This Quick Pocket Guide is not a replacement or substitute for the Instructions for Use and Any use of the device requires full understanding and strict observation of the Instructions for Use.

The abbreviations and terms used in this booklet apply for the Dräger Evita and V-series ventilators and may differ from devices of other vendors.

SPECIAL THANKS

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Dr Luigi Camporota
Guy's and St Thomas' NHS Foundation Trust
Dr Luigi Camporota is a consultant in intensive care medicine at Guy’s and St Thomas’ NHS Foundation Trust. He is also an honorary senior lecturer in critical care in the division of asthma allergy and lung biology at King’s College London. Luigi collaborates with industry and grant-funded clinical trials and supports multicentre CLRN/NIHR trials.
IMPORTANT NOTES

Medical knowledge is subject to constant change due to research and clinical experience. The authors of this publication have taken utmost care to ensure that all information provided, in particular concerning applications and effects, is current at the time of publication. This does not, however, absolve readers of the obligation to take clinical measures on their own responsibility. Liability claims against the authors or the editor which are based upon material or hypothetical damages caused by the use or non-use of information provided are excluded.

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APRV – WHAT IS IT?

- Airway Pressure Release Ventilation – Applies continuous positive airway pressure identical to CPAP (P High)
- Adds a time cycled release phase to a lower set pressure (P Low)
- Spontaneous breathing can be integrated and is independent of the ventilator cycle

WHY USE APRV?

- Hypoxaemic respiratory failure (including ARDS)
- With/without associated (not primary i.e, severe asthma) hypercapnia
HOW TO SET IT UP?

P HIGH
- Set at Plateau or Peak Pressure set during conventional ventilation (typically 25-35cmsH₂O)
- Based on Oxygenation index
- Based on Pressure Volume Curve (this can be less reliable and may be difficult to identify in some patients)
- P High >35 cm H₂O may be necessary in morbid obesity or in other conditions associated with low chest wall compliance
- P High >25 cm H₂O consider use of non-compliant circuit

P LOW
- ALWAYS Set at 0cmsH₂O (correct setting of T low will create intrinsic PEEP)

T HIGH
- Set at 4-6 seconds* (average around 5 secs)

SHORTER IF:
- No Spontaneous Breathing
- High PaCO₂ at the beginning
- Poor diffusing capacity

LONGER IF:
- Spontaneous Breathing
- Normal PaCO₂
- Good Diffusion
- Weaning
**T LOW**

- Titrate to maintain constant end expiratory lung volume
- Assess and adjust using end expiratory flow waveform measurement
- Freeze waveforms and set T low at 75%* of Peak Expiratory Flow

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*Note: PEFR = Peak Expiratory Flow Rate*

**OTHER SETTINGS:**

- Tube Compensation 100% (if available)
- Pressure Support 0
TROUBLE-SHOOTING?

OXGENATION (LOW SPO$_2$)

- Optimise end-expiratory or release lung volume
- Re-assess release volume to ensure T-PEFR is 75%
- If oxygenation poor and T-PEFR < 50%, decrease release time until T-PEFR 75%
- Optimise gas exchange surface area by adjusting mPaw
- Increase Phigh and Thigh, alone or simultaneously
- Pay attention to hemodynamics (fluid status and right heart function)

VENTILATION (HIGH PCO$_2$):

- Avoid over sedation
- Re-assess release volume to ensure at 75% T-PEFR
- Increase alveolar ventilation (preferred method) increase Phigh or Phigh and Thigh simultaneously
- Increase minute ventilation—decrease Thigh and increase Phigh simultaneously

WEANING:

- Simultaneously reduce Phigh and increase Thigh for a gradual reduction of mPaw and to increase the contribution of spontaneous to total minute ventilation.
- Progress to CPAP with ATC when Phigh 16 and Thigh 12–15 sec (APRV = 90% CPAP)
- Wean CPAP (ATC) and consider extubation when CPAP 10-12cm H$_2$O

*in restrictive lung disease