Finding the best individual treatment strategy for your ICU patient is very challenging. You need the complete clinical picture to avoid negative effects of ventilation as good as possible.

PulmoVista 500 visualises pulmonary functions directly at the patient’s bedside, by providing continuous, regional information about the distribution of ventilation in the lungs. Using our EIT (electrical impedance tomography) lung function monitor, you can individually adjust ventilation parameters and therapeutic measures to meet your patients’ needs, resulting in a more protective ventilation.
“The application of positive end-expiratory pressure (PEEP) may reduce dynamic strain during mechanical ventilation” 1

“To detect pendelluft phenomena and some asynchronies advanced monitoring devices are needed, such as electrical impedance tomography, esophageal manometry and electrical activity of the diaphragm” 2

“Turning the patients to the prone position significantly reduced alveolar overdistension and collapse and increased recruitable lung volume” 3

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1 Weber et al.; Effect of individualized PEEP titration guided by intratidal compliance profile analysis on regional ventilation assessed by electrical impedance tomography – a randomized controlled trial; BMC Anesthesiology volume 20, Article number: 42 (2020)
3 Dalla Corte et al.; Dynamic bedside assessment of the physiologic effects of prone position in acute respiratory distress syndrome patients by electrical impedance tomography; Minerva Anestesiologica, May 2020
As no patient is alike – Dräger Ventilation. Dedication for better treatment.

MECHANICAL VENTILATION
As non-invasive as possible, as invasive as necessary. Along the Respiration Pathway a variance and diversity of treatment tools clearly improve the clinical decision-making.

RESPIRATORY MONITORING
Chest EIT opens up new possibilities for everyday clinical practice in addition to already established technologies. With PulmoVista 500 we support you to find the individual and lung protective ventilation therapy of your pediatric and adult patients in every phase of the Respiration Pathway.
You can complete the clinical picture with applications like the identification of de-recruitment or overdistension, the identification of responders or non-responders to a recruitment maneuver, patient proning or just intubation check.
One step closer to the full clinical picture

The availability of chest EIT opens up new possibilities for everyday clinical practice in addition to already established technologies. PulmoVista provides new and additive information and allows the personalisation of ventilation. With the help of different “Views” you could improve the evaluation of your patients’ condition – for example identify responders or non-responders to a recruitment maneuver, identify possible alveolar collapse or overdistension or assess the influence of patient positioning on the ventilation distribution.

Main and Fullscreen View

Overview of the distribution of the tidal volume in the transverse EIT sensitivity region to ...

... quickly identify inhomogeneities of the lungs.
... assess regional ventilation during spontaneous breathing.
... compare different lung regions.
... quickly see areas with an increase or decrease in ventilation.

End-Inspiratory and end-expiratory trend View

The End-inspiratory trend view is used to compare two different tidal images and their regional tidal volume distribution to ...

... help to identify inhomogeneities, recruitment, de-recruitment, overdistension and the redistribution of Tidal Volume (Vt).
End-expiratory trend view or ΔEELI-trend View

The End-expiratory trend view is used to monitor regional changes of End Expiratory Lung Impedance (ΔEELI) to ...
...
... help to assess changes in end-expiratory lung volume (ΔEELV) e.g. after changing the PEEP, recruitment maneuvers or proning the patient.
... to detect possible de-recruitment of individual lung areas.

Diagnostics View

The Diagnostic View allows the analysis of regional compliance changes and delays in regional ventilation in addition to the evaluation of ventilation distribution to ...
...
... automatically analyse incremental or decremental PEEP maneuvers to find the individual PEEP for the best balance between overdistension and collapse.
... assess lung recruitability.
... evaluate the impact of any other intervention on ventilation distribution and lung volume.

Ptp analysis View

Knowing the Transpulmonary and Esophageal Pressure (Ptp and Pes) allow discriminating the elastic behaviour of the lung and the chest wall, estimating the degree of spontaneous respiratory effort and determining the maximum stress on the lung tissue. In the clinical routine this could help you to ...
...
... measure tidal mechanical stress of the lung tissue.
... indicate tendency of alveolar collapse.
... measure patient’s effort of respiratory muscles.
... detect patient-ventilator asynchronies.
... predict weaning failure.
Making ventilation visible

The EIT technology used in our PulmoVista® 500 lung function monitor is a non-invasive imaging technique that gives you a special view inside the lungs. In a cross-sectional projection, the distribution of the tidal volume in the thorax is shown. This illustration shows ventilated and non-ventilated areas of the lungs as well as their changes as a function of time. The device can be used in various situations in everyday clinical practice. You have the ability to examine at the bedside the status of your patients’ lung, track and assess therapeutic measures in real-time.

Patient interface – for a wide range of patients

It consists of an elastic electrode belt (16 electrodes) and an attachable patient cable. Both are reusable and can be disinfected with wipes. In order to cover a wide patient spectrum, there are five belt sizes for adult patients, from 70 to 150 cm chest circumference and four belt sizes for pediatric patients from 36 to 72 cm.

PressurePod

By connecting the PressurePod to PulmoVista you are able to measure and display: Airway Pressure (Paw), Esophageal Pressure (Pes), Transpulmonary Pressure (Ptp) – calculated as the difference between Paw and Pes – and Gastric Pressure (Pga).

You can analyse the derived parameters like the transpulmonary driving pressure to assess the lung mechanics.
Improved outcome with PulmoVista 500

“EIT enables dynamic bedside assessment of the physiologic effects of prone positioning and might support early recognition of ARDS patients more likely to benefit from prone positioning.”

“PEEP values determined with EIT effectively improved oxygenation and lung mechanics ...”

“... the EIT-guided PEEP titration may be associated with improved oxygenation, compliance, driving pressure, and weaning success rate.”

PulmoVista 500 helps to reduce VILI.

1 Dalla Corte et al.; Dynamic bedside assessment of the physiologic effects of prone position in acute respiratory distress syndrome patients by electrical impedance tomography; Minerva Anestesiol. 2020; 10.23736/S0375-9393.20.14130-0
2 Liu et al.; PEEP guided by electrical impedance tomography during one-lung ventilation in elderly patients undergoing thoracoscopic surgery; Ann Transl Med 2019;7(23):757
“The lung is the most complex organ for the intensive care physician. The better the monitoring of the ventilator, the better the outcome for the patient.”

Professor Sergio Pintaudi,
Garibaldi Hospital, Italy

“Through PulmoVista 500 we receive direct regional information. This helps us to decide how a patient needs to be treated to achieve optimal results.”

Thomas Piraino, Respiratory Therapist,
St.Thomas Hospital, Canada