

European Respiratory Society Annual Congress 2012

Abstract Number: 5119

Publication Number: P3589

Abstract Group: 1.4. Interventional Pulmonology

Keyword 1: Bronchoscopy **Keyword 2:** Education **Keyword 3:** Treatments

Title: Models must be able to bleed – The real interventional bleeding simulator a new training model for interventional bronchoscopy procedures as a sufficient substitute for training on live animals

Dr. Martin 19352 Hackl martin.hackl@tilak.at MD ¹, Dr. Armin 19353 Sulzmann armin.sulzmann@prodesign-entwicklung.de ², Mr. Michael 19354 Luelf michael.luelf@prodesign-entwicklung.de ², Mr. Klaus 19355 Lemke klaus.lemke@prodesign-entwicklung.de ² and Dr. Herbert 19356 Jamnig herbert.jamnig@tilak.at MD ¹. ¹ Center of Pneumology, TILAK-LKH Natters, Natters, Austria, 6161 and ² PROdesign, ArtiCHEST, Heiligkreuzsteinach, Heidelberg, Germany, 69253 .

Body: Introduction: Until now bleeding could be only trained on live pigs. Background: The current available models are not able to demonstrate acute endobronchial bleedings. Methods: We developed a new Biosimulation model for interventional bronchoscopy including a real-life-simulation of bleeding in bronchial tree. The model contains 2 transparent covers, a full expanded pig lung, an intubation head and an artificial diaphragm. We inserted "endobronchial tumors" and simulated different realistic bleeding situations with artificial blood. Results: At an interventional training course organized by the Austrian Society of Pneumology (2010/2011) the simulator allowed the trainees different simulated bleedings. The feedback given by all the 32 trainees showed a convincing and realistic effect for all interventional procedures. Furthermore the possibility of managing the bleeding situation with e.g. balloon catheter, tamponade, APC Beamer and stenting could be trained.

RIB- Simulator	Training on live pigs
Repeatable massive hemorrhage (A)	One massive hemorrhage possible (D)
In every room (A)	Only in operating room (D)
Uninfectious artificial blood (A)	Blood potentially infectious (D)
Adaptable tracheal length (A)	Limited use of rigid tools (long trachea) (D)
Exchangeable lungs, pediatric model (A)	"life atmosphere" (A) General anesthesia (D)
Low costs (A) no vet (A)	Total costs high (D)
Advantage=(A) Disadvantage (D)	

Conclusions: The RIB-Simulator will restore the training on live pigs in future and will be helpful to develop

algorithms for all interventional procedures especially connected to the handling of bleedings.