

# European Respiratory Society Annual Congress 2013

**Abstract Number:** 2517

**Publication Number:** 5038

**Abstract Group:** 1.1. Clinical Problems

**Keyword 1:** Pleura **Keyword 2:** Experimental approaches **Keyword 3:** Physiological diagnostic services

**Title:** The use of digital devices to quantify air leak in pneumothorax

Dr. Georgia 3155 Tunnicliffe GeorgiaT@doctors.net.uk MD <sup>1</sup>, Dr. Yee Ean 30026 Ong Yee-Ean.Ong@stgeorges.nhs.uk MD <sup>1</sup>, Dr. Adrian 3156 Draper adrian.draper@nhs.net MD <sup>1</sup> and Dr. Lucy 30027 Schomberg lucyschomberg@doctors.org.u MD <sup>2</sup>. <sup>1</sup> Respiratory Medicine, St Georges Hospital NHS Trust, London, United Kingdom and <sup>2</sup> Respiratory Medicine, Kings College Hospital, London, United Kingdom .

**Body:** Although spontaneous pneumothorax is a relatively common medical problem its management can be complex. Recently there has been increasing usage of digital systems within cardio-thoracic surgery to quantify air leaks and aid in clinical decision making regarding the removal of chest drains post-operatively. The literature suggests improved agreement between surgeons on timing of removal of chest drains, reduced length of stay of patients and an estimated saving of approximately €750 per patient. It could be that such devices could be useful tool in managing cases of pneumothorax. Following ethics panel review, this pilot study recruited adults admitted with a pneumothorax requiring a chest drain. Participants had the underwater seal device changed for a digital device which allowed continuous monitoring of the air leak. Drains were removed when either there was no ongoing air leak and the lung had expanded, or surgery was deemed necessary. 8 patients with pneumothorax (2 primary, 6 secondary) had a digital drainage box during their admission. One patient who required prolonged suction was able to have this at home as the device has internal suction. Data was used to aid the clinician in management of the pneumothorax including the timing of surgery/ removal of drain and commencement of suction.

Digital devices appear to be safe and effective and may prove to be a useful tool in the management of pneumothorax.