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A randomised, multicentre trial of primary treatment chemotherapy/immunotherapy and radiotherapy for patients with non-small cell lung cancer

Submission date
19/08/2024

Recruitment status
Recruiting

Registration date
21/08/2024

Overall study status
Ongoing

Last Edited
28/04/2026

Condition category
Cancer

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Radiotherapy of the chest area is widely used in the treatment of lung cancer. Its use in stage IV non-small cell lung cancer (NSCLC) has evolved across the world based on local experience, as doctors attempt to ease symptoms, maintain/improve quality of life, and prolong survival while minimising side effects. The way radiotherapy is being used is based on older evidence, and there is a need for new research to figure out the best timing and dosing of radiotherapy when used alongside current systemic treatments.
The aims of this study are:
1. To work out the effect of early high-dose radiotherapy on the chest area on symptoms, disease progression, length, and quality of life
2. To assess the side effects of early high-dose radiotherapy on the chest area
3. To work out the cost-effectiveness of this type of radiotherapy
4. To identify potential barriers, evaluate and explain the treatment and outcomes and highlight issues from a patient, carer, and health care professional's point of view.

Who can participate?
Patients aged 16 years and older with stage IV NSCLC who are fit for chemotherapy and/or immunotherapy and high-dose radiotherapy to the chest area, without symptoms requiring immediate radiotherapy.

What does the study involve?
Following consent, patients will undergo screening tests to ensure they are eligible. Once screened eligible, patients are randomly allocated to one of the two treatment groups. The two treatment groups are:
Control group: chemotherapy and/or immunotherapy
Radiotherapy group: chemotherapy and/or immunotherapy AND radiotherapy that will start within 12 weeks of randomisation and between cycle 1 and 4 of the chemotherapy and/or immunotherapy

A patient is just as likely to receive either of the treatment groups. If allocated to the radiotherapy group, patients will have a radiotherapy planning session with a CT scan. Patients will attend usual clinic visits, at weeks 4, 6, 8, 10, 12, and 14, months 4, 6, 9, 12, 15, 18, and 21 for study assessments. The study assessments will vary depending on the visit but can include weight, asking about how the patient has been feeling and any health issues, asking about any changes to medication and level of self-care/daily activity/physical ability, and completing questionnaires. At months 4, 6, 9, 12, 15 and 21 a CT chest/abdomen/pelvis scan will be done. For the visits, if a patient is unable to attend the clinic, a member of the research team will contact them by telephone for assessments that can be done over the telephone.

What are the possible benefits and risks of participating?
There may or may not be a direct medical benefit from taking part in the trial. This trial will help to further our knowledge of how to treat stage IV NSCLC and this may benefit others with the same condition in the future.
There may be some unpleasant side effects. There could be risks to your child if you become pregnant, or are breastfeeding. As part of the trial, there is a brain CT scan during the screening process. There are also CT chest/abdomen/pelvis scans throughout the trial totalling up to about seven scans, throughout the screening, treatment, and follow-up phases. The number of scans in the trial is similar to standard of care. CT scans and radiotherapy use ionising radiation that may cause cancer many years or decades after exposure. The chance of cancer being caused by ionising radiation associated with imaging or radiotherapy is very small in these patients.

Where is the study run from?
The Christie NHS Foundation Trust (UK)

When is the study starting and how long is it expected to run for?
July 2024 to December 2029

Who is funding the study?
NIHR Evaluation, Trials and Studies Co-ordinating Centre (NETSCC) (UK)

Who is the main contact?
tourist-prince@soton.ac.uk

https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-trial-looking-at-when-to-give-radiotherapy-for-advanced-lung-cancer-prince

Contact information

Type(s)
Public, Scientific

Contact name
Mrs Izabela Eberhart

Contact details
Southampton Clinical Trials Unit, MP131
Southampton General Hospital
Tremona Road
Southampton
United Kingdom

SO16 6YD
+44 (0)23 8120 5154
tourist-prince@soton.ac.uk

Additional identifiers

Integrated Research Application System (IRAS)
334993

Central Portfolio Management System (CPMS)
61676

National Institute for Health and Care Research (NIHR)
133518

Study information

Scientific Title
PRINCE: Prospective, randomised, multicentre trial of first line systemic treatment and radiotherapy in stage IV non-small cell lung cancer

Acronym
PRINCE (TOURIST Platform)

Study objectives
The PRINCE trial will test the hypothesis that early high-dose palliative thoracic radiotherapy is clinically effective in health utility for patients with stage IV non-small cell lung cancer.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 07/05/2024; South Central - Oxford C Research Ethics Committee (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 (0)207 1048144, oxfordc.rec@hra.nhs.uk), ref: 24/SC/0133

Study design
Randomized parallel-group controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Stage IV non-small cell lung cancer

Interventions

PRINCE is a randomised control trial in the TOURIST Platform. Patients may be identified at any point after the diagnosis of stage IV NSCLC by their usual care team. To permit timely randomisation and minimise treatment delays potentially eligible patients should be identified at the thoracic multidisciplinary team meeting prior to their first oncology appointment.

PRINCE includes the addition of early high-dose palliative thoracic radiotherapy in patients receiving standard of care (SoC) first-line systemic treatment (chemotherapy, immunotherapy, or a combination of both) to assess if improvement in local disease control results in improved quality of life (QoL)/survival for patients. Once written informed consent has been gained, all screening and baseline procedures have been completed and the patient is confirmed eligible, they will be randomised (1:1) at the start of their systemic treatment to one of two study arms: Control Arm - SoC systemic therapy, Radiotherapy Arm - SoC systemic therapy and radiotherapy. Patients will have equal chances of receiving one of the two arms. There will be either 12 or 13 visits for radiotherapy, depending on clinician decision. Radiotherapy will begin anytime within 84 days after randomisation and between cycles 1 and 4 of systemic therapy.

Patients will be followed up to Month 21, follow-up assessments include:
1. Adverse event, toxicity and medication assessment
2. Quality of life questionnaires
3. Smoking habit questions
4. Weight
5. CT with contrast chest/abdo/pelvis
6. Eastern Cooperative Oncology Group (ECOG) performance status

When all patients have completed all of their study visits, survival and disease progression data will be collected directly from the hospital sites.

An economic evaluation to measure the quality-adjusted life years at 21 months will be performed. A process evaluation using interviews (over the phone or using an online meeting system e.g. Zoom), diaries and a PPI questionnaire to identify issues for implementation from patients, patient carers and Health Care Professionals.
15 patients - individual interview and a diary to complete
All patients - PPI QoL questionnaire completion
15 patient-carers - individual interview
10 health care professionals (across two trials in the TOURIST Platform) – individual interview

Intervention Type
Procedure/Surgery

Primary outcome(s)
Health utility measured using EORTC QLU-C10D Area Under the Curve (AUC; using trapezoidal rule) to derive a health utility score per year. Questionnaires completed: Screening/Baseline, week 4, week 6, week 8, week 12, week 14, month 4, month 6, month 9, month 12, month 15, month 18, month 21.

Key secondary outcome(s))
1. Overall survival (OS), defined as time from randomisation to death from any cause. Censored at the last follow-up if event-free
2. Progression-free survival (PFS), defined as time from randomisation to disease progression (RECIST v1.1) or death from any cause. Censored at last follow-up if event-free
3. Quality of life using EORTC QLQ-C30 and EQ-5D-5L. Questionnaires completed: Screening

/Baseline, month 4, month 6, month 9, month 12, month 15, month 21
4. Lung cancer symptoms using EORTC QLQ-LC13. Questionnaire completed: Screening /Baseline, month 4, month 6, month 9, month 12, month 15, month 21
5. Acute and late toxicity as assessed using NCI CTCAE v5.0. From informed consent to end of study

Completion date
31/12/2029

Eligibility

Key inclusion criteria
1. >=16 years of age
2. Stage IV non-small cell lung cancer (NSCLC) (radiological diagnosis confirmed at multidisciplinary team [MDT] as a minimum) (additionally see #6 trial-specific requirement below)
3. Thoracic disease amenable to radiotherapy
4. Provision of written informed consent
5. For women of childbearing potential: a negative urine or serum pregnancy test within 7 days of trial entry into the main trial
6. Histologically or cytologically confirmed NSCLC
7. At least T2 and/or N1 disease
8. ECOG Performance Status (0-2)
9. The patient is deemed fit to receive a minimum of four cycles of systemic anti-cancer treatment according to local guidelines and assessment
10. Fit to receive high-dose palliative radiotherapy with acceptable pulmonary function according to local guidelines and assessment

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
16 years

Upper age limit
100 years

Sex
All

Total final enrolment
0

Key exclusion criteria

Current key exclusion criteria as of 28/04/2026:
1. The need for palliative radiotherapy to the thorax prior to randomisation
2. Co-morbidities which are considered a contraindication to radiotherapy by the treating clinical team, including interstitial lung disease and active connective tissue disorders
3. History of prior malignant tumours likely to interfere with the protocol treatment or comparisons
4. Leptomeningeal disease
5. Women who are pregnant or breastfeeding
6. Women of child-bearing potential who are not able or unwilling to use a highly effective method of contraception
7. Patients who, in the judgment of the investigator, will be unlikely or unable to comply with the requirements of the protocol
8. Primary targeted systemic therapy for NSCLC with a driver mutation (EGFR, ALK, ROS-1, BRAF)
9. Prior treatments for this NSCLC*
10. Patients participating in a clinical trial of an investigational medicinal product
*Some treatments, delivered in the weeks prior to randomisation are acceptable (examples include: cycles 1 & 2 of standard of care systemic therapy, symptom directed (non-thoracic) palliative radiotherapy e.g. Stereotactic Radio-Surgery).

Previous key exclusion criteria:
1. The need for palliative radiotherapy to the thorax prior to randomisation
2. Co-morbidities which are considered a contraindication to radiotherapy by the treating clinical team, including interstitial lung disease and active connective tissue disorders
3. History of prior malignant tumours likely to interfere with the protocol treatment or comparisons
4. Leptomeningeal disease
5. Women who are pregnant or breastfeeding
6. Women of child-bearing potential who are not able or unwilling to use a highly effective method of contraception
7. Patients who, in the judgment of the investigator, will be unlikely or unable to comply with the requirements of the protocol
8. Primary targeted systemic therapy for NSCLC with a driver mutation (EGFR, ALK, ROS-1, BRAF)
9. Prior treatments for this NSCLC*
10. Patients participating in a clinical trial of an investigational medicinal product
*Cycle 1 of standard-of-care systemic therapy for this NSCLC may be delivered prior to randomisation

Date of first enrolment
30/07/2024

Date of final enrolment
31/01/2028

Locations

Countries of recruitment
United Kingdom

England

Northern Ireland

Scotland

Wales

Ireland

Study participating centre
Weston Park Hospital
Witham Road
Sheffield
England
S10 2SJ

Study participating centre
Addenbrookes Hospital
Hills Road
Cambridge
England
CB2 0QQ

Study participating centre
Kings Mill Hospital
Mansfield Road
Sutton-in-Ashfield
England
NG17 4JL

Study participating centre
Nottingham City Hospital
Hucknall Road
Nottingham
England
NG5 1PB

Study participating centre
The Christie Hospital
550 Wilmslow Road
Withington
Manchester
England
M20 4BX

Study participating centre
Leighton Hospital
Leighton
Crewe
England
CW1 4QJ

Study participating centre
Queen's Hospital
Barking, Havering and Redbridge University Hospitals NHS Trust, Rom Valley Way
Romford, Essex
England
RM7 0AG

Study participating centre
Royal Devon and Exeter Hospital
Barrack Road
Exeter
England
EX2 5DW

Study participating centre
Clatterbridge Cancer Centre
The Clatterbridge Cancer Centre NHS Foundation Trust
65 Pembroke Place
Liverpool
England
L7 8YA

Study participating centre
Colchester Hospital
Turner Road
Colchester
England
CO4 5JL

Study participating centre

Royal Surrey County Hospital
Egerton Road
Guildford
England
GU2 7XX

Study participating centre
University College London Hospital
250 Euston Road
London
England
NW1 2PG

Study participating centre
Guy's and St Thomas' Hospital
Guy's and St Thomas' NHS Foundation Trust
Westminster Bridge Road
London
England
SE1 7EH

Study participating centre
Southampton General Hospital
Tremona Road
Southampton
England
SO16 6YD

Study participating centre
Bristol Haematology and Oncology Centre
Horfield Road
Bristol
England
BS2 8ED

Study participating centre
Churchill Hospital
Old Road
Headington

Oxford
England
OX3 7LE

Study participating centre
Royal United Hospital
Combe Park
Bath
England
BA1 3NG

Study participating centre
Ipswich Hospital
Heath Road
Ipswich
England
IP4 5PD

Study participating centre
Queen Elizabeth Hospital Kings Lynn
Gayton Road
Queen Elizabeth Hospital Site
King's Lynn
England
PE30 4ET

Study participating centre
Mount Vernon Cancer Centre
Rickmansworth Road
Northwood
England
HA6 2RN

Study participating centre
Queen Alexandra Hospital
Southwick Hill Road
Cosham
Portsmouth
England
PO6 3LY

Study participating centre
Musgrove Park Hospital
Musgrove Park
Taunton
England
TA1 5DA

Study participating centre
Torbay Hospital
Newton Road
Torquay
England
TQ2 7AA

Study participating centre
Velindre Cancer Centre
Velindre Road
Cardiff
Wales
CF14 2TL

Study participating centre
Altnagelvin Area Hospital
Glenshane Road
Londonderry
Northern Ireland
BT47 6SB

Study participating centre
Belfast Health and Social Care Trust
Trust Headquarters
A Floor - Belfast City Hospital
Lisburn Road
Belfast
England
BT9 7AB

Study participating centre

Beatson West of Scotland Cancer Centre
1053 Great Western Road
Glasgow
Scotland
G12 0YN

Study participating centre
New Victoria Hospital
55 Grange Road
Glasgow
Scotland
G42 9LF

Study participating centre
St Luke's Radiation Oncology Network
St Luke's Hospital
Highfield Road, Rathgar
Dublin
Ireland
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Sponsor information

Organisation
The Christie NHS Foundation Trust

ROR
https://ror.org/03v9efr22

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

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?
Study website	Study website	11/11/2025	11/11/2025	No	Yes