

# Feasibility of amide proton transfer imaging in children and adolescents with brain tumours

<b>Submission date</b> 21/01/2022	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 06/03/2022	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 29/04/2022	<b>Condition category</b> Cancer	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Gliomas are brain tumours that start in glial cells. In children and adolescents diagnosed with gliomas, MRI scans are used to follow up patients which can be challenging, particularly when assessing a non-enhancing tumour. APT-CEST is a technique that can show an increased signal in non-enhancing parts of the tumour and the aim of this study is to correlate the APT-CEST signal with choline uptake as a marker of tumour activity.

### Who can participate?

Children and adolescents aged 12-20 years being treated for glioma

### What does the study involve?

Participation will involve the patient undergoing a PET-MRI scan. The participant will be injected with a radio-isotope named choline followed by an MRI scan. The MRI will be slightly longer than a normal diagnostic MRI at about 45 minutes. Following the PET-MRI scan, the patient will be free to go and will be followed up in clinic with their normal doctor.

### What are the possible benefits and risks of participating?

The benefit for the patient will be an improved understanding of their tumour. The study will require extra time for scanning.

### Where is the study run from?

University College London Hospitals NHS Foundation Trust (UK)

### When is the study starting and how long is it expected to run for?

September 2015 to March 2020

### Who is funding the study?

UCLH Biomedical Research Centre (UK)

### Who is the main contact?

Dr Harpreet Hyare  
harpreet.hyare@nhs.net

# Contact information

## Type(s)

Principal investigator

## Contact name

Dr Harpreet Hyare

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# Additional identifiers

## Clinical Trials Information System (CTIS)

Nil known

## Integrated Research Application System (IRAS)

162706

## Protocol serial number

IRAS 162706

# Study information

## Scientific Title

Feasibility of amide proton transfer chemical exchange saturation transfer in paediatric, teenage and young adult gliomas

## Study objectives

Amide proton transfer (APT)-chemical exchange saturation transfer (CEST) demonstrated an elevated signal in brain tumours compared to normal-appearing brain tissue.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Approved 22/02/2016, London-Bromley Research Ethics Committee (Level 3, Block B, Whitefriars, Lewins Mead, Bristol, BS1 2NT, UK; +44 (0)207 104 8105; bromley.rec@hra.nhs.uk), REC ref: 16/LO/0276

## Study design

Observational feasibility study

## Primary study design

Observational

**Study type(s)**

Diagnostic

**Health condition(s) or problem(s) studied**

Glioma

**Interventions**

The participant is recruited from clinic by their normal doctor and is asked to undergo a PET-MRI study. The patient is given an information sheet and If the patient agrees, they are booked for a scan in the Nuclear Medicine Department. On the day of the scan, the patient is consented. The patient will have a canal fitted and be injected with radioactive choline. After 60 minutes, they will undergo a PET-MRI scan which is slightly longer than a normal MRI scan at approximately 45 minutes. The patient is then free to go and will be followed up by their normal doctor in clinic.

**Intervention Type**

Other

**Primary outcome(s)**

Glioma tumour cell proliferation measured using amide proton transfer chemical exchange saturation transfer (APT-CEST) and 18F-fluoromethylcholine (18F-choline) positron emission tomography (PET) standardised uptake value (SUV) at baseline

**Key secondary outcome(s)**

There are no secondary outcome measures

**Completion date**

01/03/2020

**Eligibility**

**Key inclusion criteria**

Patients aged 12-20 years undergoing treatment for glioma

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Mixed

**Sex**

All

**Total final enrolment**

10

**Key exclusion criteria**

1. Pregnant
2. Other cancer

**Date of first enrolment**

01/04/2016

**Date of final enrolment**

01/03/2020

**Locations****Countries of recruitment**

United Kingdom

England

**Study participating centre**

University College London Hospitals NHS Foundation Trust

250 Euston Road

London

United Kingdom

NW1 2PG

**Sponsor information****Organisation**

University College London Hospitals NHS Foundation Trust

**ROR**

<https://ror.org/042fqyp44>

**Funder(s)****Funder type**

Research organisation

**Funder Name**

UCLH Biomedical Research Centre

**Alternative Name(s)**

NIHR University College London Hospitals Biomedical Research Centre, University College London Hospitals Biomedical Research Centre, UCLH/UCL Biomedical Research Centre, NIHR University College London Hospitals BRC, NIHR BRC, UCL, UCLH BRC

### Funding Body Type

Private sector organisation

### Funding Body Subtype

Universities (academic only)

### Location

United Kingdom

## Results and Publications

### Individual participant data (IPD) sharing plan

The data-sharing plans for the current study are unknown and will be made available at a later date.

### IPD sharing plan summary

Data sharing statement to be made available at a later date

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">HRA research summary</a>			28/06/2023	No	No