

Tests to bolster lung function later in life

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Credit: AI-generated image ([disclaimer](#))

Scientists have recommended a combination of lung function tests for prematurely born babies and children to help prevent the worsening of chronic respiratory disease throughout adulthood.

Telethon Kids Institute researcher Dr Shannon Simpson says neonatal units do not currently organise respiratory follow-up assessments for [premature babies](#) after discharge unless patients have severe respiratory

disorders.

"Patients with the lung disease, bronchopulmonary dysplasia (BPD), when they were born often experience poor [lung function](#) throughout their lives," Dr Simpson says.

"These patients may benefit from regular lung function assessments during infancy, childhood and adulthood so further respiratory problems can be prevented before they occur, or their degree of severity lessened if they do occur."

In their review of existing tests, researchers recommend combining lung function tests to assess the aspects of respiratory function known to be impaired in BPD, such as the development of tiny air sacs in the lungs (alveoli) and blood circulation for exchanging gas.

Dr Simpson says this review was necessary because premature babies' lung physiology changed in the 1990s due to advancements in neonatal care.

This has led to increased survival rates of smaller, more preterm babies and the long term impacts of these changes remains unknown.

Lifesaving treatments can lead to complications

"Necessary and lifesaving treatments for premature babies that started being used twenty years ago can lead to BPD, one of the most significant complications of preterm birth and the most common form of chronic [lung disease](#) in infancy," Dr Simpson says.

"Neonatologists often have to give babies born under 32 weeks oxygen and mechanical ventilation to survive which, when given for more than one month, alters the way lungs grow.

"The introduction of maternal steroids, surfactant therapy use and less aggressive ventilation strategies has significantly contributed to increased survival of very premature babies, who now appear to be a population of young adults with continuing respiratory disorders."

Premature children now aged 9-12 show signs of impaired lung function and 50 per cent of these children who were premature report breathing problems when they exercise.

"In addition to regular respiratory assessments, children and adolescents would benefit from education that promotes a healthy, active lifestyle that includes no smoking to reduce their risk of developing further complications," Dr Simpson says.

Dr Simpson is now studying premature babies' lung function at 36 weeks and one year old.

This research aims to predict which respiratory complications are most important in patients born prematurely.

More information: "Lung function following very preterm birth in the era of 'new' bronchopulmonary dysplasia." *Respirology*. 2015 May;20(4):535-40. [DOI: 10.1111/resp.12503](https://doi.org/10.1111/resp.12503)

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