

26 July 2023

Australia Cystic Fibrosis Research Trust
Cystic Fibrosis Australia

Re: Project Progress Report: *Improving detection and assessment of lung disease in young children with CF*

Dear Cystic Fibrosis Research Limited (CFRL) and Cystic Fibrosis Australia (CFA),

Firstly, thank you for your continued support of our research and my apologies for the delay in submitting this update.

Our study aims to improve our understanding of intra-breath oscillometry (IB-OSC) measurements in infants and young children with CF, and how this technique can be used clinically in this age group. To date we have recruited 41 participants between 0-3 years of age and performed 130 x IB-OSC and 48 x multiple breath washout (MBW) measurements. Preliminary analysis has shown that IB-OSC measurements are sensitive to early changes occurring within the lungs of very young CF children, with equal sensitivity compared to more timely and challenging techniques. We have found that the feasibility of this new technique is as high as 96% in this age group, with successful testing sessions being completed typically within 15-20 minutes. This is a considerable improvement over other gold standard techniques including spirometry and MBW, which are difficult or sometimes impossible to perform in younger patients or require lengthy and complex setups to achieve in busy clinical settings.

Preliminary findings have been presented at the 2023 American Thoracic Society (ATS) Annual Scientific Conference at Washington, DC., and we also have plans to present findings at upcoming local conferences at the end of the year. We plan to continue recruiting participants who attend CF clinics at the Queensland Children's Hospital. I hope that we will be able to recruit a further 15-20 participants. Lung function measurements will continue to be collected at routine clinic visits. This will allow for sufficient data points to properly explore changes in IB-OSC measurements in response to changing clinical status and therapies (if applicable).

Yours sincerely,
Tamara

Dr Tamara Blake

Group leader; Respiratory Physiology
Children's Health Environment Program (CHEP)
PhD, MCISc, BBSc (Hons)

Child Health Research Centre
The University of Queensland
Level 7, Centre for Children's Health Research
62 Graham Street
Brisbane Qld 4101 Australia

T +61 7 3069 7415 F +61 7 3069 7159

E t.blake@uq.edu.au W <https://child-health-research.centre.uq.edu.au/research>

