

CASE STUDY

DRIVEN TO FIND A CURE FOR CYSTIC FIBROSIS

Following the diagnosis of his daughter Ella with cystic fibrosis, Nigel Farrow was driven to a career in medical science to work towards a cure for this debilitating disease.

At the age of 39, Nigel left his career in music and enrolled in a medical science degree at the University of Adelaide. Nigel joined the Robinson Institute in 2010 after receiving an Honours Scholarship from the Institute to investigate innovative approaches for cystic fibrosis treatment using stem cells.

Cystic fibrosis is the most common inherited genetic condition affecting young Australians, with a child being born with the disease every four days. Currently, over 3,000 children and young adults in Australia are living with the condition.

It is caused by a mutation in the gene that regulates sweat, digestive juices, and mucus in the lungs. Repeated infections and blockages can cause irreversible lung damage and death. Mucus can also cause problems in the pancreas, preventing the release of enzymes needed for the digestion of food.

The aim of Nigel's research is to use a modified virus to "carry" the therapeutic or "wanted" gene into the body to reach airway stem cells.

The gene's characteristics would then be passed on to those stem cells, producing the correct daughter cells to improve lung function and provide a better quality of life for cystic fibrosis patients.

Nigel says that this research provides an "entirely new way to do medicine. But more research needs to be conducted to be completely sure that it works and is safe to eventually give to children born with cystic fibrosis."

Nigel has recently been awarded an MS McLeod PhD Scholarship worth \$75,000 to continue his quest for a cure.

He will use this funding over a three-year period to investigate ways of correcting the cellular defects that cause cystic fibrosis, particularly looking at the role of stem cells in the respiratory pathway in sustained corrective gene expression.



Nigel Farrow and his daughter Ella