Improving lung function in prematurely-born children

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Credit: Cardiff University

A Cardiff-based research project which aims to improve lung function in prematurely-born children is expanding to target more participants.

Born Early Breathe Easy (Bebe), is aiming to establish if lung problems which are common in babies born early can be effectively treated.

The research at Cardiff University and Bangor University is studying children aged seven to 12 to investigate how well their lungs function.

Over 1,000 premature and term-born participants are undertaking breathing tests at home then having more extensive investigations at the Children's Hospital at University Hospital of Wales (UHW) in Cardiff.

Researchers believe some children born before 34 weeks have breathing difficulties that are either not being detected or misdiagnosed as asthma.

Up to 200 premature children found to have low lung function are being invited to join a 12-week inhaler trial and given two of three different inhalers to take every day. Two of the inhalers contain a particular drug each, while the third is a dummy inhaler.

Some children with normal breathing, either prematurely-born or term births, are also taking part to act as control subjects.

At the end of the 12 weeks, the children return to hospital to repeat the tests to see if the inhalers have improved their breathing. A number of them will also have a specialised MRI scan of their lungs at Sheffield University to investigate their lung function further.

A further round of invitations to join the study is being issued to children across south, west and mid Wales, some of whom took part in a previous questionnaire study, named RHiNO (Respiratory Health in Newborns), sent to 26,000 families in 2013.

One of the participants is nine-year-old Tom Stevens, of Cardiff. Tom was born extremely prematurely at 24 weeks and spent four months on the neonatal unit in hospital before going home a few days before he should have been born.

Tom needed heart, eye and hernia surgery and spent a further six weeks in hospital during his first two years because of breathing problems.

He still receives care from staff at UHW for his respiratory problems.

His mother Justine said: "It is undoubted that without the excellent care of the nurses and doctors, Tom would not be here today.

"The Bebe study information was sent to us, and both Tom and I agreed that it was important to volunteer with the research as there are only a small percentage of children eligible to participate. We hope the findings of the study will benefit other ex-premature babies and their families."

Professor Sailesh Kotecha, who is leading the study, said: "There is no doubt that many babies who were born prematurely develop lung disease as they grow up but it is unclear why children born prematurely develop lung disease. Disappointingly, we don't know how to treat the lung disease in these children.

"Our study is by far the largest in the world aiming to understand both why these children develop lung disease but also to test which inhalers are the best to use for the lung disease that prematurely born children have."

Provided by Cardiff University

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