

Oxygen Assist Module (OAM) – Clinical FAQ's

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Settings and Features

What does the Exit Override setting mean?

You can override the OAM-set O₂ delivery at any time by using the Precision Flow control knob. The OAM will go into an 'Override mode', stop the automated control and allow the delivery of the clinician's set O₂. After the set "Exit Override" time it will take over automatic control again.

Why can't I change the set time in an active case?

You can't change time or date within an active case as this would cause issues with the case file. If you want to change time and date you need to go to MANUAL mode and end the case. Please be aware, this will mean you are unable to view this patient's trend data, as you will have started a new case.

Why do you offer different Patient populations to choose from?

The 4 different patient populations allow for different defaults to be set for the SpO₂ target value, SpO₂ target range, backup O₂ and O₂ alarm limit. The controller algorithm operates the same way in all patient populations.

Is it a problem if I chose the wrong patient population and for example treat a Neonate in Infant setting?

No, this is not an issue at all. You simply need to make sure that all your therapy settings such as SpO₂ target value, SpO₂ target range, backup O₂ and O₂ alarm limit are appropriately set.

Can I adjust my OAM Patient settings while the device is in Auto Mode?

Yes, you can adjust all OAM Patient settings by simply clicking the value on the touch screen and adjusting it with the blue control knob.

Why do I have to use two probes? Why can't the OAM serve as my SpO₂ monitor as well?

The OAM is not an SpO₂ monitor and does not provide SpO₂ alarms. Pulse oximetry is a technology which is heavily vulnerable for interferences. You experience it yourself, sometimes your monitor displays SpO₂ values that clearly do not match your clinical interpretation and you decide to reposition or replace the SpO₂ sensor. The OAM is a computer and not a monitor or an intelligent human. If you hand over this responsibility to a computer, it is recommendable to have a second probe for SpO₂ monitoring. This is why OAM needs external and independent SpO₂ Monitoring. If you identify a large difference between the two readings (OAM and Monitor) look to investigate which one has the interference and re-position the probes accordingly.

What is the difference between the target SpO₂ and the target range (upper and lower limit)?

The controller uses the single SpO₂ target value only to drive the controller and make decisions on the delivered O₂. The Target range is for graphical and numerical display only. The light blue target range bar is visible on the HOME and TREND screens. Additionally, the Time in Range is calculated and displayed on the TREND screen.

Why is there a 2 minutes delay on the SpO₂ signal loss alarm?

We aim to reduce noise and alarms whilst delivering a reliable and safe oxygen therapy. SpO₂ interferences and brief loss in signal quality are very common clinical issues. If each loss in signal would trigger an alarm this would likely cause significant alarm fatigue.

If the signal gets lost for less than 2 minutes the last calculated O₂ is delivered. If the signal loss expands to over two minutes the OAM will alarm and go to its Fallback mode.

Settings and Features (continued)

How should I set the backup O₂?

This is totally up to the clinicians' discretion.

From our experience, clinicians have set this at, or approximately 5% above the mean O₂. It is necessary to re-visit this setting a couple of times a day and always if the mean O₂ increases or decreases significantly.

Will the OAM mask if a patient is deteriorating?

The OAM will increase Oxygen when the patient's SpO₂ drops. To mitigate the risk of missing a change in the patient's stability, it is critical to set an O₂ Alarm. Once an O₂ alarm is set, the clinician will be alerted as soon as the patient requires more O₂ than the limit for more than 2 minutes. This O₂ alarm will signify a patient deterioration in the absence of an SpO₂ alarm, which helps mitigate the risk of missing a change in the patient's stability.

Being fully automated means giving up control. What options do I have to take back manual control?

At any time, you can override the O₂ by simply using your Precision Flow controller knob. The override will automatically return to Auto after the set time (usually 30 seconds - set in SYSTEM - Exit Override). If you want to take over control for a longer period of time, go to PATIENT screen and switch the OAM to Manual mode.

Why is there a 2-minute delay on the O₂ alarm limit?

Our proprietary control algorithm is designed to try to keep patients as close as possible to the SpO₂ target value set by the clinician. In order to achieve this it may make frequent or large adjustments, albeit generally of short duration which could result in unnecessary alarms. The 2-minute alarm delay was based on clinician feedback, targeting reduction in noise and prevention of alarm fatigue.

How should I set the O₂ alarm limit?

This is totally at the clinician's discretion. Out of experience, clinicians have set this approximately 10-15% above the mean O₂. It is necessary to re-visit this setting a couple of times a day and additionally if the mean O₂ increases or decreases significantly.

The O₂ alarm limit is an important clinical alarm threshold that deserves attention.

Can the OAM be used to transfer a patient?

Yes, the runtime of the OAM built-in battery is 4h.

Please consider that if using a PF Hi-VNI power is supplied via the HDMI port. This will reduce the expected runtime of your VTU Battery. It is important to note that transferring patients may cause frequent SpO₂ interferences.

Does it matter whether the probe is pre- or post-ductal?

Pre- and post-ductal SpO₂ can be different. This is a clinical decision that needs to be considered when setting targets.

OAM behavior

I observed the controller pushing the O₂ up very high and then quickly decreasing it again. Was this a malfunction or an erroneous decision of the OAM?

No, it wasn't a malfunction. The OAM control algorithm is tuned to maintain the patient as close as possible to the set target SpO₂. In order to achieve this and based on its short 10 second cycle time, the OAM can make large but short adjustments.

Does the algorithm learn from the patient's dynamics? Does signal loss such as during a probe site change impact this learning?

The algorithm integrates short term past behaviour into its calculations. Signal loss does not impact this as the OAM recognises signal loss and pauses the algorithm until the next valid SpO₂ is recognised.

What do you mean by the algorithm operates on a 10 second cycle?

The algorithm makes a decision every 10 seconds. At the end of each of those 10 second cycles the set target value is compared to the current SpO₂ reading and the algorithm decides whether or not a change in O₂ delivery is required.

Display, Monitoring, Troubleshooting

What does the mean O₂ tell me?

The mean O₂ is the average O₂ delivered over the time frame of the screen you are currently viewing. For example, on the Home screen set to 60 Minutes, the Mean O₂ displayed is the average O₂ delivered over the last hour. We would recommend using the average O₂ once per hour, using the 60-minute screen for your hourly O₂ documentation on your observational charts.

Why is the SpO₂ display so small?

If you want to check for the patient's SpO₂, your standard patient monitor is the device to look at. The OAM is a controller, not a monitor. The reason why we display the SpO₂ on the OAM display is to allow you to compare the OAM SpO₂ reading with your monitor SpO₂ reading in order to confirm accuracy.

Where can I see the currently delivered O₂?

The currently delivered O₂ is displayed on the screen of the Precision Flow. This O₂ value is prone to frequent changes due to the agility of the OAM. For documentation of your O₂ on your observation charts, as well as to get a sense of the mean O₂ requirement of your patient, we suggest using the Mean O₂ displayed on the OAM Home screen. Make sure when using this you are aware of the window it is set to (2, 15 or 60 Minutes)

Does the flowrate or changing the flowrate show up on the OAM display?

No. Current therapy and monitor values are displayed as you are used to. Flow, O₂ and Temperature on the Precision Flow display, SpO₂ and RR on your patient monitor.

What do I do if I have a huge mismatch in SpO₂ readings?

The issue will most likely be the probes, the probe positioning, patient movement, an open duct or differences in limb perfusion. We recommend working with your SpO₂ probes, adjust them, change sites or replace them until you get a good match of the SpO₂ readings. Should this be impossible or outside your currently available resources we suggest turning the OAM into MANUAL mode, control the O₂ setting manually and return to AUTO mode once you have had success in matching up the SpO₂ readings.

How often should I adjust the O₂ alarm limit or the Backup O₂?

Typically these settings are reviewed at the beginning of each shift and on a regular ongoing basis (e.g., every 4h) and also whenever the stability state of the patient changes.

Why is the SpO₂ reading different on the OAM compared to my SATS monitor?

There always may be differences from measurement due to different sites, probes, movement etc, but also: If you are using different SpO₂ technologies (Masimo & Nellcor for example) the different SpO₂ processing algorithms can result in different SpO₂ values. If you are using the same technology the reading should be pretty accurate and similar on both devices. If this is not the case, the issue is likely due to probe positioning, perfusion or probe age etc. If you are using the same technology on both devices there still can potentially be differences due to differing processing algorithms implemented over time.

It looks like the unit can administer 100% Oxygen in automatic control.

Yes, it can. OAM does not have an upper or lower limit for the O₂. The OAM does, however, have an O₂ alarm, which is set by the clinician. It will alert the clinician to any periods longer than 2 minutes above that clinician-set alarm limit.

What happens when the SpO₂ probe falls off or the signal is weak? Does this cause a risk for over oxygenating?

For the first two minutes of signal loss the last calculated O₂ will be delivered and a silent alert message informs the clinician. After 2 minutes of signal loss the silent alert turns into an audible alarm and a Fallback mode is activated. Fallback mode chooses the greatest of three possible fallback O₂ values:

- The clinician's set Backup O₂
- The mean O₂ of the last 3 automated settings
- The mean O₂ since OAM started Auto mode

Should the SpO₂ on the OAM be documented alongside monitor SpO₂?

The OAM is not a monitor, it is a controller. We suggest you regularly check that the reading of OAM matches with your monitor reading.