, and Form Browser after they are completed.

PowerChart – The Cerner Millenium solution that is the clinician's desktop solution for viewing, ordering and documenting the electronic health record for a patient.

Problem List – A list of all previous problems and chronic diagnoses, etc. (i.e., all conditions that are inherent to the patient, but not the specific diagnosis for the current visit). For example: a patient has diabetes, but is here for an appendectomy. The diagnosis is appendicitis, and diabetes goes onto the patient's problem list. A problem can be an active problem, or a history of something resolved.

Quick Glance Functionality – A tool that shows an overview of activities, such as medications due, patient assessments and patient care, for the clinician's group of patients. Shown in a bar graph format at the bottom of the Care Compass screen.

SurgiNet – Cerner Millenium solution that enables a surgery department to schedule, document on, and run management reports on surgery cases.

Task List (Activities and Interventions) – A list of tasks (requests) generated either from Providers' orders or autogenerated by the system. This tool helps nursing staff organize their tasks, and move straight to the documentation attached to that task, from the list.

Workflow – The steps you take as you do your job and the order in which you do them (e.g., get my assignment, look through my charts, begin patient assessments, etc.).

Powerchart icons

See below – the powerchart icons. We need to add the others that are missing from the below list.

iView Icons Guide

	**Calculated Field** - Indicates field is automatically calculated. For example, the falls assessment score will be automatically calculated from information entered in other fields in the Falls iView band.
	**Conditional field** – the answer to this field can trigger additional fields to appear later in the assessment depending on the value entered. For example when recording the number of falls in the last 12 months, a high value will trigger additional fields that will allow you to enter more detailed information.
	**Additional field** – indicates this field has been triggered to appear due to the answer in a preceeding conditional field.
	**Repeatable group** – for assessments where the same information can be recorded more than once simultaneously against a patient. For example details of multiple lines or drips in different locations.

CareCompass Icons Guide

	**Medication:** Indicates Medication Activities.
	**Patient Care:** Indicates Patient Care Activities.
	**Assessments:** Indicates Patient Assessment Activities.
	**Other:** Indicates Other Activities.
	**Nurse Review:** The order requires nurse review.
	**Immediate Priority:** Indicates STAT/NOW orders for a patient.
	**Critical Results:** Indicates Critical results for a patient.

	**Non-Critical New Information:** Indicates new non-critical results or orders for a patient. Clicking this icon shows you additional information on the new non-critical information. New Orders and Results remain in *CareCompass* until you mark them as reviewed or they occur outside of the 12-hour time frame. They should remain even after a manual refresh. If the 12-hour period has passed, you can access the patient chart to view the information.
	**Critical New Information:** Indicates new critical results or STAT/NOW orders. Clicking this icon shows you additional information on the new critical information. New Orders and Results remain in*CareCompass* until you mark them as reviewed or they occur outside of the 12-hour time frame. They should remain even after a manual refresh. If the 12-hour period has passed, you can access the patient chart to view the information.
	**High Risk Alert:** Indicates the patient has high risk indicators. Placing your pointer over this icon shows additional information about the high risk indicators.
	**Isolation:** Indicates the patient is in isolation. Placing your pointer over this icon shows additional information about the isolation type(s).
	**Help:** Clicking on this button opens the *CareCompass* Help Pages
	**Order Comment:** Indicates an order has a comment attached. Placing your pointer over this icon shows the comment.
	**Establish Relationship:** Clicking this button opens Establish Relationship Dialog box.
	**List Maintenance:** Clicking this button opens the List Maintenance dialog box and allows you to manage list.
	**Add Patient:** Clicking this button opens the Add Patient widow and allows you to add a patient to the current list.
	**Abnormal Result:** Normalcy indicator indicates result is Abnormal.
	**High Result:** Normalcy indicator indicates result is High.
	**Low Result:** Normalcy indicator indicates result is Low.
PRN/Continuous	**PRN/Continuous:** Displays PRN and Continuous activities for a patient.
	**Clinical/Non-Clinical Risk:** if the patient has a problem added that is classified as either a Clinical Risk or a Non-Clinical risk this flag will show next to their name. Hover your mouse over the icon to see the type of risk indicated