

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 No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 21/08/2024	Overall study status Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 07/04/2025	Condition category Cancer	<input type="checkbox"/> Individual participant data <input type="checkbox"/> 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?

April 2023 to December 2027

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

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

Integrated Research Application System (IRAS)

334993

Protocol serial number

NIHR133518, CPMS 61676, IRAS 334993

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

31/12/2027

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

Sex

All

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

30/03/2026

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Weston Park Hospital

Witham Road

Sheffield

United Kingdom

S10 2SJ

Study participating centre

Addenbrookes Hospital

Hills Road

Cambridge

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Study participating centre

Kings Mill Hospital

Mansfield Road

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Study participating centre
Nottingham City Hospital
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NG5 1PB

Study participating centre
The Christie Hospital
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M20 4BX

Study participating centre
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Study participating centre
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RM7 0AG

Study participating centre
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Study participating centre
Clatterbridge Cancer Centre
The Clatterbridge Cancer Centre NHS Foundation Trust

65 Pembroke Place
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Study participating centre
Colchester Hospital
Turner Road
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Study participating centre
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250 Euston Road
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NW1 2PG

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

Study participating centre
Southampton General Hospital
Tremona Road
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SO16 6YD

Study participating centre
Bristol Haematology and Oncology Centre
Horfield Road
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Study participating centre
Churchill Hospital
Old Road
Headington
Oxford
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OX3 7LE

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

The current data-sharing plans for this study are unknown and will be 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?
Study website	Study website	11/11/2025	11/11/2025	No	Yes