



Reduce ventilation time
by up to 33%*

SMARTCARE®/PS

SmartCare®/PS automates weaning

“The problem however is that no matter how good the written protocol is, physicians and caregivers still have to devote enough time to ensure that no opportunities to progress in weaning are lost, which is often difficult in a busy ICU where more urgent matters might take precedence.”

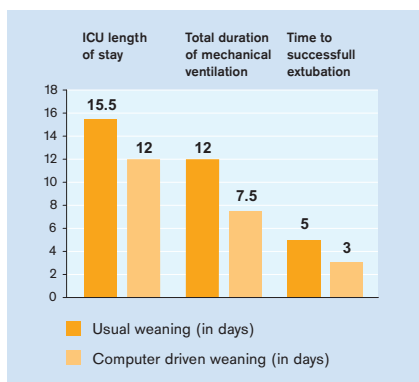
PD. Dr. Philippe Jolliet Senior Member of the Medical ICU Staff
University Hospital Geneva

Proven automated clinical protocol

- Decreases ICU length of stay by up to 20%*
- Reduces overall ventilation time by up to 33%*
- Reduces weaning duration by up to 40%*
- Supports weaning protocol compliance: 100% [1,3]



MT-0617-2008



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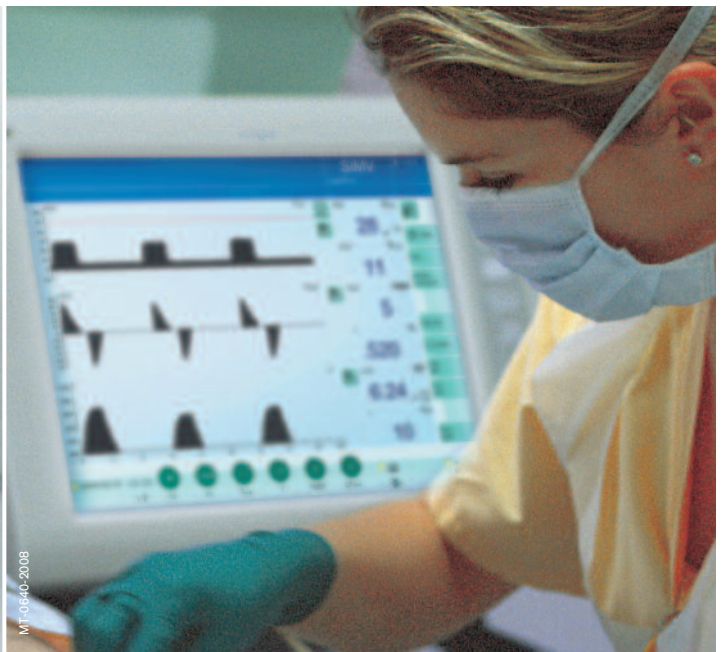
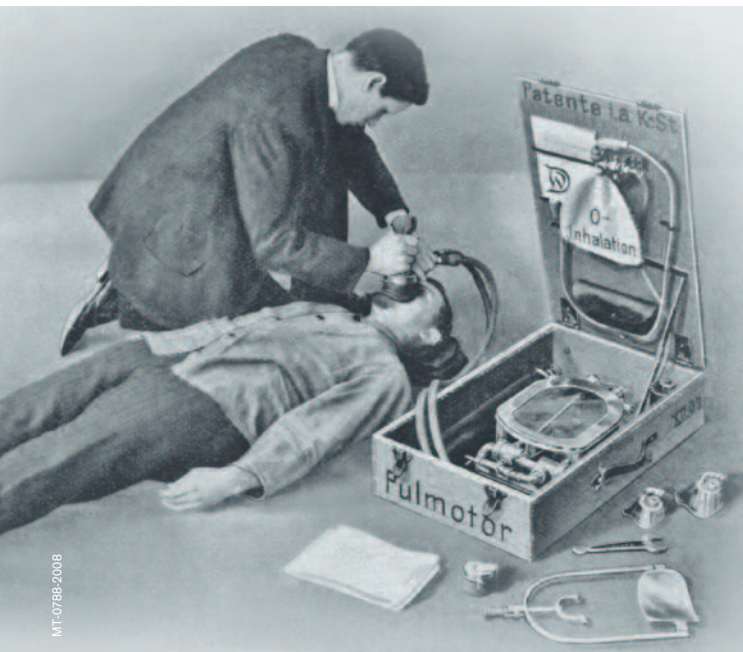
Comparison on usual weaning vs. computer driven weaning [2]

Address Ventilator Associated Pneumonia

Preventing Ventilator Associated Pneumonia (VAP) has been identified as one of 12 interventions that can save lives and reduce patient injuries, as part of Institute of Healthcare Improvement's "5 Million Lives" campaign [5]. One of the key measures in the ventilatory bundle to reduce the occurrence of VAP is a daily sedation vacation with a spontaneous breathing trial (SBT). SmartCare®/PS's protocol performs a SBT automatically, as soon as the patient is ready for it [3].

* F. Lellouche et al.; Am J respir Care Med Vol 174, pp 894-900, 2006. Results are based on a European Multicenter Randomized Trial [2] with 144 patients demonstrating improved respiratory condition, with stable hemodynamic and neurologic status, and no ARDS prior to initiating weaning

Over 100 years of innovation in ventilation



“Cutting-edge technology convinced us to purchase the Dräger product; but then the excellent customer service and support strengthened the relationship.”

Angela D. Hedgman, BS, RRT-NPS, Philadelphia, PA, December 1, 2006

Dräger is committed to providing Technology for Life®. We were there at the very beginning of modern ventilation, and we've been innovating ever since:

1907

- Pulmotor emergency resuscitator

1952

- E 52 “Iron Lung” long term breathing system

1978

- Oxylog transportable emergency ventilator

1989

- BIPAP*/PCV+ and APRV free breathing in PCV

1995

- AutoFlow® free breathing in VCV

1997

- ATCTM automatic tube compensation

2000

- Non-Invasive Ventilation (NIV) for ICU ventilators

2003

- SmartCare®/PS automated weaning protocol

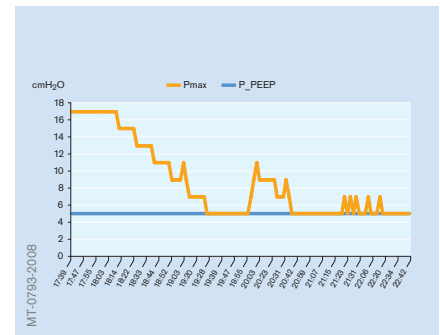
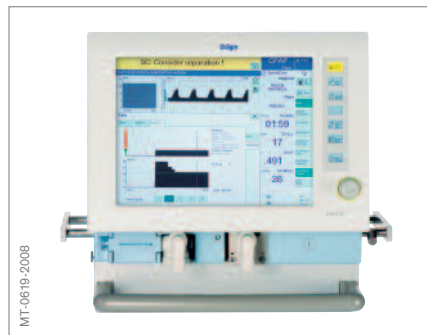
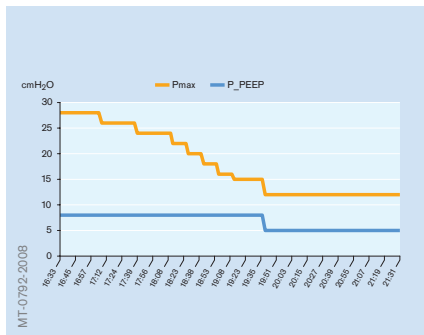
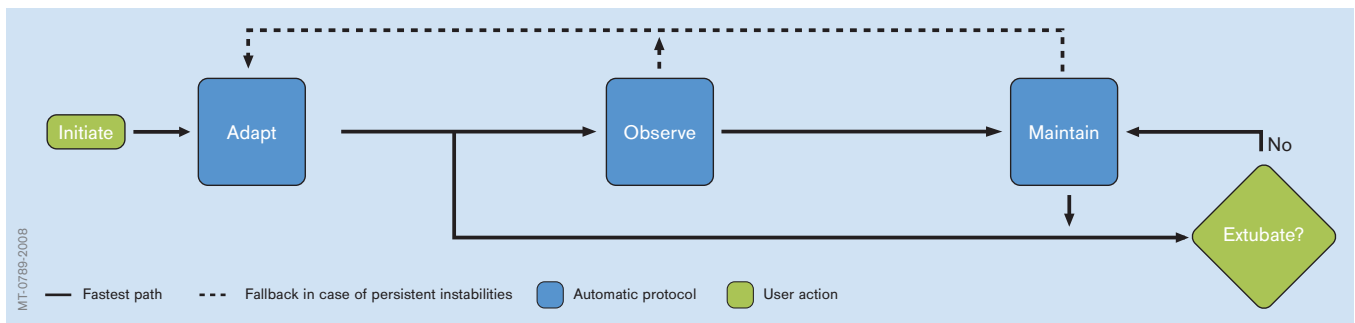
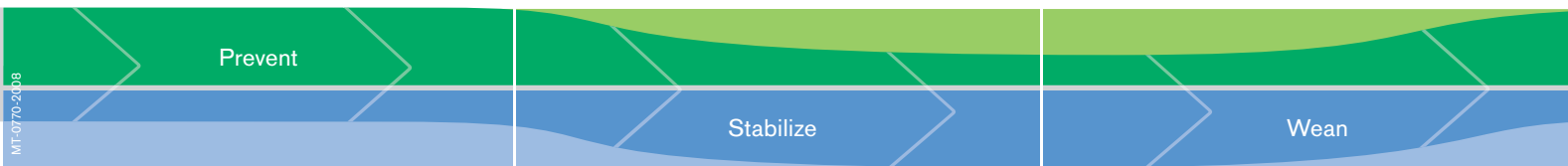
2004

- Lung protection package (LPP)

2005

- SmartCare®/PS automated weaning protocol for pediatric patients Our reputation for quality and reliability is built on legendary German engineering – but that is only part of Dräger's commitment to ongoing support:
 - Comprehensive on-line training for effective system utilization
 - DrägerService® to help maximize uptime and minimize lifetime operating costs
 - Continuous development programme to ensure the safety of your investment

A safe and effective clinical protocol



Decrease ventilatory support gradually

- The safe and effective clinical protocol is patient controlled and includes a metabolic component.
- While weaning the patient, SmartCare®/PS aims to keep the patient in a comfortable zone of normal ventilation.
- Automatic reduction in ventilatory support frees up time for the caregiver.

Automated Spontaneous Breathing Trial (SBT)

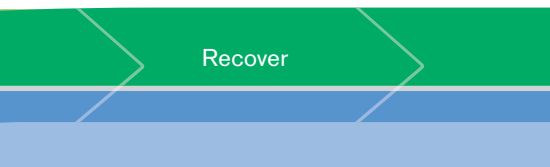
- A spontaneous breathing trial is initiated automatically when the ventilatory support is weaned down to minimum support.
- Upon successful completion, the clinician is notified to consider extubation.
- Until extubation SmartCare®/PS continues to monitor the patient and provides ventilatory support as needed.

Increase ventilatory support when needed

- The ventilatory situation is continuously monitored, assessed and classified.
- The weaning plan's knowledge base also contains measures to increase ventilatory support when required.
- The caregiver can override automatic settings at any time and will be alerted in case of critical events.

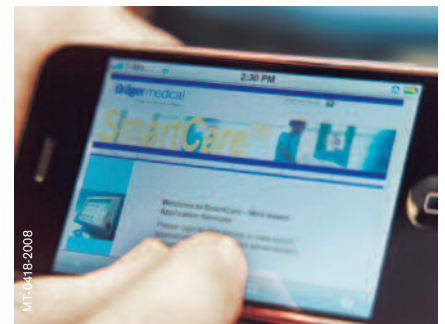
"The most significant realization comes from the fact that the weaning process is continuous and does not necessarily rely on the availability or constant presence of the practitioner to be at the bedside throughout the weaning session."

Phillip Thaut, RRT-NPS, RPFT, Provo, Utah, September 2007



Noninvasive Ventilator

Invasive Ventilation

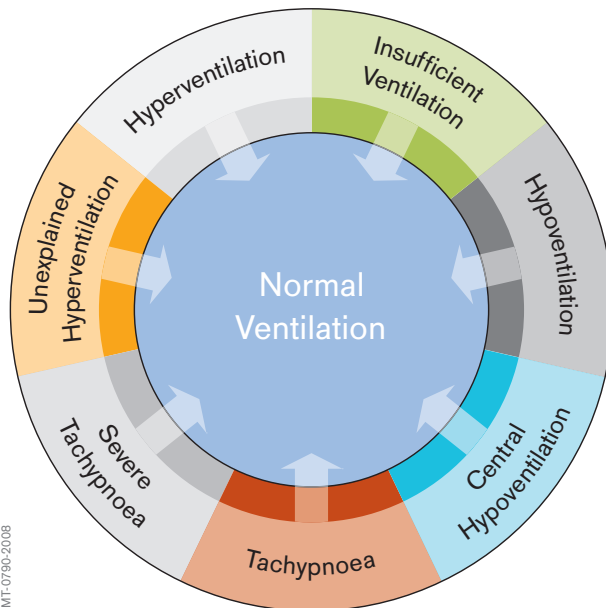


Remote data access for clinical research and documentation purposes



Support reliable recovery with Evita XL

- Seamless transition from invasive to non-invasive ventilation (NIV) in one device.
- NIV in general has been shown to reduce the risk of reintubation[4].



MT-0750-2008

SmartCare®/PS ventilates the patient with conventional pressure support. Breathing frequency, tidal volume and endtidal CO₂ are used to evaluate the proper pressure support to meet the patient's demand.

Based on these parameters SmartCare®/PS classifies the patient a minimum of every five minutes into one of 8 diagnostic categories.

Depending on this evaluation SmartCare®/PS will decrease or increase the pressure support according to the patient's needs.

After a successful automatic spontaneous breathing trial the readiness for extubation is indicated.

Reference:

- [1] MacIntyre, N.; and the writing committee and Task force of the American College of Chest Physicians. Evidence-Based Guidelines for weaning and discontinuing Ventilatory support. Chest 2001;120:375S-395S.
- [2] Lellouche, F. et al.; A Multicenter Randomized Trial of Computer-driven Protocolized Weaning from Mechanical Ventilation. Am J Respir Crit Care Med Vol 174. pp 894 -900, 2006
- [3] Wesley, E.; Effect on the duration of mechanical ventilation of identifying patients capable of breathing spontaneously. N Engl J Med 335:1864, December 19, 1996
- [4] Haddad, B.; An ounce of prevention: Noninvasive ventilation to prevent postextubation respiratory failure. Critical Care 2006, 10: 314
- [5] www.ihl.org

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