

# Benefits of Oxygen Saturation Targeting



## Background

### *A healthy start for premature infants*

Each year, about 850 children born <28 weeks' gestation are admitted to neonatal intensive care units (NICUs) in Australia and about 75% are discharged home alive. Despite nearly normal life expectancy many survivors sustain severe morbidity. Their risk of chronic lung disease, poor growth, respiratory illness, hospital re-admissions, visual deficits, cerebral palsy, sensori-neural disability and cognitive, educational and behavioural impairment is higher than in term infants. They account for much of the costs and disability from NICU care. Their risk of visual deficit may be increasing. Reducing these morbidities would enhance their quality of life and benefit their family and the community.

## Aim

To investigate the effect of two oxygen saturation levels within the range of common clinical practice on the health of very premature infants

The Australian BOOST II study is a multi- centred double masked randomised controlled trial (RCT) of 1200 infants below 28 weeks gestation. It is run by Chief investigator: Prof William Tarnow Mordi from the Clinical Trials Centre in Sydney. It will test whether varying inspired oxygen concentration so as to target the lower (85-89%) versus the higher end (91-95%) of a range of arterial oxygen saturation (SpO<sub>2</sub>) in common use worldwide (85 – 95%), from the day of birth until breathing air, reduces severe retinopathy of prematurity (ROP), chronic lung disease, poor growth and the use of health service resources, with no clinically significant change in the combined outcome of mortality or major disability at 2 years.

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