

TOTAL ARTERIOVENOUS CO₂ REMOVAL: SIMPLIFYING EXTRACORPOREAL SUPPORT FOR RESPIRATORY FAILURE

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Objective

Describe the concept of extracorporeal CO₂ removal.

Study Design

Experimental study in a large animal model in two settings: healthy animals to evaluate performance characteristics and animals with burn induced respiratory failure to evaluate application.

Study Population

10 adult suffolk ewes (5 in each setting).

Methods

Setting 1: Animals were placed on extrapulmonary lung assist and respirator settings and flows changed to evaluate performance of the extrapulmonary system.

Setting 2: 24 hours after induction of respiratory failure animals were placed on the system for 6 hours and again ventilator settings varied.

Results

All animals survived the procedure. Respirator settings could be adjusted to less damaging values. Method showed to be efficient and safe.

Commentary

This early paper shows that extrapulmonary lung assist is a valid option and in comparison to standard pump based ECMO less complicated, safe and efficient.

