

The Use of the VORTRAN GO₂VENT During COVID-19

In this feature, Respiratory Therapy interviews clinicians and healthcare providers about the actual application of specific products and therapies. Participating in the interview is Dave Swift, RRT.

Respiratory Therapy: If a hospital is facing a ventilator shortage, what should they know about the GO₂VENT?

Dave Swift: The GO₂VENT is not intended to take the place of a full-spectrum critical care ventilator with all available modes. The GO₂VENT can provide intermediate ventilatory support using its pressure controlled/pressure supported mode and the Airway Pressure Monitor/alarm module [APM-Plus]. With the addition of VORTRAN's new PEEP Valve, the GO₂VENT can now provide a higher level of support for managing more patients in the ICU.

RT: What benefits does the GO₂VENT have versus other ventilators?

DS: The GO₂VENT is a cost-effective solution to a ventilator shortage as it is intuitive and easy to use/setup so that it does not require a huge investment in time or resources to become proficient in its use. Multiple units can be purchased for the cost of one annual scheduled p.m. on a critical care ventilator. Equipped with both inspiratory and expiratory HME/HEPA filters, it greatly reduces the risk to clinicians by virtually eliminating the dumping of exhaled contaminants into the clinical environment. It is portable so can be used transport and is very mobile. Since it is single-patient-use, no maintenance or cleaning is required. It can even be attached to a manifold, which can effectively power up to 7 GO₂VENT units.

RT: Can the GO₂VENT only be used in emergencies?

DS: The GO₂VENT can be used in the majority of situations where mechanical ventilation is being initiated. This allows the clinicians to triage the patients as to whether they get a full-featured ventilator, are a short-term ventilatory candidate, or require ventilated transport until a critical care vent becomes available. It is FDA-cleared to support patients continuously for up to 30 days.

Dave Swift, RRT is a Respiratory Therapist who received his registration in 1983. For the last 38+ years he has worked in front line leadership roles as a charge RT/supervisor in Ottawa's tertiary trauma and referral hospital looking after neonates, trauma, general medicine, emergency, and critical care. He was the team lead in the (federal) National Office of the Healthcare Emergency Response Team, acting assistant manager of the Ottawa Hospital's endoscopy program, and an accreditor of respiratory therapy programs with CoARTE. In 2020 with the change in the Ottawa Hospital's leadership model, the charge RT positions were eliminated and he transitioned over to consulting. If you would like to participate in this feature, as a company or healthcare provider, please contact Steve Goldstein at s.gold4@verizon.net.

RT: Can the GO₂VENT be used non-invasively?

DS: With an effectively sealed NIV mask, the GO₂VENT can provide effective NIPPV in its pressure supported setting. Remember this is a pressure operated device so an effective seal is essential. Ecuador recently utilized it during a scarce resource event, on 120 patients with great success, while avoiding intubations with the negative outcomes from COVID in a majority of cases. The data from this study showing significant clinical benefits when used a non-invasive ventilator will be published in the near future.

RT: How has the GO₂VENT been used during COVID-19?

DS: The GO₂VENT has been used effectively both as a ventilator
Continued on page 26...

NEW!

GO₂VENT

With PEEP Valve

SINGLE-PATIENT-USE GAS-POWERED VENTILATOR

- NEW PEEP Valve allows higher PEEP
- MR Conditional
- Ideal for critical care transport

VORTRAN MEDICAL Learn more at vortran.com

21 Goldenland Court, Suite 100 • Sacramento, CA 95834
T: 800-434-4034 • F: 916-243-1338 • info@vortran.com • © VORTRAN 2020

Interview...continued from page 25

and NIPPV unit in many resource-challenged COVID stricken countries, such as Ecuador, Italy, and Mexico.

RT: What protections can the clinician have regarding airborne viruses when using the GO₂VENT on an infected patient?

DS: The unit must have an HME filter on the patient connection port and a HEPA filter between the head of the unit and the modulator to greatly reduce or prevent release of airborne contaminants, protecting the most essential resource we have—our clinicians.

RT: What other devices or accessories do you recommend to get full functionality out of the GO₂VENT?

DS: The Airway Pressure Monitor [VORTRAN APM-Plus] provides essential information to the clinician (PIP, PEEP, inspiratory time, respiratory rate and I:E ratio) and its alarm feature provides an extra layer of protection. It is an essential “must have” for critical care use of the GO₂VENT. HEPA filters are another “must have” to safely use the GO₂VENT and protect our clinicians. Additionally, the new VORTRAN PEEP Valve can be added to provide a higher level of support to treat more critical ill patients, including those experiencing ARDS symptoms.

News...continued from page 16

cannulae. During the COVID-19 outbreak, the ECLS therapy has provided support to acute care patients around the world in need of further life support than a ventilator can provide. “Globally, we have seen a rising demand for ECLS therapy related products and will continue to increase our production to help our customers save more lives”, says Lena Hagman, EVP Quality & Regulatory Compliance & Managing Director Cardiopulmonary at Getinge. “Getinge has increased production output of Heart Lung Support (HLS) Advanced Sets and Permanent Life Support (PLS) Sets this year by more than 30% at our production facility in Hechingen and 110% in Rastatt and we have ambitious plans for continued growth.” The significant investments at these manufacturing facilities in Germany, are primarily related to increased production capacity. This includes various production tools, assembly machinery, coating equipment but also significant headcount increase of production employees. “In the current health care environment, the US has also seen an increase in demand for ECLS therapy products for the acute care setting. Getinge investments in life-saving options have allowed us to meet the increased demands, such as the COVID-19 pandemic,” said Eric Honroth, Getinge President, North America. Honroth further states, “Vital equipment, such as ECLS therapy products allows the US to be prepared for future challenges.”

High-Frequency Oscillatory Ventilation in Infancy Shows No Lasting Benefit

Children born before 29 weeks of gestation who were given high-frequency oscillatory ventilation (HFOV) within an hour of birth have a higher risk of asthma by age 16 to 19, according to a report in *The New England Journal of Medicine*. The team, led in part by Dr Anne Greenough, a professor of neonatology and clinical respiratory physiology at King’s College London, also found that, as young adults, the children born very prematurely tended to have substandard lung function. HFOV is designed to keep fragile lungs inflated by letting air pressure fluctuate slightly at 3 to 15 times per second. It was originally developed in Canada for neonatal intensive care units and for children. It is widely used in both populations as part of an attempt to avoid the lung damage from conventional mechanical ventilation. In 2014, a team led by Greenough found that children age 11 to 14 who had received HFOV as extremely premature infants had better lung function than babies who received conventional therapy. But when Greenough and her colleagues tested the children at age 16 to 19, “the use of HFOV in the neonatal period was not associated with superior respiratory or functional outcome.” In fact, 15% of the children who had received HFOV had received a diagnosis of asthma compared with only 3% who had received conventional ventilation therapy. “We were surprised that there were five times more young people diagnosed with asthma in the HFOV group as we saw no significant differences in asthma at 11-14 years,” said Greenough said. “During puberty, however, many children, particularly boys ‘grow out’ of asthma and this may have resulted in the changed findings.” However, both groups had similar scores on the primary outcome—forced expiratory flow at 75% of the expired vital capacity. The FEF-75 z score was -1.07 with conventional ventilation and -0.94 with HFOV. “The most important message is that despite the positive effect of puberty on lung function, the majority of these very prematurely born young adults had lung function below the lower limit of normal and they require long term follow-up to determine whether they will suffer premature onset of chronic pulmonary disease,” said Greenough.

Continued on page 81...