

Premature babies to benefit from breathing-support trial

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(PhysOrg.com) -- A North West trial of alternatives to ventilators for helping premature babies to breathe could reduce the risk of lung problems and other complications for around 7,000 babies a year.

Led by The University of Manchester's Dr Suresh Victor, based in the Newborn Intensive Care Unit at Saint Mary's Hospital in Manchester, the study also involves several neonatal units from the North West of England.

The team from the 'Extubate Trial' will look at two alternatives to long-term use of a ventilator, to see which helps [premature babies](#) the most. They have been awarded funding of £240,000 by the National Institute for Health Research (NIHR) to carry out the three-year trial.

Dr Victor, who is a clinical lecturer in the University's School of Biomedicine, said: "Babies born prematurely have breathing difficulties and need support from a ventilator, which gives them regular breaths through a breathing tube in the wind pipe. The process of removing the tube, known as extubation, and allowing the baby to breathe on its own does not always go to plan. Around a quarter of babies need to have the breathing tube replaced in the wind pipe. This can be traumatic and spending more time on the ventilator can damage the baby's immature lungs.

"Continuous Positive Airway Pressure (n-CPAP) and Biphasic Positive Airway Pressure (n-BiPAP) are ways of supporting breathing that are

less invasive - they use tubes that go only a few millimetres into the nostril. n-CPAP produces a constant pressure at the nose that is transmitted to the lungs. n-BiPAP produces a constant pressure and also gives extra breaths. We want to find out if these extra breaths will give the baby the added support needed to stay off the ventilator.”

The trial will involve up to 540 babies born before 30 weeks’ gestation and who are less than two weeks old. They will randomly receive either n-CPAP or n-BiPAP, with the research team monitoring which device allows the baby to breathe most comfortably and stay off the ventilator.

A group of parents of premature babies, who are actively involved with the research group at the NIHR Manchester Biomedical Research Centre, have played an important role in designing the trial. They will continue helping the team during the study and will be involved in communicating the results at the end of it.

Uma Aziz, a parent who is supporting the study said: "As a parent of a child born at 25 weeks, I think this study is of paramount importance, especially as more and more preterm babies are surviving. Our baby was on a ventilator, on n-CPAP and n-BiPAP at various stages of her stay in the neonatal unit, so we are quite excited about the study and its findings and subsequent recommendations."

Dr Victor added: “Early and successful extubation would mean that premature babies will spend less time on the ventilator. This will reduce the chances of injury to the baby’s lungs and allow for more efficient use of intensive care cots at specialist centres. It would also mean that babies can be moved sooner to hospitals closer to their homes. Many neonatal units across the country already have n-CPAP or n-BiPAP equipment, so whichever alternative proves the most successful can quickly be adopted as the preferred method.”

Provided by University of Manchester

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