

# JULY NEWSLETTER

Saskatchewan Respiratory Therapy Education Committee



## *High Frequency Ventilation*

**THANK YOU TO ONE OF OUR PEDIATRIC RRT'S FOR REQUESTING THIS MONTH'S TOPIC**

- It's difficult to summarize such a robust topic. Check out our 'Educational Resources' section on the next page for more in depth information.
- High frequency ventilation (HFV) aims to optimize lung expansion while minimizing tidal volume to decrease lung injury. Two methods of HFV - high frequency oscillatory ventilation (HFOV) and high frequency jet ventilation (HFJV) - are widely used, but neither has demonstrated clear superiority in elective or rescue mode.
- In HFOV both inspiration and exhalation are active. The Pediatric Acute Lung Injury Consensus Conference (PALICC) recommends that HFOV should be considered as an alternative ventilatory mode in patients with moderate-to-severe PARDS when plateau pressure exceeds 28 cmH<sub>2</sub>O, provided chest wall compliance is normal.
- HFJV requires the use of both a jet ventilator and a conventional ventilator, the latter used to provide PEEP and periodic recruitment or "sigh" breaths. The CMV rate is usually set between 0 and 5 breaths per minute and the PIP is set below the HFJV PIP to avoid interruption of jet ventilation during CMV breaths. Exhalation in HFJV is passive unlike HFOV.
- Data evaluating HFJV in the PICU is limited to small, single center case series, outdated RCTs or physiologic studies without control groups.

**NAME A CANADIAN HEART DEFECT**

**PD-EH**

**HAPPY CANADA DAY!**

**SOCIAL MEDIA HIGHLIGHT:  
@NICU MUSINGS**

**SASKRTEC'S QUARTERLY WEBINAR ON VENTILATOR ASYNCHRONY WILL BE UPLOADED TO OUR WEBSITE SOON. STAY TUNED TO OUR INSTAGRAM ACCOUNT TO FIND OUT WHEN**

# Educational Resources

## HIGH FREQUENCY OSCILLATION

### ARTICLE RESOURCES

- [A narrative review of advanced ventilator modes in the pediatric intensive care unit](#)
- [High-Frequency Jet Ventilation in Neonatal and Pediatric Subjects: A Narrative Review](#)
- [High frequency jet ventilation versus high frequency oscillatory ventilation for pulmonary dysfunction in preterm infants](#)
- [Neonatal high frequency ventilation: Current trends and future directions](#)

If you're having difficulty accessing the articles SHA Library Services is a great resource available to all SHA employees. Feel free to contact them to setup a library card number to obtain off site access.

### ADDITIONAL RESOURCES

- [High Frequency Jet Ventilation](#)
- [Just the Facts 10 Things to Know](#)
- [Dräger High- Frequency Oscillatory Ventilation](#)
- [Dräger High-Frequency Ventilation - Basics and Practical Application](#)
- [Dräger Volume Guarantee Ventilation in Neonates](#)
- [Dräger Managing Neonatal PaCO<sub>2</sub> during HFOV with Volume Garauntee: A Case Report](#)



### VIDEO RESOURCES

- [WHEN and HOW do we use the NEONATAL High Frequency Jet Ventilator!!!](#)
- [High Frequency Ventilation// Neonatologist explains the BASICS](#)
- [Do you know the difference between Jet and Oscillator?](#)

### PODCASTS

- [High Frequency Oscillatory Ventilation \(HFOV\) with Dr. Martin Kneyber - Part 1](#)
- [High Frequency Oscillatory Ventilation \(HFOV\) with Dr. Martin Kneyber - Part 2](#)
- [High Frequency Jet Ventilation with Dr. Alexander Rotta - Part 1](#)
- [High Frequency Jet Ventilation with Dr. Alexander Rotta - Part 2](#)

### WEBINARS

- [Dräger Webinar: Challenges of High Frequency Oscillation](#)
- [High-Frequency Oscillatory Ventilation Webinar with Prof. Giovanni Vento](#)
- [Delivering Effective High Frequency Oscillatory Ventilation in the Neonatal Intensive Care Unit](#)

**A warm welcome to our newest committee member, Megan Lesinszki, RRT**

**As we continue with the process of becoming a registered non-profit organization we are in need of a board of directors.**

**If you're interested in joining the SaskRTEC please send us an email at [saskrtec@gmail.com](mailto:saskrtec@gmail.com) or reach out to a committee members directly**