

Documentation/iView: ICU Ventilation – Invasive, Non-Invasive High Flow



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Quick Reference Guide

This Quick Reference Guide will explain how to:

Document patient ventilation observations into EMR in relation to:

- Artificial Airway Management
- The Ventilation Parameters with and without Ventilator Device Integration
- Ventilator Subset in Interactive View
- Alter Ventilation results view by collapsing or customising

Definitions:

Invasive ventilation – ventilation support delivered via invasive means (i.e. via an endotracheal tube or tracheostomy)

Non-invasive ventilation – ventilation support using a sealed face mask or nasal mask to deliver oxygen via positive pressure

High Flow – continuous delivery of humidified, heated blend of air/oxygen via high flow nasal prongs or tracheostomy



Handy Hint – Check the Ventilation Observations Data when device is associated! Remember to review data before signing off on observations

- Both the Maquet Servo-U and Puritan Bennett 980 ventilators send information to the patient's chart when requested
- It is important to check that all the relevant fields populated by the ventilator accurately capture current settings and measurements as viewed on the ventilator
- It is **IMPORTANT** to remember to manually enter remaining observations to complete the documentation

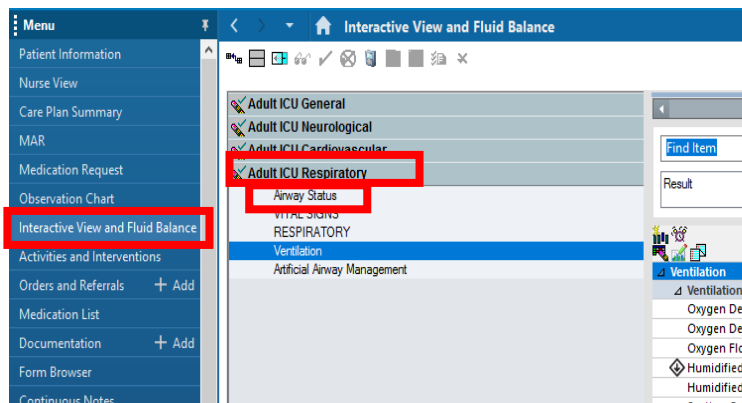


Handy Hint – The Ventilator is associated to the patient's chart via the bedside monitor

- Ensure you have associated your bedside monitoring device to the patient's chart
- *For more information, refer to the QRG: BMDI – Device Association, Disassociation and Recording Observation and QRG: BMDI- ICU- Ventilator Set Up and Connection to bedside monitors*

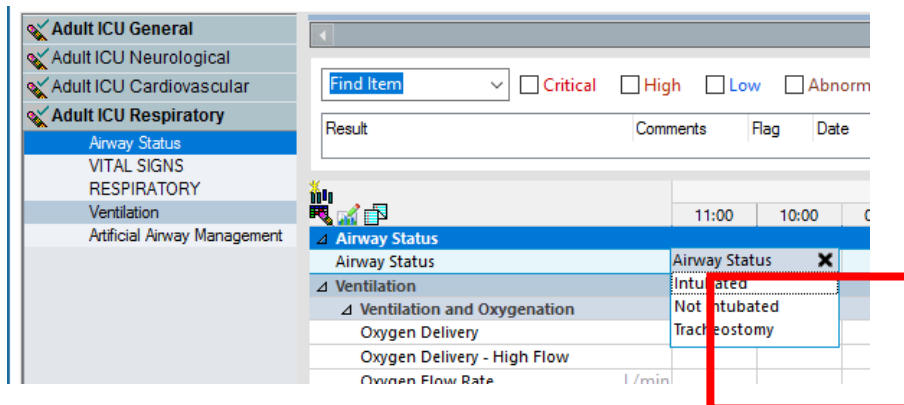
Ventilator Subset in Interactive View

1. Go into **Interactive View** and click onto “Adult ICU Respiratory” and then “Airway Status”

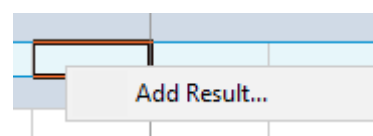


2. Record the Patient’s Airway Status by making a selection from the drop down.
Note: Artificial Airway insertion/management is within ‘Artificial Airway Management’.

Refer to QRG: Clinical Care- Lines and Devices

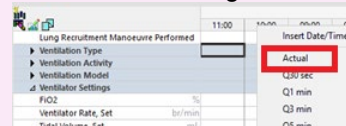


3. To chart oxygenation/ventilation observations, start by manually entering Oxygen Delivery, Ventilation Type, Activity, Model and Mode as appropriate. Fill in manual fields by double clicking in the corresponding box. Select from the drop down or input numerical values as required.



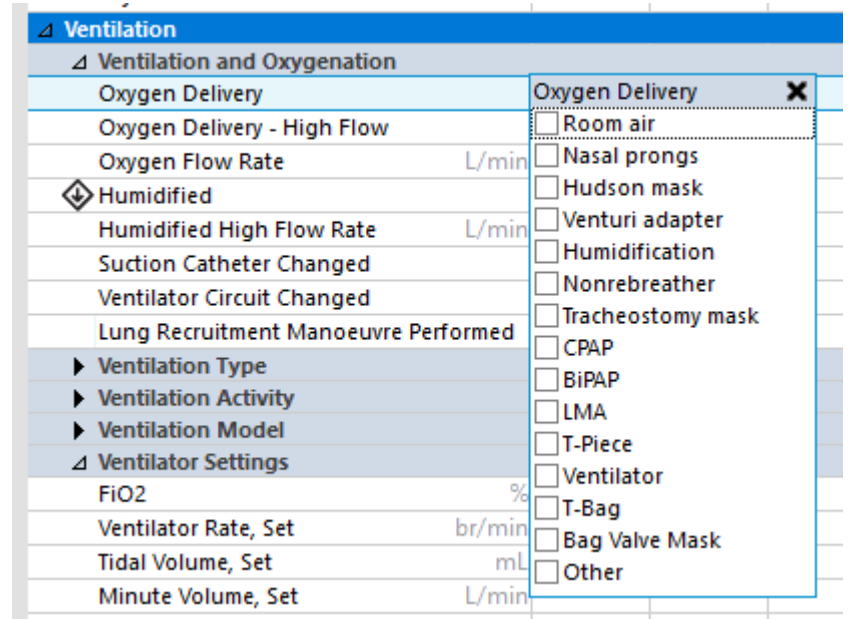
Important – Utilise ACTUAL view to capture real time information

- iView is *hourly view* by default - Right click the date time header and select Actual
- Actual time documentation should be used where airway status, ventilation status and/or settings have been changed throughout the hour
- Actual time documentation should be used when the ventilator is connected and being used for the first time on the patient
- Refresh Powerchart to allow for 5 minute lookback period





a. Ventilation and oxygenation – select the correct Oxygen Delivery option(s) by making a selection (s) from the drop down

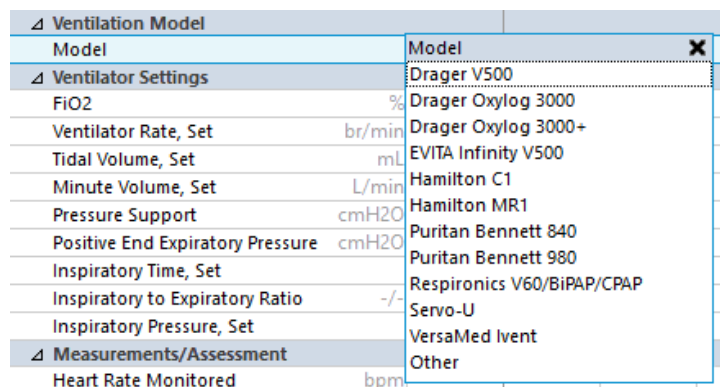


b. Ventilation Type

Note: that High Flow is being removed and does not need to be selected if a ventilator is being used



c. Ventilation Model





d. Ventilation Activity – must be updated to reflect ventilation hours even when changing from Non-Invasive to Invasive ventilation or extubating to High flow.

<ul style="list-style-type: none"> ▾ Ventilation Activity Ventilator Activity ▾ Ventilation Model Model ▾ Invasive Mode ◆ Invasive Mode 	<ul style="list-style-type: none"> Ventilator Activity Initiate Discontinue/On stand-t Ongoing Other
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NOTE: discontinue previous mode and Initiate new mode utilising Actual view to capture real time documentation



Important

- **Initiate** and **discontinue** ventilator activity options are captured in actual time for starting or stopping invasive or non invasive ventilation modes only.
- Initiate must be use when commencing invasive or non-invasive ventilation.
- Discontinue must be used when invasive or non-invasive ventilation is stopped.
- For High Flow therapy, ventilator activity does not need to be recorded as ventilation does not need to be initiated or discontinued. However, ensure oxygen delivery is captured every hour as “Yes” when it is on and “No” when it has been weaned off. *See the high flow section of this QRG below.*

f. Ventilation Mode – This only appears once you have selected the “Ventilation Type”. For example, for “Invasive” Ventilation Type, “Invasive Mode” appears with drop down selections.

		16:00
Lung Recruitment Manoeuvre Performed		
▾ Ventilation Type		
◆	Type	Invasive
▾ Ventilation Activity		
	Ventilator Activity	Initiate
▾ Ventilation Model		
	Model	Puritan B...
▾ Invasive Mode		
◆	Invasive Mode	SIMV/VC



Important – Ventilation Documentation without Device Association

- Where a ventilator is **not** associated to the monitor, manual entry will be required within each individual section of Ventilator Settings and Measurements/Assessment for each relevant field instead of double clicking the header to bring in values.

4. Ventilator Settings: Double Click into blue header within the date/ time column. A checkbox will appear and settings will be populated by the ventilator.



Please note that other blank fields in this example will populate data when in the appropriate mode (e.g. 'Inspiratory Time, Set' and 'Inspiratory Pressure, Set' will only receive data when in the appropriate Pressure Control Mode

5. Measurements/ Assessments: Double click into the blue header within the date/time column. Measurements sent from the monitor and the ventilator will populate accordingly.

Ventilator Settings		
FiO2	%	35
Ventilator Rate, Set	br/min	12
Tidal Volume, Set	mL	350
Minute Volume, Set	L/min	
Pressure Support	cmH2O	10
Positive End Expiratory Pressure	cmH2O	5
Inspiratory Time, Set		
Inspiratory to Expiratory Ratio	-/-	1/-
Inspiratory Pressure, Set		

Measurements/Assessment		
Heart Rate Monitored	bpm	86
SpO2	%	92
ETCO2	mmHg	34
Respiratory Rate Total	br/min	15
Respiratory Rate, Spontaneous	br/min	
Tidal Volume, Mandatory	mL	
Tidal Volume, Spontaneous	mL	
Minute Volume Exhaled	L/min	
Peak Inspiratory Pressure	cmH2O	21
PEEP, Measured	cmH2O	5.1
Inspiratory to Expiratory Ratio, Measure	-/-	

6. Complete manual documentation, where applicable, within Measurements for the following sections that will always require manual entry;

- a) Respiratory Rate, Spontaneous
- b) Tidal Volume, Mandatory (Tidal Volume exhaled)
- c) Tidal Volume, Spontaneous
- d) Minute Volume Exhaled

Measurements/Assessment		
Heart Rate Monitored	bpm	86
SpO2	%	92
ETCO2	mmHg	34
Respiratory Rate Total	br/min	15
Respiratory Rate, Spontaneous	br/min	3
Tidal Volume, Mandatory	mL	356
Tidal Volume, Spontaneous	mL	198
Minute Volume Exhaled	L/min	6
Peak Inspiratory Pressure	cmH2O	21
PEEP, Measured	cmH2O	5.1
Inspiratory to Expiratory Ratio, Measure	-/-	

7. Press the "Green Tick" to save the data





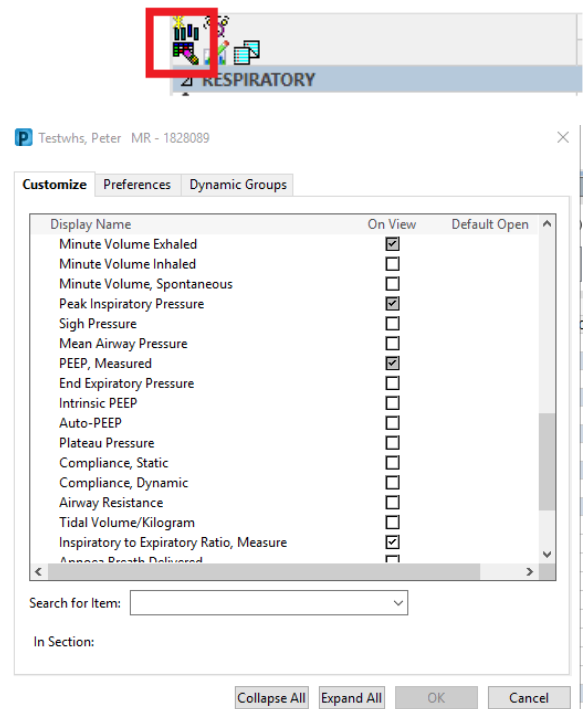
Handy Hint – You can customise your Ventilation Band observation options

You can customise your ventilation observation view by adding extra ventilation Settings or Measurement/Assessment fields and/or collapse any fields not required- Eg to add additional fields to document Bi-level ventilation settings or to document plateau pressures

Customising View

To add extra ventilation observation bands:

1. Click onto the “Customise” icon
2. Select the respective ventilation observation headings of interest by ticking the “On View” tick box next to it. This will enable the selected observation field to be displayed on the patient’s chart and the ability to record the respective ventilation observations.
3. Click “OK”



Collapsing Empty Fields

If an observation is not required for a patient in the default ventilation observation data set provided, you can collapse and hide the band not required.

1. Click on the “collapse icon” and this will conceal all empty fields





Documenting High Flow via the ventilator high flow nasal prongs and tracheostomy support

1. Within Ventilation and Oxygenation, Documentation of High flow settings are done manually.

NOTE: High flow settings, with the exception of FiO₂, are not part of device association and will always require manual entry

Ventilation		
Ventilation and Oxygenation		
Oxygen Delivery		Nasal pro...
Oxygen Delivery - High Flow		Yes - Hig...
Oxygen Flow Rate	L/min	
Humidified		Yes
Humidification Temperature	DegC	36.7
Humidified High Flow Rate	L/min	40
Suction Catheter Changed		
Ventilator Circuit Changed		
Lung Recruitment Manoeuvre Performed		



Important – Differences between Servo-U and Puritan Bennett 980 – Bi-Level Settings


Positive End Expiratory Pressure Low (PEEPL or P Low) is sent differently by each ventilator when populating iView with device association. The Servo-U will populate this setting within Positive End Expiratory Pressure


Ventilation Type		
Type		Invasive Invasive
Ventilation Activity		
Ventilator Activity		
Ventilation Model		
Model		Puritan B... Servo-U
Invasive Mode		
Invasive Mode		BiLevel/A... BiLevel/A...
Ventilator Settings		
FiO ₂	%	
Ventilator Rate, Set	br/min	
Tidal Volume, Set	mL	
Minute Volume, Set	L/min	
Pressure Support	cmH ₂ O	
Positive End Expiratory Pressure	cmH ₂ O	5
Inspiratory Time, Set		
Inspiratory to Expiratory Ratio	-/-	
Inspiratory Pressure, Set		
Ventilator Pressure High	cmH ₂ O	20 20
Ventilator Pressure Low	cmH ₂ O	5
Ventilator Time High	sec(s)	6 6
Ventilator Time Low	sec(s)	



Handy Hint

There is an Oxygenation/Ventilation component in the MPages located in **Nurse View** which previews the ventilation observations and can link directly to the **iView** to view and record more observations.

Click on the heading or  to link to iView

Oxygenation/Ventilation			
Selected Visit			
	01 JUN 2023		
	15:47	15:00	13:00
Measurements and Assessments			
Heart Rate... bpm		88	80
SpO2 %	 85	98	92
▶ Device Settings	No results		
▶ Invasive Mode	No results		
▶ Non-Invasive Mode	No results		