The BRAIN TUMOUR CHARITY

Clinical trials

The purpose of clinical trials for brain tumour patients is to advance understanding of tumours and to improve diagnosis and treatment. Some trials also seek to better control symptoms and improve quality of life for those living with a tumour.

By their definition, clinical trials are experimental, and while the hope is that they will be beneficial, there is no guarantee.

In this fact sheet:

- What is a clinical trial?
- Developing a new treatment
- Benefits and risks of taking part
- Answers to some common questions that you may have about clinical trials.

What is a clinical trial?

A clinical trial is an experiment that involves patients in a new way of managing a condition. This might include investigating a new treatment, a new way of giving an existing treatment, or a new approach to diagnosing an illness or assessing an outcome after treatment. Trials are vital to establish whether a new approach is better than the old one - if it isn't, there is little point in persisting with it.

Developing a new treatment

There are normally four phases to developing a new treatment. Clinical trials can therefore be a lengthy process.

The phases are as follows:

Phase 1
Phase 1 sets out to answer the question of whether the treatment is safe and, if so, what is the right dose regime to use. (The dose regime, or dosage regimen, means the amount of the drug to use, how often to give it and over how long.) Drugs are tested in the laboratory before being given to people. Usually, but not always, they are tested on animals. If it seems that they could help people with brain tumours, a 'phase 1' (safety) study must be done. Often a very low dosage is given to the first few patients. If there are no side-effects amongst this group, the next group of patients is given a slightly higher dose, and so on until side-effects are experienced that indicate it would be unsafe to increase the dosage any further. This is known as the 'maximum tolerated dose' or MTD and is the last dose where there were little or no side-effects.

The MTD helps determine the dose for the next studies. Sometimes a researcher is happy to stop before an MTD is reached, and sometimes a drug is considered to be safe enough to progress with the study at, or near, the maximum treatment dose. Phase 1 trials tend to be carried out in specialised clinical research units rather than local hospitals and can last several months. Patients will receive optimum care and attention while in the unit. As well as safety, investigations may be undertaken to see how the drug is handled in the body and if the drug might be useful. If the drug is safe, it will be progressed to phase 2.

Phase 2
Not all treatments tested in phase 1 make it to phase 2. Phase 1 tells the clinical researchers what dose of the new treatment should be given using a relatively small number of people.

In phase 2, the aim is to find out more about the safety and some initial evidence about whether the new treatment does what is hoped (referred to as its 'efficacy'):

- Is it any good?
- Does it shrink the tumour?
  (known as 'response' to the treatment)
- Does it keep the tumour away for longer?
  (known as 'progression free survival').
- Does it make the patient feel better?
- Is the treatment safe and well-tolerated?

This phase uses a larger group of patients (up to about 100) and can last for a couple of years. If the technique looks promising after phase 2, then it will proceed to phase 3.

Phase 3
Phase 3 looks at whether the new treatment works better than the existing, 'standard' treatment or, sometimes, whether it produces fewer side-effects. This is done by comparing two groups of patients with similar characteristics. Some of the patients receive the standard treatment and some receive the new treatment. The outcome of the two groups is compared to see whether the new treatment is better.

Which treatment patients receive (standard or new) is often decided on a random basis. That is, the treatment is allocated by chance – like tossing a coin. Neither the researcher nor the patient can influence this decision. It is the most successful way of ensuring that the results of the trial are not biased and a true comparison has been done.

In addition, a technique called 'blinding' may be used. In a 'single blind' trial the researcher, but not the patient, will know which treatment they are receiving. In a 'double blind' trial neither the patient nor the researcher knows the treatment allocation. Again, this technique improves the validity (certainty) of the results of the trial. So any effects seen can be more confidently attributed to the treatments themselves and not to other factors, such as placebo effects.

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(A placebo is a harmless, 'dummy drug' that is used to assist blinding, so that those involved do not know whether they are receiving the experimental drug or not).

Phase 4
Phase 4 trials are conducted when a drug has been shown to be effective and has been licensed to treat an illness. This phase aims to find out what happens when the drug is given to thousands of people in the general community. The aim is to assess any long-term risks and benefits of the drug, and any rare side-effects.

What are the benefits of taking part?

The clinical trial is running because there is belief that the new treatment may be better than the standard treatment, but there is no guarantee of this. However, it may give you access to a drug that you would not normally be offered and, if the trial treatment is an improvement, you may be one of the first patients to benefit from it. In addition, some patients report that they are pleased to be helping advance science, even if they do not benefit directly. Without trialling a new treatment, no further progress could ever be made.

An indirect consequence is that whilst you are taking part in a trial, you are often even more carefully monitored. This means that any changes to your health – even if they are not related to the new drug - might be picked up and dealt with quickly.

What are the risks of taking part?

The clinical trial is going ahead because the researchers have a good reason to believe it may be better than the standard treatment. Nonetheless, clinical trials are experimental by nature and there is a chance that the new drug will be no better, or not as good even, as the standard drug. Unexpected side-effects are also a possibility, although the researchers will monitor you closely whilst you are in the trial and make every effort to keep these to a minimum.

As trial participation may require additional visits to hospital, you should also consider the possible extra costs in time and money. This is particularly the case if you take part in a trial in another area of the country or abroad.

How do I know if a clinical trial is safe to enter?

The UK exercises some of the most rigorous patient protection practices in the world, including (but not limited to):

- **Medicines and Healthcare Products Regulatory Agency (MHRA)**
  A body that ensures the trial products meet international standards of good practice.
- **Research Ethics Committee**
  A board that ensures patients' well-being and rights are maintained. They also ensure that information given to patients tells them everything they need to know and is easy to understand.
- **Clinical trial committees**
  All trials are scrutinised at national or local level (often both) to ensure their design and implementation are appropriate and scientifically sound.

How do I find out about clinical trials?

Please speak to your clinician about trials that may be suitable for you. In addition, The Brain Tumour Charity has an online clinical trials database that you can use to search for clinical trials for your specific tumour type. You can find it on our website here: http://www.thebraintumourcharity.org/about-brain-tumours/clinical-trials. **It is important to be aware that every trial has a set of 'entry criteria' that you *must* fit to be able to enter.**

You can also call our Research and Clinical Trials Info Line on 01252 749 999 or email clinicaltrials@thebraintumourcharity.org

The following websites also list current clinical trials:

- *NHS National Institute for Health Research*
  - UK Clinical Trials Gateway
  http://www.ukctg.nihr.ac.uk/default.aspx
- *Cancer Research UK :*
  http://www.cancerresearchuk.org/cancer-help/trials/
- *SHARE:*
  SHARE is an NHS Research Scotland initiative created to establish a register of people interested in participating in health research. People on the register agree to allow SHARE to use the coded data in their various NHS computer records to check whether they might be suitable for health research studies.
  http://www.registerforshare.org/
- *The Institute of Cancer Research:*
  The ICR is running an observational study - the National Brain Tumour Study. The purpose is to establish a DNA resource from individuals and families diagnosed with gliomas (brain tumours). The aim is to identify new hereditary and/or environmental factors that may increase the risk of developing these brain tumours.

  National Brain Tumour Study
  http://www.icr.ac.uk/research/team_leaders/Houlston_Richard/Houlston_Richard_RES/NBT/

How am I selected for a clinical trial?

Some entry criteria will be specified before you enter. Others will not, but will require trial-specific tests, which can only be carried out once you have agreed in principle to enter the trial.

What happens if I agree in principle to enter a trial, but then don't meet all of the criteria?

You will not be allowed to enter a clinical trial unless you meet all of the criteria. If you cannot enter the trial, your doctor will talk through any alternative treatments available to you or suitable clinical trials.

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What happens if I agree to enter a trial, but then change my mind?

You are free to leave a trial at any time without obligation to explain why.

How can I get on to a trial if my hospital does not offer it?

This may not be easy. Individuals in clinical trials often require close surveillance, which means having easy access to the trial site. It can mean travelling and staying near the site.

Sometimes a trial is geared to taking patients from other regions. The best thing is to discuss your wishes with your health team to see if particular arrangements can be made.

How long do I stay on the trial?

The trial will go on until one of the following:

- The trial comes to an end - as defined it its 'protocol' (A document detailing the design and implementation of the trial e.g. in phase 1, when the maximum tolerated dose is reached.)
- If the treatment is clearly failing or there are safety concerns, the trial will be stopped.
- If your doctors believe it is in your best interest to take you off the trial, they will do so, as they have a duty of care to you.
- You decide to withdraw. It is your right to leave the trial at any time you wish without obligation to give a reason.

Will I be paid to take part?

No, it would be unusual for patients to be paid for taking part in an oncology trial. You can ask your local doctor or nurse if there are any local arrangements they can offer e.g. access to hospital transport or free/reduced parking.

What if I have further questions?

If you require further information, any clarification of information, or wish to discuss any concerns, please contact our Support and Information Team:

Call: 0808 800 0004
(free from landlines and most mobiles:
3, O2, Orange, T-mobile, EE, Virgin and Vodafone)

Email: support@thebraintumourcharity.org

Join our online forums at:
thebraintumourcharity.org/forums

About us

The Brain Tumour Charity makes every effort to ensure that we provide accurate, up-to-date and unbiased facts about brain tumours. We hope that these will add to the medical advice you have already been given. Please do continue to talk to your health team if you are worried about any medical issues.

We are the UK's pre-eminent brain tumour charity. We fund scientific and clinical research into brain tumours and offer information and support to those affected, whilst raising awareness and influencing policy.

We rely 100% on charitable donations to fund our vital work. If you would like to make a donation, or want to find out about other ways to support us including fundraising, leaving a gift in your will or giving in memory, please visit us at thebraintumourcharity.org , call us on 01252 749043 or email fundraising@thebraintumourcharity.org

About this fact sheet

This fact sheet has been written and edited by The Brain Tumour Charity's Support and Information Team. The accuracy of medical information has been verified by leading neuro-oncology health professionals. Our fact sheets have been produced with the assistance of patient and carer representatives and up-to-date, reliable sources of evidence. If you would like a list of references for any of the fact sheets, or would like more information about how we produce them, please contact us.

The BRAIN TUMOUR CHARITY

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Your notes

Saving lives through research, information, awareness & policy

Health & care information you can trust
The Information Standard Certified Member

Helplines Partnership MEMBER

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