

Stellingen behorend bij het proefschrift:

**Optimizing Mechanical Ventilation by Bedside Lung Monitoring Systems in Critically ill Patients**

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1. In critically ill patients, no single PEEP level exists for optimal ventilation of all lung regions (this thesis).
2. Digital subtraction of EIT images, before and after PEEP changes, can clearly visualize improvement and loss of regional ventilation in individual patients and should therefore be used to evaluate PEEP (this thesis).
3. The assumption of a linear relationship between change in global tidal impedance and tidal volume cannot be used to calculate EELV when impedance is measured at only one thoracic level just above the diaphragm (this thesis).
4. Lung Clearance Index and Moment Ratio analysis can be combined with non-invasive EELV measurements, to measure simultaneously EELV and lung inhomogeneity (this thesis).
5. Non-invasive EELV measurements can be performed in adult patients but also in pediatric patients with precision without interruption of mechanical ventilation (this thesis).
6. Critically ill patients with lung disorders have markedly lowered EELV, however treatment by normalization based on EELV alone might improve oxygenation, but at higher airway pressure (this thesis).
7. The main goal of protective ventilation is not the ability to ventilate, but to protect all organ systems from the hazardous effects of positive pressure ventilation.
8. Although lung ultrasound cannot penetrate air, it might be one of the most accessible lung evaluating techniques, including PEEP setting.
9. Reversal of established medical practice is more common than conformation in high impact journal published trials.
10. Elective surgical procedures pose a higher risk of death at Friday or at the weekend (44% and 82% respectively).
11. "Medical science has made such tremendous progress that there is hardly a healthy human left" (Aldous Huxley, 1946).
12. Doing a PhD is getting you a lot of knowledge about your thesis, but more about yourself.