

PHILIPS

Clinical Decision
Support

Quickly assess measurements over time

Is medication having the desired effect on my patient?

Is my patient ready for extubation?

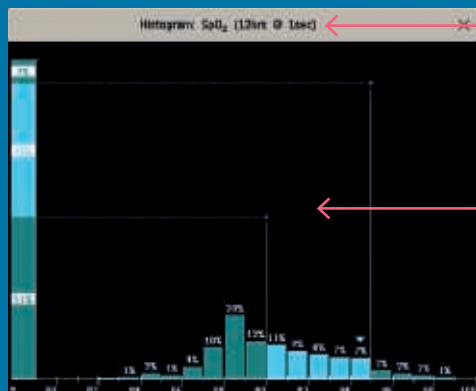
Am I managing my patient's arrhythmia effectively?

Histogram Trends

Histogram Trends are graphical representations of the distribution of a patient's measurements over an extended time period.

Vertical axis =
distribution

Horizontal axis =
parameter range



At a quick glance, you can see whether or not a measurement has been maintained within a set range of values. This makes it easier to determine if a clinical intervention has had the desired effect. Histogram Trends can be used on any trended measurement parameter.

It answers your question: *For how much time was my patient within or outside a certain range of values?*

Evaluate medication levels

When administering a medication, you need to be able to check it's having the right effect on your patient – and be ready to adjust doses if necessary. But how can you get an overview – especially if you need to consider the patient's condition over hours rather than minutes?

When it's not enough to look at current and recent trends, Histogram Trends allow you to rapidly assess measurements over longer time periods. In the case of gauging medication levels, histograms provide a quantitative visualization of the patient's response. Depending on the type of medication, the histogram parameters could be, for example: heart rate, blood pressure, oxygen saturation, end tidal CO₂, or temperature.

When titrating vasoactive drugs for instance, you can use a dynamic histogram of mean arterial blood pressure. This helps you to monitor vasopressor administration, and confirm therapy is following the right path.

intensive care unit

“Histograms present the distribution over time of vital parameters, enabling significant trends to be seen at a glance, without the risk of being overwhelmed by an excess of information.”

Dr. Jürgen Christoph, Assistant Medical Director Neonatology, Children’s and Youth Hospital “Auf der Bult”, Hannover, Germany

Document decisions with Histogram Report

Note that you can record Histogram Trends as reports for comprehensive documentation. Integrating such steps into your workflow can help you make confident, evidence-based decisions – for enhanced patient care.

Get support when lightening sedation

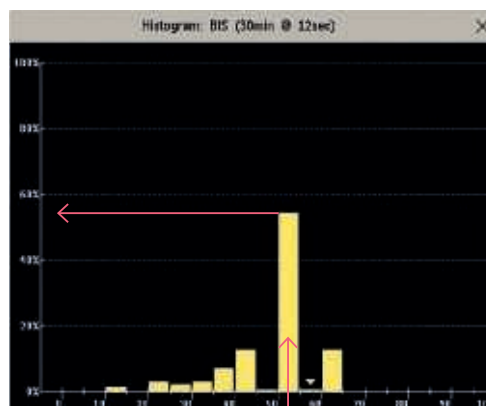
Lightening the sedation a patient receives during the day has been shown to decrease the amount of time he or she needs to receive mechanical ventilation.^{1,2} By displaying the BIS measurement within Histogram Trends, you can clearly see whether or not your patient is being sedated at lighter levels. This then helps you decide when he or she is ready for extubation.

Arrhythmia: monitor to manage

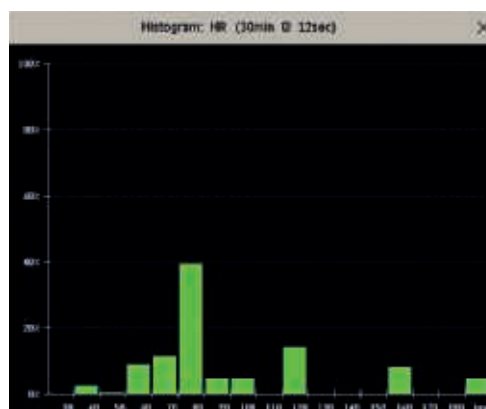
Histogram Trends can help you manage arrhythmia and evaluate the effects of anti-arrhythmic therapy. Patients having frequent supraventricular tachycardia will show a wide distribution along the X-axis of a Histogram Trends display. When you start anti-arrhythmic therapy, you can see the effectiveness of the medication via a shift in bin values to the left of the X-axis, and the development of a bell-shaped curve, indicating heart-rate stability.

Vertical axis = time distribution

Horizontal axis = parameter range



BIS value between 50 and 55 for over 50% of the time



¹ Otavio T Ranzani, et al., Evaluation of a minimal sedation protocol using ICU sedative consumption as a monitoring tool: a quality improvement multicenter project. Crit Care. 2014; 18(5): 580.

² Cai Y, Li Y, et al., The effect of mild sedation on the prognosis and inflammatory markers in critical patients with mechanical ventilation. Zhonghua Jie He He Hu Xi Za Zhi. 2014 Nov;37(11):820-3.

