

# 3100A neonatal and pediatric high-frequency oscillatory ventilator

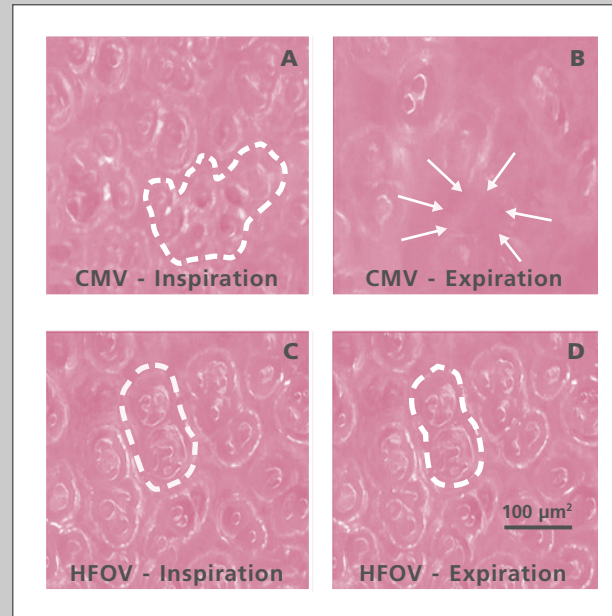
The 3100A ventilator goes beyond convention by empowering clinicians to deliver high-frequency oscillatory ventilation to both neonatal and pediatric patients.



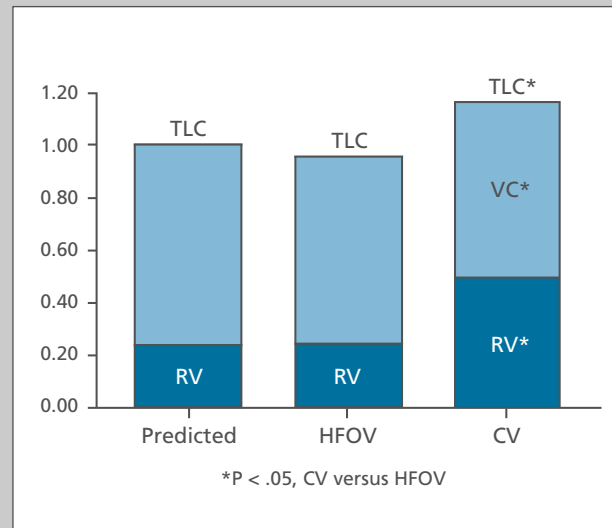
## Empowering clinicians with proven lung protection strategies

When the lung is damaged by conventional ventilation, it may lead to chronic changes. Other organs may be compromised by harmful cytokines and proteins released into the bloodstream.<sup>1</sup> The 3100A high-frequency oscillatory ventilator (HFOV) can decrease the risk of these complications by maintaining a constant distending pressure and normalizing the end expiratory lung volume.<sup>2</sup>

In randomized controlled trials with more than 1100 newborns and children, the 3100A HFOV has been proven to improve oxygenation and significantly reduce the chronic lung disease normally associated with prematurity or mechanical ventilation. Even at six to eight years old, children who were managed with the 3100A HFOV had significantly better lung function than patients managed using conventional ventilation methods in randomized controlled trials.<sup>3</sup>



The repeated derecruitment and recruitment of alveoli caused by conventional ventilation can lead to lung injury. HFOV can decrease this risk by maintaining a constant distending pressure and normalizing the end expiratory lung volume.



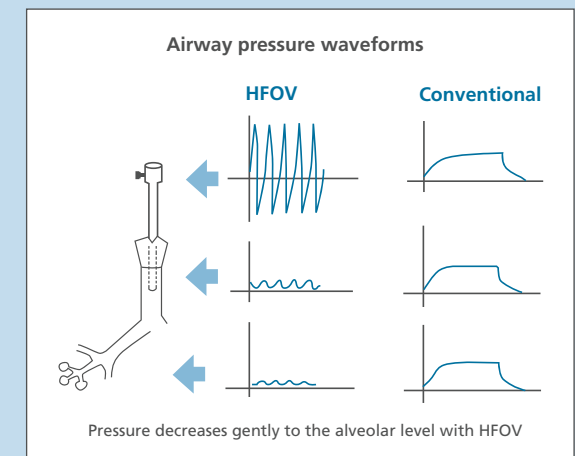
For the Conventional Ventilation (CV) group, there was an increase in Residual Volume (RV) above normal, which was significantly higher than the value for the HFOV group. An increase in RV is consistent with the finding of obstructive lung disease.<sup>3</sup>

## Advancing ventilation beyond convention

In contrast to other high-frequency devices that only supplement a second conventional ventilator, the 3100A HFOV is capable of complete, stand-alone ventilation of your pediatric and neonatal patients.

### The 3100A HFOV:

- Gently delivers 1 to 3 mL tidal volumes to ventilate the most premature infant and delivers up to 180 mL to support the ventilation of pediatric patients
- Produces an active exhalation,<sup>4</sup> which is essential at high frequency respiratory rates to prevent air trapping that may occur with passive exhalation
- Offers patented technology and a highly reliable, electromagnetically driven piston that distinguishes it from other high frequency ventilators
- Permits variable I:E ratios, which are desirable for managing ventilation and reducing the risk of air trapping



## Delivering superior training, support and warranty

CareFusion offers a full range of training and support with dedicated Clinical Application Specialists. Our training centers are located worldwide and include hands-on training and clinical applications labs taught by experienced clinicians and engineers. Onsite training is also available.

CareFusion offers standard and extended warranties customized to fit your needs. You can be assured that your devices are covered and that we have a full-service Customer Support department available whenever you require assistance. Our Technical Support Specialists are available around-the-clock for your urgent clinical and technical questions.

## Connecting global evidence-based practitioners

The 3100A HFOV has changed the way clinicians around the world ventilate by setting the benchmark for open lung, low stretch lung protective strategies. This unique technology was built upon the understanding that optimal lung recruitment and gentle ventilation create a perfect balance.

- The 3100A HFOV works by gently inflating the lungs with a continuous distending pressure and superimposing very small pressure and volume oscillations
- In the United States, the 3100A HFOV remains the only high-frequency ventilator that is FDA approved to be sold for early intervention in the treatment of neonates in respiratory failure
- The 3100A HFOV is in use at more than 90% of the Level III nurseries and 75% of pediatric intensive care units<sup>5,6</sup>



#### References

1. Slutsky A, Trembley L. Multiple System Organ Failure. ARCCM, 1998;157: 1721-1725.
2. Imai Y, et al. Comparison of Lung Protective Strategies Using Conventional and High Frequency Oscillatory Ventilation. J Appl Physiol, 2001 91; 1836 - 1844.
3. Gerstman DR, et al. Childhood Outcomes After Early HFOV for Neonatal Respiratory Distress Syndrome. Pediatrics 2001, Vol 108 No. 3; 618-623.
4. Pillow J. High Frequency Oscillatory Ventilation: Mechanism of Gas Exchange and Lung Mechanics.
5. Hobard L. Evaluation of Neonatal Intensive Care Technologies. From The Future of Children, A Publication of the David and Lucille Packard Foundation. 1995; Vol 5 No 1.
6. Internal data on file at CareFusion.



**WARNING**—U.S. Federal Law restricts this device to sale by or on the order of a physician.

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