



**Application number/Title:** 22572 - Genetics and Epidemiology of Common Hand Conditions (GECHCo)

**Applicant PI:** Professor Dominic Furniss

**Application Institution:** University of Oxford, UK

**Keywords provided by the Applicant PI to describe the research project:**  
epidemiology, genetics, hand, surgery

**Application Lay Summary:**

The hand is one of the most important parts of the body. It is how we sense and interact with our environment, and is pivotal in our social exchanges. When affected by disease or trauma, it has a profound impact on the function of the individual. Common hand problems consume large amounts of healthcare and societal resources. They are also linked to other non-hand health problems.

Most hand diseases are caused by a combination of genetic predisposition and non-genetic factors. We will investigate both of these factors using the rich UK Biobank resource, with the aim of developing new treatments and preventative strategies. Our project aims to improve the prevention, diagnosis and treatment of common hand conditions and related disorders, for the benefit of the wider public, in line with the stated aims of UK Biobank. We will use genetic and non-genetic (biometric, demographic, health) and other data collected by UK Biobank. We will compare patients with a variety of common hand conditions, (bone, joint, nerve, fascia and tendon), to controls without those conditions. We will explore newly discovered links with other health disorders.

The large dataset provided by UK Biobank will allow us to control for other factors that are known to predispose to common hand conditions and related disorders. We will use the full cohort.