

2021 ACFRT Post graduate Studentship grant.

“Investigation of factors influencing glucose control in cystic fibrosis”.

During the time of the grant I have been able to undertake the following different projects. Recruitment for some of the projects was slow due to ongoing COVID outbreaks and delivery of project materials to undertake analysis due to world wide shortages. However, I have been able to undertake the following:

My first project – “a retrospective audit of the use of sitagliptin in an adult CF clinic” continues to be write up stage for journal submission. On review it was suggested that we compare my results to a “control” or “untreated” group. This project supports our initial hypothesis that the longterm use of sitagliptin (24 months – 36months) appears to improve glucose control and perhaps lengthen the time from CFIGT to CFRD whilst the control/untreated group displayed some shifts towards worsening glucose control over the same period.

As per my previous grant update this initial project formed the basis of my other 3 projects.

The recruitment of participant and the study procedures of all these projects has completed in addition to the lab work of processing of samples to investigate glucose metabolism.

I am now in the analysis/write up phase attempting to determine:

- Can other measures of glucose metabolism be utilised in CF to determine whether an individual has developed abnormal glucose tolerance (CFIGT, CFRD). Are these measures sensitive and specific enough to replace the standard practice of an oral glucose tolerance test? Specifically comparing OGTT, MMTT, CGMS and HbA1c.
- What are current barriers to undertaking an oral glucose tolerance test (**new research arm/project**)
- Does CFTR modulator therapy make any difference (in this case Orkambi)
- What effects does Sitagliptin have on glucose levels, glucagon, insulin, GLP1, GIP, Cpeptide and CRP
- What are the current gaps that need further consideration especially for those individuals unable to tolerate or qualify for CFTR modulator therapy.