

**Briefing to Parliamentarians**  
July 2019

## **A year of driving change and exploring innovation in brain tumours**

The last year has seen the All-Party Parliamentary Group on Brain Tumours (APPGBT) publish the report of its first-ever Inquiry, which found that brain tumours are one of the costliest forms of cancer for both patients and society.

The Inquiry discovered that the average household affected by a brain tumour will lose £14,783 per year versus £6,840 for all cancers, with this devastating disease having an economic cost of £578 million per year, behind only lung and breast cancer.

The APPGBT also heard from the leadership of the Tessa Jowell Brain Cancer Mission, about its progress and strategic programmes focusing on research, clinical trials, patient experience and workforce training.

A key aim of the APPGBT is to provide a platform for sharing innovation. To this end, the APPGBT has heard from a diverse range of researchers and clinicians specialising in matters such as medical cannabinoids, direct drug delivery and methods to support paediatric brain tumour survivors in their education.

The APPGBT will learn even more at today's meeting, which will hear from expert speakers, profiled below, on ketogenic diet therapy and new surgical techniques to limit seizures.

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### **Ketogenic diet therapy and brain tumours**

**Sue Wood** - *Dietician, Matthew's Friends Centre for Ketogenic Dietary Therapies*

**Emma Williams MBE** - *Chief Executive and Founder of Matthew's Friends*

A ketogenic diet consists of low carbohydrate, moderate protein and high levels of fat. It triggers an adaptive shift towards the energy pathways normally used as a natural survival technique for humans during food restriction or fasting.

As a therapy, the ketogenic diet also triggers a cascade of other biochemical pathway changes and it is this broad-spectrum effect that has led to increased interest in the potential of the ketogenic diet to deliver neuroprotective and therapeutic benefits to a wider range of neurological conditions, including brain tumours.

Over recent years, more published pre-clinical data and academic reviews of the potential of ketogenic diet therapy to influence cancer metabolism have emerged. Although evidence that ketogenic diet therapy can slow brain tumour growth in patients is still lacking, there is anecdotal evidence of its benefits and an increasing interest in the therapy as an adjuvant to standard care for a brain tumour and associated symptom management within the brain tumour community.

Since 2013, Matthew's Friends, in partnership with the Astro Brain Tumour Fund, has provided charitably-funded specialist dietetic support to brain tumour patients from across the UK.



Sue Wood has been a UK-registered dietician for 37 years, predominantly in the NHS, treating a wide range of paediatric and adult conditions. She now works at Matthew’s Friends where she supports adults with brain tumours and drug resistant epilepsy who are keen to trial a ketogenic diet to manage their symptoms and, in some cases, cure their seizures.

After experiencing the beneficial effects of the ketogenic diet on her son Matthew, who was having epilepsy-related seizures, Emma Williams MBE started the charity Matthew’s Friends in 2004. Matthew’s Friends aims to provide support and promote the use of medically supervised ketogenic diet therapy for those with chronic and debilitating conditions where these diets have been indicated as beneficial.

The Brain Tumour Research Centre at Imperial College London is working closely with the Matthew’s Friends ketogenic dietician to explore how the ketogenic diet can affect brain tumours.

## Surgical techniques to improve seizure control after a brain tumour

Mr Ashan Jayasekera - Clinical Research Associate, Institute of Neuroscience, Newcastle University

Mr Ashan Jayasekera is a researcher at Newcastle University and Chair of the British Neurosurgical Trainees’ Association. He is currently working on a project funded by Epilepsy Research UK, investigating seizures in brain tumour patients.

Seizures can occur in those diagnosed with certain forms of brain tumour. They are extremely debilitating and have been shown to lower the quality of life of patients, both physically and mentally. They are also very difficult to treat. The standard treatment pathway is still to resect as much of the tumour as is possible and, importantly, remove the seizure-generating peri-tumoural region.

However, this carries with it the risk of disability from injuring healthy brain tissue. What is needed is a more scientific approach to define which regions surrounding the tumour are responsible for patients’ seizures, so that these can be removed and healthy brain tissue spared.

Mr Jayasekera’s research will define the role of magnetic resonance spectroscopy, a non-invasive scanning technique, in identifying and mapping the regions of the brain around a tumour which are responsible for patients’ seizures. This could allow surgeons to map the seizure-generating regions of the brain around these tumours and plan their surgeries to improve seizure control for patients.

*N.B. The APPGBT has invited experts to discuss new innovations for informational purposes only. The APPGBT does not recommend or endorse any particular treatment, therapy, medicine, device or technology. Brain tumour patients are advised to always consult with a suitably qualified medical professional before commencing any type of treatment.*



**Brain Tumour Research**

Together we will find a cure

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The Brain Tumour Research charity, supported by The Brain Tumour Charity and PB Consulting, provides the Secretariat for the All-Party Parliamentary Group on Brain Tumours.

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