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## Bernhard Dräger Award Winner Investigating Stress Raisers in the Lung - Improved Prediction of Ventilator-induced Lung Injury

Dräger.jpg



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Dr. Massimo Cressoni of the University of Milan has been presented with the 2012 Bernhard Dräger Award at the 25th ESICM LIVES Congress in Lisbon. Dr. Cressoni's research centers on the possible damage of the lung due to mechanical ventilation. Areas of the lung showing greater inhomogeneity may cause mechanical stress and strain to increase by multiples. These "stress raisers" may aggravate ventilation-related lung injuries. The Bernhard Dräger Award is endowed with EUR 15,000.

Cressoni's planned study, "Stress raisers' in Acute Respiratory Distress Syndrome (ARDS)", will use CT (computed tomography) imaging to investigate the relationship between stress raisers and reactive lung inflammation. Transpulmonary pressure, which refers to the difference between the pressure in the pleural cavity and that alveolar pressure, may be locally increased by the presence of stress raisers, injuring the lung. Analysis of the CT readings by means of a specially developed algorithm could calculate pressure conditions within specific sub-areas of the lung and estimate the degree of injury to expect. Cressoni aims to identify the extent to which the presence of stress raisers makes it feasible to mechanically ventilate a patient or whether a patient affected by stress raisers should be switched to alternative methods of gas exchange.

Frank von Rooyen, Business Development Respiratory Care at Dräger, who presented the 2012 Bernhard Dräger Award, comments: "Today we are already able to monitor the distribution of lung ventilation regionally. Additionally Dr. Cressoni's planned study will provide information on regional inhomogeneous lung areas. More precise insights into the lung can help in managing ventilation more safely."

**Bernhard Dräger Award for young researchers** The European Society of Intensive Care Medicine (ESICM) recognizes young researchers in intensive care and emergency medicine annually with the Bernhard Dräger Award. The Society supports improvements in the treatment and care of acute respiratory failure. The prize money is donated by Dräger, a leading international company in the fields of medical and safety technology. The Bernhard Dräger Award is named for the son of the company's founder Heinrich Dräger. Dr. Ing. h.c. Bernhard Dräger (1870-1928) developed numerous patents and utility models for the company. Among other innovations, he was involved in the development of the Pulmotor, the world's first series-produced emergency ventilator (1907).

**Source:** *Dräger*

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