



The University of
Nottingham

Children's Brain Tumour Research Centre



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Tommy Bennett, who suffers from an anaplastic oligodendroglioma tumour, with his sister Charlotte

450 children are diagnosed with brain tumours every year in the UK. In fact, we lose more children over the age of one to cancer than to any other disease.

Giving new hope to brave young children

With so many children fighting a devastating battle for survival, a new and increasingly specialist clinical field of neuro-oncology has developed. Professors at the Children's Brain Tumour Research Centre (CBTRC) are developing new methods of research to help find a cure whilst minimising the risk of disability.

The CBTRC aims to establish the links between paediatrics, neurosciences, oncology, imaging, pharmaceutical sciences, human development, stem-cell technology, cellular genetics and physiology. There are over 50 experts in these fields at The University of Nottingham, all of them working towards improving our understanding of the disease and developing innovative new treatments.

Five-year survival rates in the UK have risen from 50% to 70% over the last decade. Many brain tumours remain incurable. 60% of those who do survive often have significant disability, following diagnosis and treatment.



Professor Richard Grundy
and Professor David Walker

Leading the way in child cancer research

The thriving Children's Brain Tumour Research Centre was established in 1997 and is now led by Professors David Walker and Richard Grundy. The University of Nottingham is the ideal base for their research as it already leads the way in neuroscience, cancer and human development research.

The Centre's leaders have a huge range of experience in guiding national and international developments in clinical practice – advising on health service developments and actively promoting the NHS cancer registration system and clinical trials. They also frequently attend conferences across the globe as principal members of clinical trials committees – the Childhood Cancer and Leukaemia Group (CCLG, formerly UKCCSG) and the Société Internationale d'Oncologie Pédiatrique (SIOP).

Pioneering new projects

A huge range of research is carried out at the Centre, looking into as many aspects of child brain tumours as possible:

- Understanding the biological nature of CNS (central nervous system) tumours in relation to their origin, including: the significance of biological and genetic alterations of different tumour types; their sensitivity or resistance to treatment; and the identification of targets for therapy
- Viewing cancer as a disorder of development and studying the genes and physiological mechanisms which determine the nature of irregular cells in early life
- Understanding the genetic and molecular fingerprints that affect tumour behaviour
- Investigating the role of cutting-edge imaging in early diagnosis, determination of prognosis and response to treatment – new techniques such as Magnetic Resonance Spectroscopy (MRS) can provide information on the biology of the tumour

- Using in vitro models to investigate tumour and brain interactions and the effects of treatments
- Undertaking unique collaborative research into drug treatments designed to affect brain tumour growth
- Establishing a programme that develops drug delivery systems designed to target CNS tumours
- Researching the links between clinical referral and diagnosis – hopefully improving the diagnostic process by promoting guidelines for health services and encouraging professional training
- Investigating methods of diagnosis and using clinical trials to optimise the health outcomes for the child and family
- Measuring the complexities of neuro-disability in children and young people of all ages and applying this methodology to the clinical trials of new therapies
- Establishing a link between in vitro MRS imaging and late effects, following treatment and investigating the results in relation to thought processes, neurology and quality of life

Tumours of the brain and spinal cord account for **25%** of cancers in children

Positive ambition

In 1997, when Laura Gallimore was 11, her mum managed to persuade doctors that her daughter's vomiting and headaches were symptomatic of something serious. A brain tumour was diagnosed and her family and school life turned upside down. The tumour was removed and Laura has since had successful treatment and now enjoys her dream job as a journalist.

Growing up fast

Joshua Aisthorpe was originally given a 50-50 chance of survival by doctors after his malignant brain tumour was diagnosed. He was very quiet and withdrawn while he was ill, making the experience very emotional for the whole family. Once he received treatment, he went from strength to strength, and was soon messing around with his little brother.





Tommy's parents with Emma Pearson, The University of Nottingham's fundraiser for the Centre for Children's Brain Tumour Research

More funding will save more lives

Our aim is to find a cure for all child brain tumours and to reduce the disability caused by them. Although our research is progressing, we need more funding to make the most of the scientific knowledge we are uncovering. So far, the University's development campaign has made a great start, but we need to raise more money to save more lives.

Big steps towards a brighter future

Money well spent

Initial funding was established for the Centre so existing University expertise could focus on children's neuro-oncology. So far, funding from the University and external grants have tripled the Centre's research capability. Three research fellowships are now in place and a fourth is planned as soon as enough money is raised. The Centre has also bought vital pieces of equipment to further their research and improve treatments.

Raising awareness

To raise awareness and inform the National Health agenda, the University has now incorporated programmes of training into related medical and scientific courses. Recent political lobbying has resulted in two adjournment debates with our Centre being named in parliament, and to be visited by the Minister of Health.

International research potential

The Centre has huge potential for research collaboration, with its key professors recently publishing an international book and over 90 scientific publications. They've also developed patents, clinical trial proposals and an extensive programme of presentations worldwide.

“CBTRC played a vital part in the diagnosis... it's really important for us to raise money to help support their work.”
Tracey Bennett, Tommy's mum

Life-saving research

Tommy Bennett acts like the average toddler – playing games with his sister and getting hold of the biggest toys he can find. He loves Milky Way Magic Stars and chocolate ice cream and doesn't seem to have a care in the world.

Incredibly, at just two-and-a-half years old, Tommy has a very rare and very serious brain tumour. Doctors initially believed his symptoms were caused by epilepsy, but after 18 months they discovered a tumour a third of the size of his brain.

After a biopsy and an agonising two-week wait, doctors diagnosed him as having an anaplastic oligodendroglioma tumour. “For us the worst part was the waiting – we didn't know if he would live or die,” says Tommy's mum, Tracey. The Children's Brain Tumour Research Centre played a vital part in the diagnosis. “This particularly uncommon type of tumour grows from the frontal lobe of the brain and is extremely dangerous”, continues Tracey. “Tommy went through an 11-hour operation to remove 75% of the tumour – touching any of the arteries running through the tumour would have killed Tommy instantly.



“He's having chemotherapy and can walk now, but he doesn't have full use of his left-hand side.

“Our situation made us realise what's really important in life. As well as looking after Tommy, we've been fundraising for the CBTRC. It's really important for us to raise money to help support their work and so far we've raised £2,800.”

Please call us at the Centre on **+44 (0)115 924 9924** or text **44184** to find out more about our research.

Every year in the UK over 450 children are diagnosed with a brain tumour

We think that's 450 too many. That's why we need your continued support for the Children's Brain Tumour Research Centre.



Online giving

Make quick and secure donations through www.justgiving.com/cbtr

Donate by standing order

By setting up a standing order to the Centre you can help us plan how we spend our funds

Leave a legacy

If you make Children's Brain Tumour Research a beneficiary in your Will, you'll allow us to plan for the long-term future. Feel free to contact us for more information

Giving shares

When you make a charitable gift of shares it costs you less due to generous tax relief available



Gift aid

If you're a UK tax payer, we can reclaim on every pound donated through the Gift Aid scheme

Fundraising

Organise a fundraising event and go to www.justgiving.com/cbtr to set up your own personal web page for free

Give in celebration

Celebrate your next special occasion by asking for donations to Children's Brain Tumour Research instead of gifts

Donate in memory

Make a donation in memory of a loved one



Trusts and Foundations

Trusts and Foundations play a key role in providing funds for specific projects or staff costs. Trusts that are interested in supporting our work or visiting the Centre should contact emma.pearson@nottingham.ac.uk

Payroll giving

Find out if your employer operates a payroll giving scheme

Company giving

Companies interested in establishing a link with the Centre can contact emma.pearson@nottingham.ac.uk

Thank you for your generous support!



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