necessary. In 21/82 cases INSURE was not successful. In the unsuccessful group patients were not significantly younger and smaller. Procalcitonin levels at the age of one day were significantly higher the group of unsuccessful cases. III-IV Gr. IVH occurred in 6/82 necrotizing enterocolitis in 7/82 and bronchopulmonary dysplasia in 7/82 cases. Complications were more frequent in those cases whose INSURE therapy was unsuccessful.
Conclusions The introduction of INSURE-therapy grossly decreased the need for invasive respiratory support. High procalcitonin levels and clinical manifestations of early neonatal infections as well as low birth weight negatively influenced the success of INSURE-therapy.

PO-0766 EXPLORING A PHYSIOLOGICAL DEFINITION FOR BRONCHOPULMONARY DYSPLASIA

[1]A Kavanagh, [1]A Hollitt, [1]E Skuza, [1]P Berger, [2]JG Jones, [3]GG Lockwood, [4]K Tan. *[1]The Ritchie Centre, Monash Institute of Medical Research, Melbourne, Australia; [2]University Department of Anaesthesia, Addenbrookes Hospital, Cambridge, UK; [3]Anaesthetic Department, Hammersmith Hospital, London, UK; [4]Monash Newborn, Monash Medical Centre, Melbourne, Australia*

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Background and aims Current definitions for bronchopulmonary dysplasia (BPD) lack objectivity. A physiological definition for BPD where the level of shunt and the reduction in ventilation-perfusion ratio serve as an objective grading of severity has been suggested. Shunt and reduced VA:Q can be measured non-invasively by determining the relationship of arterial oxygen saturations (SpO2) to the fraction of inspired oxygen (FiO2). Our aims were to: 1. quantify shunt and reduced VA:Q in infants with BPD and in preterm infants without BPD. 2.correlate shunt and VA:Q to clinical grading of severity where possible
Methods The group study population consisted of 10 infants (two with 'No BPD', two with 'Mild BPD' and six with 'Severe BPD') based on the NIH grades of BPD severity. Stepwise alterations in FiO2 were made, whilst ensuring infants stayed within the Monash Newborn SpO2 alarm limits. A two compartmental model of gas exchange was used to derive the SpO2 vs. FiO2 curves and values for shunt and VA:Q.
Results Five out of six infants with 'Severe BPD' and one infant with 'Mild BPD' had VA:Q well below normal, range 0.34 to 0.56. Two infants with 'No BPD' and two infants with BPD, had SpO2 vs. FiO2 curves suggesting no impairment in gas exchange. The level of shunt and reduction in VA:Q did not consistently reflect the clinical grading of BPD.
Conclusions Our results reinforce the need for a more objective definition of BPD as the possibility of misclassification using the clinical definition occurred on three occasions.

PO-0767 OVERNIGHT PULSE OXIMETRY STUDIES FOR PRETERM INFANTS WITH CHRONIC NEONATAL LUNG DISEASE – AN AUDIT FROM A LEVEL III NICU

[1]A Resdiani, [2]M Ibrahim, [3]P Berger, [2]K Tan. *[1]Department of Paediatrics, Monash University, Melbourne, Australia; [2]Monash Newborn, Monash Medical Centre, Melbourne, Australia; [3]The Ritchie Centre, Monash Institute of Medical Research, Melbourne, Australia*

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Background and aims Infants with chronic neonatal lung disease (CNLD) often require home oxygen therapy. Overnight pulse oximetry monitoring (12–18 h duration) is useful for confirming need for oxygen therapy. We aimed to audit practise in our NICU after implementation of changes in our unit's overnight oximetry monitoring policy (Masimo Rad 7 pulse oximeters, PROFOX analysis software and new clinical protocol).
Methods We conducted a retrospective review of overnight oximetry from two full year (Jan 2012–Dec 2013). Clinical data were abstracted from medical records and archived oximetry reports generated from PROFOX were also retrieved.
Results 57 infants with CNLD had overnight oximetry performed in our centre with about two studies each.

Abstract PO-0767 Table 1

	2012	2013	p-value
Infants with CNLD	27	30	
Number of studies	61	64	
Median Gestational Age (days)	27 (23–32)	26.5 (23–30)	
Median Postnatal Age Studied (days)	110 (14–326)	104.5 (20–822)	
Median time from discharge of oximetry (days)	8.1 ± 7.5	7.9 ± 5.3	0.88
Median oxygen flow-rate (L/min)	0.125 (0–0.5)	0.05 (0–0.5)	0.41
No of studies changing oxygen therapy (%)	19 (31.1)	29 (45.3)	0.19
Infants -home oxygen therapy (%)	16 (59.3)	22 (73.3)	0.19
Median Recording Time (Hr)	12.3 (0.08–25.5)	12.5 (7.4–111.5)	0.12
Desaturation Events >3 min	6 (0–19)	7 (0–50)	
Desaturation Events <3 min	212 (25–1102)	313.5 (28–1605)	

Conclusions Overnight oximetry studies were performed just over 7 days from discharge; with the PROFOX reports increasingly affecting a change in oxygen therapy (flow rate delivered). These infants also experienced numerous brief oxygen desaturations. There was an increased trend of infants discharged home with oxygen.

PO-0768 EVALUATION OF VENTILATORY PARAMETERS, SHORT AND LONG TERM MORBIDITIES IN PRETERMS VENTILATED WITH EITHER PSV+VG OR SIMV+VG

S Unal, E Ergenekon, S Aktas, N Altuntas, S Beken, E Kazanci, F Kulali, IM Hirfanoglu, E Onal, C Turkyilmaz, E Koc, Y Atalay. *Department of Pediatrics Division of Neonatology, Gazi University Faculty of Medicine, Ankara, Turkey*

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Introduction Volume guarantee (VG) ventilation is frequently used for newborns, mostly combined with SIMV or A/C modes. Aim of this study was to compare effect of SIMV+VG or PSV +VG ventilation on ventilatory and laboratory parameters and clinical findings.
Patients and methods Preterms with RDS < 34thgestational age (GA)requiring mechanical ventilation in the first 12 h were randomised to either SIMV+VG or PSV+VG after surfactant treatment. Patients were ventilated with Draeger Babylog 8000+. Set and measured ventilatory parameters were downloaded by Babyview® software for 72 h unless extubation or need for HFO ventilation occurred. Actual peak inspiratory pressure (PIP), set and measured tidal volume (TV), mean airway pressure (MAP) and FiO_2 were analysed. If measured TV percentage was between 80–120% of set TV, it was considered appropriate.