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**Title:** Comparison of two techniques of chest physiotherapy in experimental model of atelectasis in newborn pigs

Prof. Dr Talitha 17541 Comaru talihacomaru@hotmail.com<sup>1</sup>, Ms. Priscila 17542 Padoim pri.padoim@gmail.com<sup>2</sup>, Ms. Jaqueline 17543 Stivanin jaquebstivanin@hotmail.com<sup>2</sup> and Prof. Dr Humberto 17544 Fiori hfiori@pucrs.br<sup>2</sup>. <sup>1</sup> Instituto de Educação e Pesquisa, Hospital Moinhos de Vento, Porto Alegre, RS, Brazil, 90 035 001 and <sup>2</sup> Faculdade de Medicina, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, RS, Brazil, 90 610 000 .

**Body:** Objective: To compare the effectiveness of two techniques of respiratory therapy in an experimental model of atelectasis by bronchial obstruction in newborn pigs. Methods: 24 pigs sedated, tracheostomized and mechanically ventilated. For the induction of atelectasis, artificial mucus was infused (Poly(ethylene oxide), Sigma-Aldrich™, USA) using an infusion pump through the tracheal tube. Confirmation of atelectasis was a chest X-ray and by a pressure drop of oxygen in arterial blood. The animals were divided into 3 groups: group 1 that received tracheal aspiration after 20 minutes of confirmation of atelectasis, group 2 underwent the technique of bag squeezing over tracheal aspiration and group 3 underwent vibration chest. To evaluate the effectiveness of techniques one second X-ray was done. To evaluate the changes during the procedures were performed arterial blood gases and pulmonary mechanics evaluation before and after the induction of atelectasis immediately and 30 minutes after the procedure. Results: The mean percentage change in the PO<sub>2</sub> was statistically detect significant between the groups (control: 97,80±37,33, bag squeezing: 166,75±68,63 e vibration: 104,41±45,45, p=0,0408), with improvement in oxygenation in the group undergoing the technique of bag squeezing. The remaining variables did not differ. Conclusions: the results suggest that the technique of bag squeezing is more efficient than manual vibration chest in these animal model, but clinical improvement was not accompanied by detectable radiological improvement.