

Launch of National Children's Cancer Trials Team in Birmingham

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Birmingham will be at the forefront of developments in childhood cancer research thanks to the launch of a new centre which will co-ordinate groundbreaking clinical trials across the UK. The Cancer Research UK Children's Clinical Trials Team at the University of Birmingham will play a major role in the development of new treatments for childhood cancers. Dr Pam Kearns reflects on the challenges for childhood cancer treatment in the UK.

The last twenty years have seen huge improvements in the quality of childhood cancer treatment. This is evidenced by the fact that 75% of all children diagnosed with cancer today will survive for at least five years after diagnosis, compared to just 25% in the 1960s.

Patients with retinoblastoma, gonadal germ cell tumours and Hodgkin's lymphoma do particularly well, with five-year survival rates for these conditions of about 95%. However, these real successes hide the significant challenges that still exist in improving childhood cancer treatment. Cancer remains a significant cause of death in childhood. In addition, even for cancers that have effective treatments, those treatments are more toxic than we would like. Treatment toxicity is a particular issue for childhood cancer sufferers who we hope will live 60 or more years after finishing treatment. Unfortunately research done at Birmingham and elsewhere shows that there are long term health implications from receiving certain chemotherapy or radiotherapy treatments that have a major impact on the quality of life for survivors of childhood cancer.

The majority of five-year survivors of childhood cancer may be regarded as cured, but around 10% will die from recurrent tumour or a treatment-related cause during the ensuing 10 years.

At Birmingham, there is a large body of basic and translational research continuing, working towards developing the next generation of therapies that can be better targeted at cancer cells reducing the problems of toxicity to patients. These personalised treatments often involve using viruses to selectively target cancer cells or harnessing the body's own immune system to fight the disease. This is often expensive work to carry out but the potential benefits to patients are immense.

Allied to this is a need for more sophisticated diagnostics. Traditional methods of diagnosing diseases like cancer, such as X-rays, MRI and ct scans and tissue biopsies are important, however new sophisticated modalities, for example, 'functional imaging', have the potential for increased sensitivity to aid early diagnosis and could also improve measurement of response to treatment. In addition, newer sciences such as proteomics and metabolomics aim to measure thousands of markers at one time, which may allow us to build a metabolic profile from a blood sample that can not only be used to diagnose cancer but can also show how far the disease has progressed and what drugs it is likely to respond to.

Currently, around 60 per cent of children with cancer are on a clinical trial. This high level of participation in clinical research has had a major impact on the development of successful treatment strategies. Being the new home for the Cancer Research UK Children's Clinical Trials Team, the University of Birmingham hopes to play a major role in the further development of new treatments for childhood cancers and will work closely with the recently formed National Cancer Research Institute (NCRI) Children's Cancer and Leukaemia Clinical Study Group and the national network of 21 Childhood Cancer and Leukaemia specialist treatment centres.

Investment in UK clinical trials research means that we will be able to translate scientific development into treatment benefits for children with cancer.

Dr Pam Kearns

Senior Lecturer at the University of Birmingham and paediatric oncologist at Birmingham Children's Hospital.

Dr Kearns will lead the new Cancer Research UK Children's Clinical Trials Team.

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