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Stratified Medicine Paediatrics (StratMedPaeds) - a study looking at genetic changes in children's cancer

Submission date 09/01/2019	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 28/01/2019	**Overall study status** Ongoing	
Last Edited 07/02/2025	**Condition category** Cancer	

Plain English summary of protocol
https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-study-looking-at-the-genetics-of-childrens-cancer-stratmedpaediatrics (added 07/12/2020)

Background and study aims
This is a UK research study testing tumour (somatic) and normal (germline) DNA and RNA for genetic and gene-expression changes in children, teenagers and young adults with relapsed /refractory cancer. The aim of this study is to identify patients who may be eligible for new targeted anti-cancer therapies. The study will aid research that will help us to more precisely diagnose cancer and understand why some patients do not respond to standard treatments.

Who can participate?
UK children and young adults whose cancer has either come back (relapsed) or not responded to treatment (refractory) and have undergone or will undergo a routine biopsy/surgery to obtain tumour tissue or bone marrow.

What does the study involve?
Participants with a solid tumour provide a blood sample and a piece (or pieces, if available) of tumour collected from their most recent biopsy or surgery, or some of the tumour sample from the original cancer diagnosis (if the hospital still has it). Participants with leukaemia provide a bone marrow sample. The results of the tests are relayed back to the patient's doctor via an expert group of doctors who make recommendations on any available treatments. Patients and /or their parents are asked in advance to consider what information they which to receive in relation to any abnormal genetic results either in the tumour or their normal (germline) genetic code. In addition, the data collected is used and shared for the purposes of clinical research.

What are the possible benefits and risks of participating?
There may not be any individual benefit for the patient and the greatest benefits of the study may not be expected for several years and therefore will predominantly help future patients. However, should something be found in the genetic information of the tumour sample which may help in the understanding or treatment of the patient's cancer (for example, it may provide

a treatment option i.e. clinical trial); then the patient's clinical team will be able to use this information. For solid tumour patients, as the tumour sample will already have been or is due to be taken as part of the care at the hospital, the patient will have only one blood test taken. The discomfort of this blood test is just like any other blood test. For leukaemia patients, the bone marrow sample will already have been or is due to be taken as part of the care at the hospital.

Where is the study run from?
1. Royal Aberdeen's Children Hospital
2. Royal Belfast Hospital for Sick Children
3. Birmingham Children's Hospital
4. Bristol Royal Hospital for Children
5. Addenbrooke's Hospital
6. Noah's Ark Children's Hospital for Wales
7. Royal Hospital for Sick Children Edinburgh
8. Royal Hospital for Children
9. Leeds General Infirmary
10. Leicester Royal Infirmary
11. Alder Hey Children's Hospital
12. Great Ormond Street Hospital for Children
13. Royal Manchester Children's Hospital
14. Royal Victoria Infirmary
15. Queen's Medical Centre, Nottingham
16. John Radcliffe Hospital
17. Sheffield Children's Hospital
18. Southampton General Hospital
19. University College London Hospital
20. Royal Marsden Hospital Sutton

When is the study starting and how long is it expected to run for?
January 2018 to April 2027

Who is funding the study?
Cancer Research UK

Who is the main contact?
Amina Bukhari
Smpaeds@trials.bham.ac.uk

Contact information

Type(s)
Scientific

Contact name
Ms Amina Bukhari

Contact details
Trial Coordinator
Children's Cancer Trials Team
Cancer Research UK Clinical Trials Unit Institute of Cancer and Genomic Sciences
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United Kingdom
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+44 (0)121 414 7851
Smpaeds@trials.bham.ac.uk

Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number
246557 (England, Wales, NI), 264925 (Scotland)

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
CPMS 40156, IRAS 246557 (England, Wales, NI), 264925 (Scotland)

Study information

Scientific Title
Stratified medicine paediatrics: genomic characterisation of relapsed paediatric cancers for diagnostics and stratified therapy

Acronym
StratMedPaeds / SMPaeds

Study objectives
StratMedPaeds is a UK research study testing tumour (somatic) and normal (germline) DNA and RNA for genetic and gene-expression changes in children, teenagers and young adults with relapsed/refractory cancer. The results of the tests performed will identify patients who may be eligible for new targeted anti-cancer therapies and will aid research that will help us to more precisely diagnose cancer and understand why some patients do not respond to standard treatments.

Ethics approval required
Old ethics approval format

Ethics approval(s)
London - Camden & Kings Cross Research Ethics Committee (NHSBT Newcastle Blood Donor Centre, Holland Drive, Newcastle upon Tyne, NE2 4NQ, UK; +44 (0)207 104 8086; nrescommittee.london-camdenandkingscross@nhs.net), ref: not provided

Study design
Non-randomized; Interventional; Design type: Screening, Diagnosis, Other

Primary study design

Interventional

Secondary study design
Non randomised study

Study setting(s)
Hospital

Study type(s)
Diagnostic

Participant information sheet
Not available in web format, please use the contact details to request a patient information sheet

Health condition(s) or problem(s) studied
Solid tumours (including lymphomas) or leukaemia

Interventions
Current interventions as of 15/03/2023:

Patients with clinically relapsed/refractory progressive solid tumours (including brain and lymphomas) or leukaemia who undergo a biopsy as part of their standard of care are eligible for StratMedPaeds. Following receipt of valid informed consent, the patient can be registered in the central RDE database (MARVIN). In parallel, FFPE and FF tissue from the current relapse /refractory episode, along with blood and matching material from any previous diagnosis /tumour for solid tumour patients or Bone Marrow aspirate and Cerebrospinal fluid (CSF) if available, from the current relapse/refractory episode for leukaemia patients should be submitted to the central sample hub at Great Ormond Street Hospital for Children.

For each patient, a mixture of techniques will be used, depending on the availability and quality of the DNA, and primary cancer diagnosis and previous testing.

On tumour biopsy material - possible on Formalin fixed paraffin embedded (FFPE) and Bone Marrow/CSF
1. Customised next-generation sequencing panels (NGS panels)
2. Methylation sequencing

On tumour biopsy material – Fresh Frozen
1. Whole exome sequencing (WES)
2. RNA-sequencing (RNASeq)
3. Low coverage whole genome sequencing (lcWGS)

From blood: circulating tumour DNA (ctDNA)
1. NGS panel testing
2. Digital PCR

From blood collected for germline analysis
1. Exome or genome sequencing

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Previous interventions:

Patients with clinically relapsed/refractory progressive solid tumours (including brain and lymphomas) who undergo a biopsy as part of their standard of care are eligible for SMPaeds. Following receipt of valid informed consent, the patient can be registered in the central RDE database (MARVIN). In parallel, FFPE and FF tissue from the current relapse/refractory episode, along with blood and matching material from any previous diagnosis/tumour should be submitted to the central sample hub at Great Ormond Street Hospital for Children.

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1. NGS panel testing
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From blood collected for germline analysis
1. Exome or genome sequencing

Intervention Type
Other

Primary outcome measure
The proportion of cases referred that receive a Molecular Tumour Board Report within 28 days

Secondary outcome measures
Outcomes to be achieved within a timescale of up to 3 years:
1. The number and proportion of samples successfully analysed
2. The reasons for analysis failure
3. The proportion of patients with known or unknown somatic molecular alterations
4. The proportion of patients with actionable molecular alterations in tumours
5. The proportion of patients in which any treatment recommendation can be made
6. The proportion of patients in which a treatment recommendation with a molecularly targeted therapy can be made
7. The proportion of patients successfully registered on to clinical trials
8. The proportion of patients successfully registered on to clinical trials of molecularly targeted therapies
9. The proportion of patients who have their diagnosis changed following multi-omic analysis
10. Progression Free Survival (PFS)
11. Any complications of biopsy
12. The proportion of patients with germline events
13. The proportion of patients recommended for clinical genetics service referral

14. Collection of data on individual genomic, epigenomic and transcriptomic characteristics of refractory/relapsed paediatric malignancies

(added 15/03/2023)
15. The number and proportion of leukaemia samples successfully analysed on the DRP platform
16. The number and proportion of patients with leukaemia who have a potential therapy identified through the DRP platform

Numerical data will be taken from the case report forms from each participating hospital site. Case report forms will be completed using information taken from the patient's medical record.

Overall study start date
01/01/2018

Completion date
30/04/2027

Eligibility

Key inclusion criteria
Current inclusion criteria as of 15/03/2023:

1. Patients with a relapsed or refractory paediatric tumour (all solid tumours, central nervous system (CNS) tumours and lymphoma) or leukaemia
2. For solid tumours: Formalin fixed paraffin embedded (FFPE) tumour available from a biopsy, resection or other surgical procedure that was taken within 8 weeks of trial entry*
3. For leukaemia: Viable fresh or frozen Bone Marrow aspirate sample taken at a prior assessment within 8 weeks prior to trial entry**
3. Written informed consent of patient/parent/guardian/legal guardian***
* To allow full multi-omic analysis both fresh frozen and Formalin fixed paraffin embedded (FFPE) tumour plus a blood sample for constitutional (germline) and circulating tumour (ct) DNA will need to be available.

Original diagnostic slides should be submitted at the same time as block from current relapse /refractory episode either in same shipment.

** Where available, a cerebrospinal fluid (CSF) sample in the event of an isolated or combined CNS relapse should also be provided in addition to the bone marrow aspirate.

*** Some adult patients with brain tumours or brain metastases may be incapable of providing their own consent due to the neurological effects of their disease. In such cases, these patients will be classed as an incapacitated adult and a consultee will be sought.

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Previous inclusion criteria:

1. Patients with a relapsed or refractory paediatric tumour (all solid tumours, central nervous system (CNS) tumours and lymphoma)

2. Formalin fixed paraffin embedded (FFPE) tumour available from a biopsy, resection or other surgical procedure that was taken within 8 weeks of trial entry*
3. Written informed consent of patient/parent/guardian/legal guardian**

* To allow full multi-omic analysis both fresh frozen and Formalin fixed paraffin embedded (FFPE) tumour plus a blood sample for constitutional (germline) and circulating tumour (ct) DNA will need to be available.

Original diagnostic slides should be submitted at the same time as block from current relapse /refractory episode either in same shipment or via PathXL (see laboratory manual for further details).

** Some adult patients with brain tumours or brain metastases may be incapable of providing their own consent due to the neurological effects of their disease. In such cases, these patients will be classed as an incapacitated adult and a consultee will be sought.

Participant type(s)
Patient

Age group
Mixed

Sex
Both

Target number of participants
Planned Sample Size: 550; UK Sample Size: 550

Total final enrolment
806

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
01/02/2019

Date of final enrolment
31/01/2024

Locations

Countries of recruitment
England

Northern Ireland

Scotland

United Kingdom

Wales

Study participating centre
Royal Aberdeen’s Children Hospital
Westburn Road
Aberdeen
United Kingdom
AB25 2ZG

Study participating centre
Royal Belfast Hospital for Sick Children
180 Falls Road
Belfast
United Kingdom
BT12 6BE

Study participating centre
Birmingham Children's Hospital
Steelhouse Lane
Birmingham
United Kingdom
B4 6NH

Study participating centre
Bristol Royal Hospital for Children
Uhbristol Education Centre
Bristol
United Kingdom
BS2 8AE

Study participating centre
Addenbrooke's Hospital
Hills Road
Cambridge
United Kingdom
CB2 0QQ

Study participating centre

Noah’s Ark Children’s Hospital for Wales
Heath Park
Cardiff
United Kingdom
CF14 4XW

Study participating centre
Royal Hospital for Sick Children Edinburgh
9 Sciennes Road
Edinburgh
United Kingdom
EH9 1LF

Study participating centre
Royal Hospital for Children
1345 Govan Road
Glasgow
United Kingdom
G51 4TF

Study participating centre
Leeds General Infirmary
Great George Street
Leeds
United Kingdom
LS1 3EX

Study participating centre
Leicester Royal Infirmary
Infirmary Square
Leicester
United Kingdom
LE1 5WW

Study participating centre
Alder Hey Children's Hospital
Eaton Road
Liverpool
United Kingdom
L12 2AP

Study participating centre
Great Ormond Street Hospital for Children
Great Ormond Street
London
United Kingdom
WC1N 3JH

Study participating centre
Royal Manchester Children's Hospital
Oxford Road
Manchester
United Kingdom
M13 9WL

Study participating centre
Royal Victoria Infirmary
Queen Victoria Road
Newcastle upon Tyne
United Kingdom
NE1 4LP

Study participating centre
Queen's Medical Centre, Nottingham
University Hospital NHS Trust
Nottingham
United Kingdom
NG7 2UH

Study participating centre
John Radcliffe Hospital
Headley Way
Oxford
United Kingdom
OX3 9DU

Study participating centre
Sheffield Children's Hospital
Western Bank
Sheffield

United Kingdom
S10 2TH

Study participating centre
Southampton General Hospital
Tremona Road
Southampton
United Kingdom
SO16 6YD

Study participating centre
University College London Hospital
235 Euston Road
London
United Kingdom
NW1 2BU

Study participating centre
Royal Marsden Hospital Sutton
Downs Road
Sutton
United Kingdom
SM2 5PT

Sponsor information

Organisation
Institute of Cancer Research, London

Sponsor details
c/o Emma Pendleton
Director of Research Services
123 Old Brompton Road
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United Kingdom
SW7 3RP
+44 (0)20 7153 5360
emma.pendleton@icr.ac.uk

Sponsor type

Research organisation

ROR
https://ror.org/043jzw605

Funder(s)

Funder type
Charity

Funder Name
Cancer Research UK; Grant Codes: C34648/A24566

Alternative Name(s)
CR_UK, Cancer Research UK - London, CRUK

Funding Body Type
Private sector organisation

Funding Body Subtype
Other non-profit organizations

Location
United Kingdom

Funder Name
CHILDREN with CANCER UK (Children with Leukaemia); Grant Codes: 17-325

Alternative Name(s)

Funding Body Type
Private sector organisation

Funding Body Subtype
Other non-profit organizations

Location
United Kingdom

Results and Publications

Publication and dissemination plan
The protocol is not currently available online, but will be available soon.

Intention to publish date
30/04/2027

Individual participant data (IPD) sharing plan
The datasets generated during or analysed during the current study will be available upon request from the StratMedPaeds Trial office (smpaeds@trials.bham.ac.uk).
Type of data: Data on the distribution and frequency (incidence/prevalence) of molecular alterations at time of diagnosis and relapse, clinical diagnosis, treatment and clinical outcomes data.
When the data will become available and for how long: : after publication, Indefinitely
By what access criteria data will be shared including with whom: data may be shared with external investigators who wish to share clinical trial data.
All requests for data sharing are dealt with on a case by case basis
On receipt of a valid request to share data the trialists will ensure that:
1. External parties and trial oversight committees (e.g. Trial Steering Committee) are supportive of the request
2. The necessary legal, ethical and regulatory permissions to allow data sharing are in place
3. Anonymised data can be supplied
4. There is sufficient resource with to deal with the request
For what types of analyses: all requests for data analyses will be reviewed.
By what mechanism: Any request to share data should be submitted in writing to the Trial Management Group. The request should clearly document:
1. The scientific rationale of the proposal
2. Aims and objectives
3. Outcome measures
4. Data variables required
5. How the data will be analysed
6. Indicate what acknowledgements will be made on any publications resulting from the work.
Whether consent from participants was obtained: either the patient, parent, guardian or consultee will have read and filled out a form giving written consent to take part in the SMPaeds study, this includes consent for the use of, and sharing of data, for research, teaching, commercial and scientific publications.
Comments on data anonymisation: all data is subject to the General Data Protection Regulation and Data Protection Act 2018 for health and care research and will be kept strictly confidential. Identifiable information will be removed from the data and replaced by unique codes. The only exception to this is the signed informed consent form which is not anonymised in order to perform monitoring of the consent process.
Any ethical or legal restrictions: if the above conditions are met we will provide the requested data. In some circumstances this may be subject to a Data Sharing Agreement being put in place.
Please note: data sharing will usually only be considered once the primary endpoint data has been published in a peer reviewed journal.

IPD sharing plan summary
Available on request