

Lowenstein Medical LUISA

non-invasive mechanical ventilator

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Honorary research consultant

Thanks to Nor Pothof

EuroAnaesthesia 2024

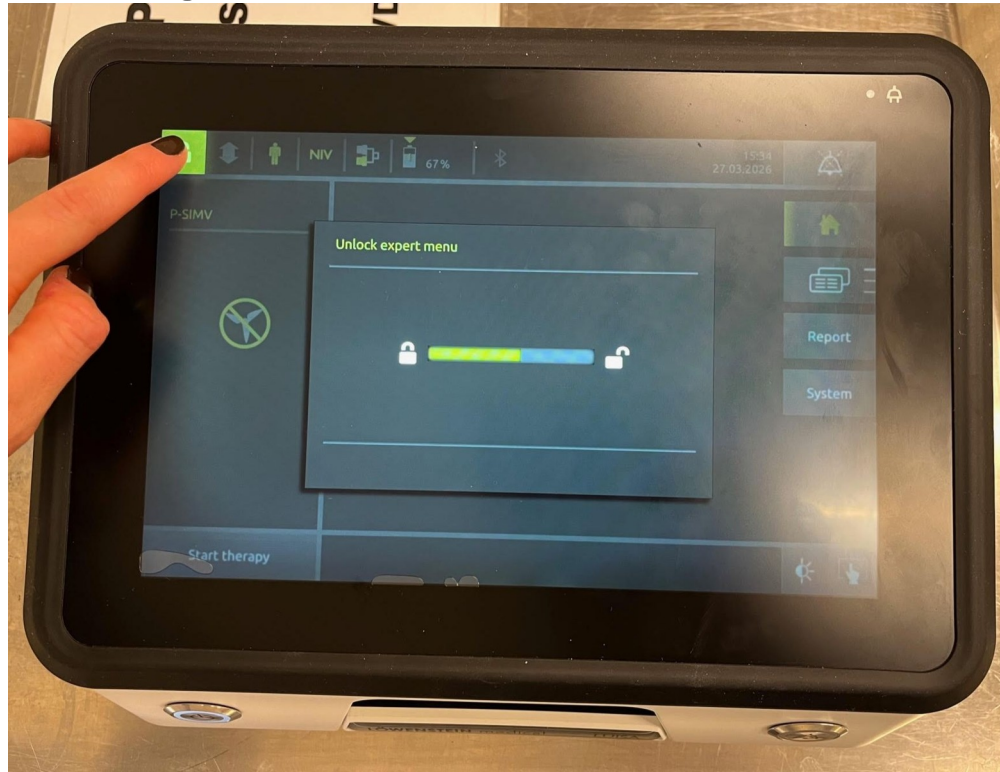
Borrowed ... work in progress

ask Lowenstein representative
Shauna Sheridan



International Symposium Birmingham 2026
Breathing Control for Motion Management
in Radiotherapy and Imaging

Lowenstein Medical LUISA non-invasive mechanical ventilator



Resmed mask holders & head straps

Battery or mains powered

Takes in room air, oxygen input ports

use in Radiotherapy

Unaware of any publications so far

Available for respiratory motion management at

all chest and abdominal sites

breast, mediastinum, lung, oesophagus, stomach, liver, kidney, panceas

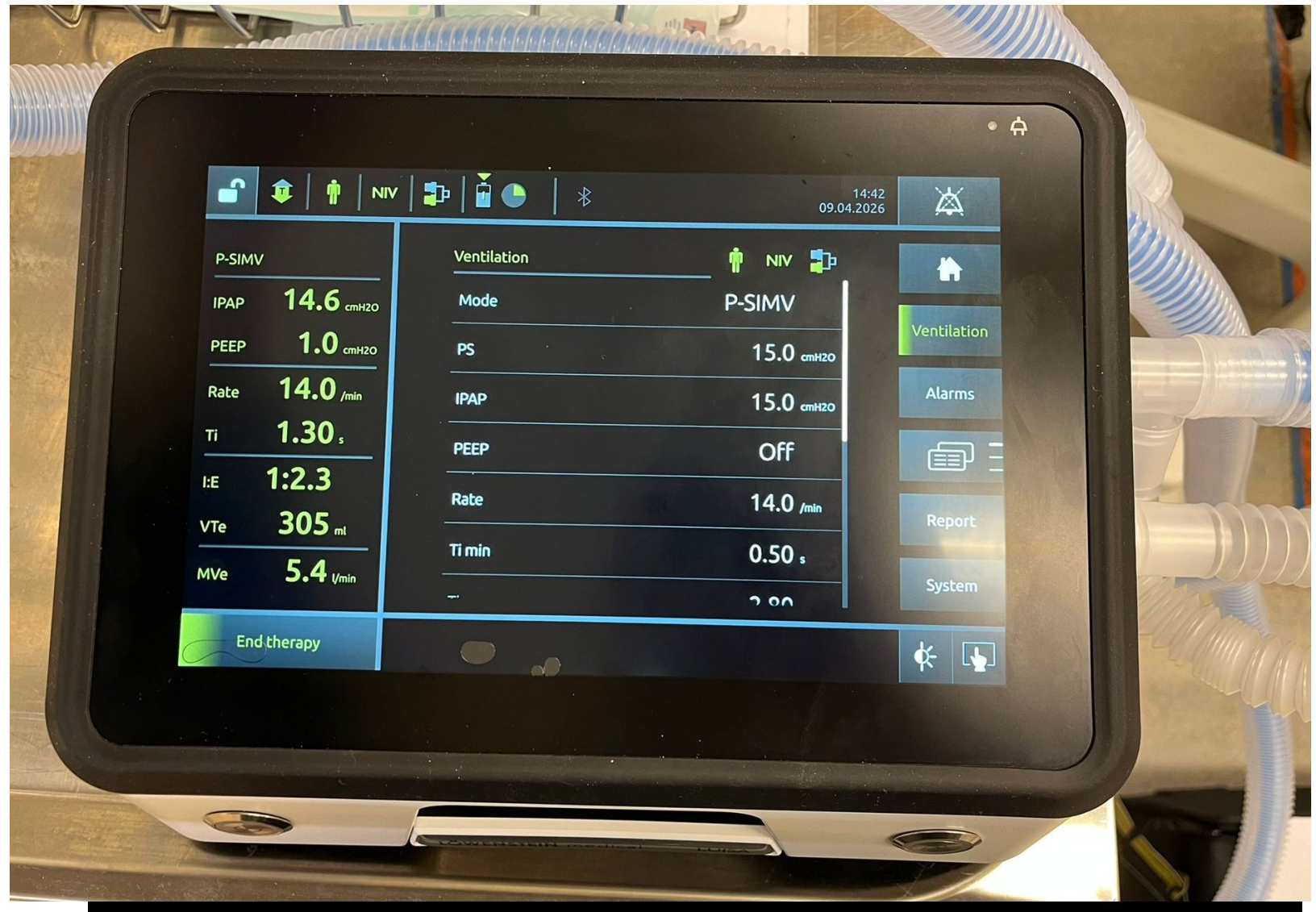
Cardiac ablation

Possible respiratory motion management strategies with Lowenstein Medical LUISA

- All ventilation frequencies ± 0.5 brpm, positive inflation pressures & inflation volumes
- < 2 brpm, 5 brpm, 12 brpm, 30 brpm, 45 brpm, 60 brpm
- All inflation volumes ($\sim 3\text{L}$ to 0.3 L)
- PEEP and CPAP in some modes
- Polygraph continuous monitoring of data
- Can administer 21- 60% oxygen
- mechanically hyperventilate

Screen shots

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Lowenstein Medical LUISA ventilator settings

- Touch screen with double click to confirm
- P-SIMV & other control menus
- Alarms audible, visible and overridable (SpO_2),
- Multiple screen menus
- Pressure/volume controlled ventilator with SpO_2
- displays applied pressures, rate, volume, SpO_2
- Settings downloadable via USB stick

Pros & other of Lowenstein Medical LUISA ventilator

Pros

- portable
- Ease of use
- International availability
- every NIMV strategy
- Lowenstein representatives available

Other

- Not yet RTT programmable
- PCO₂ sensor & monitoring
- Remote monitoring & control
- Lowenstein involvement