# Abstracts

## CAUSE OF RESPIRATORY DISTRESS IN NEONATAL INTENSIVE CARE UNIT: A RETROSPECTIVE EVALUATION

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### Purpose
To determine the demographic characteristics of the newborns with respiratory difficulties, frequency of neonatal disease, analyze of the prognostic factors and effectiveness of treatment who were hospitalized in NICU of our hospital between 2008 and 2009.

### Methods
In this study, file records of the newborns who were hospitalized in NICU of Selcuk University, Meram Medical School were analyzed retrospectively.

### Results
Of the 771 newborns, 225 who admitted due to respiratory distress in 2008 and of the 692 newborns, 282 who admitted due to respiratory distress in 2009. Mean birth weight was 1954±972gr in 2008, and 2140±1009gr in 2009. Mean pregnancy weeks were 32±5.0 in 2008 and 33.4±4.9 in 2009. Diagnosis of patients were sepsis (77.8%), respiratory distress syndrome (RDS) (40.4%), pneumothorax (20.9%), patent ductus arteriosus (PDA) (12.4%), meconium aspiration syndrome (MAS) (6.2%), intraventricular hemorrhage (IVH) (5.3%), pneumonia (3.6%), retinopathy of prematurity (ROP) (3.1%), bronchopulmonary dysplasia (BPD) (2.7%) and transient tachypne of newborn (TTN) (2.2%) in 2008. In 2009, percentage of the diagnosis was 69.5% sepsis, 33.3% RDS, 17.0% PDA, 16.0% pneumothorax, 10.3% pneumonia, 8.2% IVH, 6% TTN, 5.3% BPD, 3.2% MAS and 3.2% ROP. 35.7% of the patients were died in 2009 and 43.6% of them in 2008.

### Conclusion
The newborns with respiratory distress who admitted to the hospital must be arranged according to the pregnancy week, way of birth and accompanying problems during first examination and convenient transportation of the ones who need to be cared in advanced center where an intensive care support can be applied to decrease mortality and morbidity of newborns distress.

## RESPONSE THRESHOLDS TO PULSE OXIMETRY ALARMS IN THE NICU - AN OBSERVATIONAL STUDY

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### Background and Aims
Manual control of oxygen delivery to premature infants is conducted mainly by NICU nurses. This involves FIO2 adjustments in order to keep the SPO2 within a specific target range (88–92%). Pulse oximeters have alarms set to alert the nurses when SPO2 values are outside the range (85–95%). Our aims were to study FIO2 alteration in terms of magnitude and time outside target immediately before the FIO2 change.

### Methods
Infants receiving CPAP or ventilation on the Babylog 8000 ventilator (Dec 2010- Apr 2012) were studied. Signals were acquired from oximeters and ventilator using the PowerLab data acquisition system. The 9-minute epoch prior to each FIO2 change was studied. The 9-minute epoch prior to each FIO2 change was studied. The 9-minute epoch prior to each FIO2 change was studied.

### Results
Recordings were obtained from 7 (6 male) infants with mean (± SD) gestation of 26.9 (±1.9) weeks and birthweight 767 (±200) g. 253 FIO2 adjustments were recorded (130 ΔPOS and 123 ΔNEG) from 105 hours of total recording time. Mean (range) magnitude of ΔPOS and ΔNEG was 4.6% (0.5–19.5) and 4.5% (0.5–57.0), respectively. Proportion time spent with low alarm in the 9 minutes before ΔPOS was 50.8%, with 28.4% (±11.4) time SPO2 exceeding 98% and 7.7% (±11.4) in 96–98% band.

### Conclusion
Nurses were more likely to tolerate low oxygen saturations than high saturations in preterm infants. Mild desaturation episodes (between 80–85%) were often managed conservatively.

## THE EVALUATION OF LUNG FUNCTION MEASURED BY IMPULSE OSCILLOMETER METHOD IN VERY LOW BIRTH WEIGHT BORN CHILDREN AT PRESCHOOL AGE

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### Purpose
Chronic lung disease is one of the most important complications of prematurity and results in short and long-term morbidity. Survival of more prematurely born babies leads to an increase in the incidence of bronchopulmonary dysplasia (BPD).

### The Aim
of this study is to evaluate the lung function of babies who were born under birth weight of 1500 grams using impulse oscillometry in preschool age.

### Results
Eighty-six children who were 3–6 years old and followed in our neonatology clinic (born under birth weight of 1500 grams) were enrolled in the study as the patient group and 40 term-born healthy children as the control group. The demographic data of the patients, duration of mechanical ventilation and oxygen therapy and presence of BPD were recorded. After routine physical examination, lung functions of the patients were measured by impulse oscillometry. The data were evaluated by SPSS 16 program.

### Conclusion
In conclusion; although premature babies can catch-up their peers at 3–4 years old in terms of their body percentiles, their lungs still reflect the traces of prematurity.

## A MUSICAL MNEMONIC IMPROVES THE CONTROL OF CHEST COMPRESSIONS AND MANUAL VENTILATION DURING SIMULATED NEONATAL CARDIOPULMONARY RESUSCITATION (CPR)

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### Background
Many healthcare professionals have long considered CPR an inexact science and are not always able to recall the correct series of actions to perform. This problem is particularly prominent in the neonatal setting, where the significance of correct CPR is even more pronounced due to the small size and high metabolic rate of the neonate.

### Aim
The aim of this study was to evaluate the efficacy of a musical mnemonic in improving the manual ventilation and chest compressions with CPR in simulated neonates.

### Methods
A total of 24 neonatal nurses from the Ritchie Centre participated in this study. They were divided into two equal groups: Group A received the study intervention, while Group B was the control group.

### Intervention
The study intervention involved teaching the nurses a musical mnemonic, which includes a song and a corresponding hand movement sequence, to assist them in remembering the correct sequence of actions during CPR.

### Results
The study intervention was found to be effective in improving the manual ventilation and chest compressions with CPR during simulated neonatal episodes. The nurses in Group A demonstrated significantly better performance in terms of ventilation and chest compression rates compared to the nurses in Group B.

### Conclusion
The implementation of a musical mnemonic has the potential to improve the performance of neonatal nurses during CPR. This could lead to better outcomes and potentially save lives in neonatal resuscitation episodes.