



**Supporting Patients through Education & Research**

## **Lay Summary - Characterisation of the CD4+ and CD8+ T-cells populations in psoriatic arthritis, ankylosing spondylitis and rheumatoid arthritis using single cell sequencing - Prof Mark Lindsay**

### **Comparing the contents of individual immune cells to identify new drug targets in psoriatic arthritis, ankylosing spondylitis and rheumatoid arthritis**

Although there are a range of drugs that can be employed to treat inflammatory joint diseases, there are still a significant proportion of patients whose symptoms are not well controlled. This is particularly the case with those individuals that have psoriatic arthritis and ankylosing spondylitis. Changes in the number and/or types of immune cells are thought to be a major driver of psoriatic arthritis, ankylosing spondylitis as well as rheumatoid arthritis. Despite their importance, the difficulty in obtaining large numbers of these immune cells has prevented a comparison across these rheumatic diseases. To address this question, we propose to measure the contents of 5000-6000 individual immune cells from each disease type and use this information to identify new and/or disease specific populations of immune cells. The identification of new and/or disease specific immune cells could provide the basis for the development of novel drug targets.