Genomics Education Programme

NHS
Health Education England

Daniel Lindsay

Daniel is a Post-CCT Clinical and Research Fellow working at the Royal National Orthopaedic Hospital in North London. Daniel's family are from Liverpool and he was born in Merseyside. Daniel grew up in the Manchester area where he sat his A-levels and then went on to study medicine at the University of Nottingham. Daniel quickly developed an enthusiasm for pathology and an understanding of the mechanisms of disease and was inspired by lectures from Professor James Lowe, an expert Neuropathologist.

In August 2011, Daniel started specialist training in Histopathology at Nottingham University Hospitals and obtained Fellowship of the Royal College of Pathologist's in October 2015. Upon completing his training, he obtained a Clinical and Research Fellowship post at the Royal National Orthopaedic Hospital to develop expertise in soft tissue and bone sarcoma pathology.

Outline of Research (Part Time, Secondment)

Germline alteration in cancer exomes/ genomes

During Daniel's 2-year research project he is aiming to spend 80% of the time undertaking research and 20% of the time providing the clinical service with colleagues at the RNOH.

It is now recognized that a significant number of patients, particularly those under the age of 25, harbour a constitutional predisposition to developing cancer. Osteosarcoma and malignant peripheral nerve sheath tumour (MPNST) are two sarcomas occurring in young patients that are associated with such mutations.

Daniel will analyse germline whole genome sequencing data in these patients to address the unmet need of the interpretation of these alterations in those with sarcoma. He will generate a manually curated germline panel and design a clinical pathway for the interpretation of such data and the delivery of these results to patients in a clinical setting. Daniel then hopes to implement this panel in sarcoma centres across the UK. The somatic mutational landscape of both sporadic and neurofibromatosis associated MPNST will also be analysed.

This research aims to implement the analysis of osteosarcoma and MPNST patient's germline DNA as part of routine practice. This will help to identify those who are at higher risk of developing second malignancies to allow appropriate follow up screening and will inform genetic counselling of family members.