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# Meso-ORIGINS: An observational study investigating the origins of mesothelioma

**Submission date**
11/08/2021

**Recruitment status**
Recruiting

**Registration date**
13/08/2021

**Overall study status**
Ongoing

**Last Edited**
20/11/2024

**Condition category**
Cancer

[X] 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
Mesothelioma is an incurable cancer of the lining of the lungs (the pleura), which is strongly associated with previous asbestos exposure. The factors that promote or permit mesothelioma evolution to develop many decades after exposure to asbestos dust are poorly understood, but mesothelioma may be preceded by benign (non-cancerous) inflammation of the pleura in some patients. The diagnosis of asbestos-associated benign pleural inflammation therefore provides a unique window of opportunity study mesothelioma evolution.

We will study samples collected in patients with an initial benign pleural biopsy sample, in whom mesothelioma subsequently develops, and compare these with similar samples from patients that do not evolve in this way. To do this, the study will create a large cohort of matched 'benign /mesothelioma' and 'benign/no mesothelioma' tissue pairs. This information may help us, and future researchers, design new, more effective treatments for mesothelioma.

Who can participate?
Patients with abnormalities of the pleura who have reported previous asbestos exposure may be eligible. There is no age or gender restriction on participation.

What does the study involve?
This study has 2 arms: Arm A and Arm B, and a MRI sub-study as part of Arm A (site dependent).

Arm A
Arm A will recruit asbestos-exposed participants with an initial benign pleural biopsy result. Participants will be followed up for 2-years following retrieval of their original biopsy for use in the study and collection of a sample of blood and exhaled breath. The breath sample will be collected using a special device that looks like a large inhaler. They will be asked to take deep breaths in and out during this test, which takes around 5 minutes to complete. The study will also request access to any additional scans or biopsies taken over the 2 year follow up. At 18 months participants with no changes may be invited to have another scan and possibly another biopsy as part of the study.

Arm A MRI sub-study
The sub-study will recruit participants at participating sites who have already consented to be part of the study Arm A. Participants who chose to be part of the MRI sub-study will have an MRI performed within 14 days of study enrolment, in addition to the steps noted above.

Arm B
Arm B will recruit asbestos-exposed participants who are going to have biopsies taken because a pleural abnormality has been found by their medical team (e.g. a pleural effusion (a collection of fluid around the lung) or a pleural mass (an area of thickening on the lining of the lung). Participants will have extra biopsy samples taken for study analyses during the biopsy proceure already planned.

What are the possible benefits and risks of participating?
There is unlikely to be any direct benefit to participants taking part, but the results of this study could help us understand how mesothelioma develops and how to effectively diagnose and treat it. This has the potential to greatly improve the lives of patients in the future.
The main disadvantages of the study are related to having a repeat biopsy. The risk involved would be small since the methods by which biopsies are obtained (Local Anaesthetic Thoracoscopy or Image-guided Pleural Biopsy) are safe common procedures and complications from either are rare.
In some cases, the additional biopsy may be done as part of routine care if a participant's doctor suspects that mesothelioma might be developing. As this would be arranged during normal care, being in the study would not increase any risks related to this.

Where is the study run from?
The study is being coordinated by the University of Glasgow supported by Cancer Research UK Glasgow Clinical Trials Unit (based at the Beatson West of Scotland Cancer Centre in Glasgow) (UK)

When is the study starting and how long is it expected to run for?
August 2021 to August 2027

Who is funding the study?
Cancer Research UK

Who is the main contact?
Professor Kevin Blyth, Kevin.blyth@glasgow.ac.uk
Dr Alexandrea MacPherson, Alexandrea.MacPherson@glasgow.ac.uk

https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-study-to-find-out-more-about-mesothelioma-meso-origin

### Study website
https://www.predictmeso.com/research/#meso-origins

# Contact information

### Type(s)
Public

### Contact name

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**Type(s)**
Scientific

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# Additional identifiers

**EudraCT/CTIS number**
Nil known

**IRAS number**
291818

**ClinicalTrials.gov number**
Nil known

**Secondary identifying numbers**
GN19ON232, IRAS 291818, CPMS 50562

# Study information

**Scientific Title**

Meso-ORIGINS: Mesothelioma Observational study of RIsk prediction and Generation of paired benign-meso tissue samples, Including a Nested MRI Sub-study

## Acronym
Meso-ORIGINS

## Study objectives
Malignant pleural mesothelioma (MPM) is an incurable cancer of the lining of the lung, strongly associated with asbestos exposure, that develops after decades of benign pleural inflammation. It is not known what triggers the evolution from benign inflammation to MPM, or how best to treat the cancer to reverse or halt these processes.
Meso-ORIGINS aims to generate a large prospective cohort of asbestos-exposed patients with benign initial biopsies matched to subsequent samples acquired at mesothelioma evolution. These samples will be used in downstream pre-clinical work packages to define the biology driving mesothelioma evolution; to define new drug targets; and in validation of pre-clinical models.

## Ethics approval required
Old ethics approval format

## Ethics approval(s)
Approved 11/11/2021, West of Scotland Research Ethics Committee 4 (West of Scotland Research Ethics Service, Ward 11, Dykebar Hospital, Grahamston Road, Paisley, PA2 7DE, UK; +44 (0)141 314 0212; WoSREC4@ggc.scot.nhs.uk), ref: 21/Ws/0120

## Study design
Multi-centre prospective observational study incorporating a cross-sectional MRI sub-study

## Primary study design
Observational

## Secondary study design
Longitudinal study

## Study setting(s)
Hospital

## Study type(s)
Other

## Participant information sheet
Not available in web format, please use contact details to request participant information sheet

## Health condition(s) or problem(s) studied
Patients with benign asbestos-associated pleural disease and patients with suspected mesothelioma

## Interventions
Arm A will follow patients up over a 2-year period following an initial benign pleural biopsy. All patients will have their initial pleural biopsies retrieved and banked and all will have baseline risk assessment including data, blood and exhaled breath sample collection. Participants will provide

consent for any subsequent tissue samples to be banked, including any taken because of suspected Mesothelioma during the 2-year follow-up period. Participants with benign follow-up may be asked to consent to repeat biopsy sampling. MRI sub-study participants will have an additional MRI scan as part of their baseline assessment.

Arm B will recruit patients with suspected mesothelioma and ask for consent to take additional pleural biopsies, (added 14/07/2022): and a blood sample.

### Intervention Type
Mixed

### Primary outcome measure
Number of patients in Arm A diagnosed with malignant pleural mesothelioma based on histological confirmation in tissue biopsies at any point from study registration to completion of 2 years follow-up

### Secondary outcome measures
1. Results of a multiomic risk classifier based on radiomics based on perfusion MRI early contrast enhancement, proteomic assay to be confirmed, exhaled breath metabolomics by gas chromatography-mass spectrometry at baseline in Arm A
2. Number of patients in the Arm B with histologically confirmed malignant pleural mesothelioma following thoracoscopy

### Overall study start date
12/08/2021

### Completion date
31/08/2027

## Eligibility

### Key inclusion criteria
Arm A:
1. History of asbestos exposure or imaging compatible with this (e.g., pleural plaques)
2. Any form of pleural biopsy within last 1 year showing evidence of associated pleural inflammation (e.g., benign fibrinous pleurisy, non-specific pleuritis, atypical mesothelial proliferation)
3. Informed written consent (to at least banking of previous and future pleural tissue samples)

Arm A MRI sub-study:
1. Registered to the Benign Arm
2. Informed written consent

Arm B:
1. Suspected pleural malignancy, defined by a unilateral pleural effusion or mass
2. History of asbestos exposure or typical radiological features e.g., pleural plaques
3. Sufficient fitness for thoracoscopy (LAT or VATS are permissible)
4. Informed written consent

### Participant type(s)
Patient

### Age group
Adult

### Sex
Both

### Target number of participants
500

### Key exclusion criteria
Arm A:
1. Any cytologically or histologically confirmed pleural malignancy
2. Any pleural infection including TB
3. Granulomatous pleural inflammation
4. Any specific pleuritis (e.g., RA)
5. Previous Pleurodesis

Arm A MRI sub-study:
1. Any contraindication to MRI, e.g., claustrophobia, pregnancy, metallic foreign body, pacemaker /implant
2. Allergy to gadolinium contrast
3. eGFR <30 ml/min

Arm B:
1. Current or recent (within last 3 months. intercostal chest drain)
2. Previous pleurodesis

### Date of first enrolment
16/06/2022

### Date of final enrolment
31/08/2025

## Locations

### Countries of recruitment
England

Scotland

United Kingdom

Wales

### Study participating centre
**Queen Elizabeth University Hospital**
1345 Govan Road
Glasgow

United Kingdom
G51 4TF

**Study participating centre**
**University Hospitals Plymouth NHS Trust**
Derriford Hospital
Derriford Road
Derriford
Plymouth
United Kingdom
PL6 8DH

**Study participating centre**
**Royal Gwent Hospital**
Aneurin Bevan University Health Board
Cardiff Road
Newport
United Kingdom
NP20 2UB

**Study participating centre**
**Churchill Hospital**
Oxford Respiratory Trials Unit (ORTU)
The University of Oxford
Oxford Centre for Respiratory Medicine
Oxford
United Kingdom
OX3 7LE

**Study participating centre**
**Musgrove Park Hospital (taunton)**
Musgrove Park Hospital
Taunton
United Kingdom
TA1 5DA

**Study participating centre**
**Southmead Hospital**
Southmead Road
Westbury-on-trym
Bristol

United Kingdom
BS10 5NB

**Study participating centre**
**Wythenshawe Hospital**
Southmoor Road
Wythenshawe
Manchester
United Kingdom
M23 9LT

**Study participating centre**
**Northumbria Specialist Emergency Care Hospital**
North Tyneside General Hospital
Rake Lane
North Shields
United Kingdom
NE29 8NH

**Study participating centre**
**Glasgow Royal Infirmary**
NHS Greater Glasgow and Clyde
84 Castle Street
Glasgow
United Kingdom
G4 0SF

**Study participating centre**
**Gartnavel General Hospital**
1053 Great Western Road
Glasgow
United Kingdom
G12 0YN

**Study participating centre**
**Royal Lancaster Infirmary**
Ashton Road
Lancaster
United Kingdom
LA1 4RP

**Study participating centre**
**Salford Royal**
Stott Lane
Salford
United Kingdom
M6 8HD

**Study participating centre**
**Aberdeen Royal Infirmary**
Foresterhill Road
Aberdeen
United Kingdom
AB25 2ZN

**Study participating centre**
**Victoria Hospital (blackpool)**
Whinney Heys Road
Blackpool
United Kingdom
FY3 8NR

**Study participating centre**
**Ninewells Hospital**
Ninewells Avenue
Dundee
United Kingdom
DD1 9SY

**Study participating centre**
**Raigmore Hospital**
Old Perth Rd
Inverness
United Kingdom
IV2 3UJ

**Study participating centre**
**Kettering General Hospital Laboratory**
Kettering General Hospital
Rothwell Road

Kettering
United Kingdom
NN16 8UZ

**Study participating centre**
**Western General Hospital**
Crewe Road South
Edinburgh
Lothian
United Kingdom
EH4 2XU

**Study participating centre**
**Royal Papworth Hospital NHS Foundation Trust**
Papworth Road
Cambridge Biomedical Campus
Cambridge
United Kingdom
CB2 0AY

**Study participating centre**
**Glenfield General Hospital**
Groby Road
Leicester
United Kingdom
LE3 9QP

**Study participating centre**
**Furness General Hospital**
Dalton Lane
Barrow-in-furness
United Kingdom
LA14 4LF

**Study participating centre**
**The Grange University Hospital**
Caerleon Road
Cwmbran
United Kingdom
NP44 8YN

# Sponsor information

**Organisation**
NHS Greater Glasgow and Clyde

**Sponsor details**
Research & Innovation
Ward 11, Dykebar Hospital
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+44 (0)141 314 4001
joanne.mcgarry@ggc.scot.nhs.uk

**Sponsor type**
Hospital/treatment centre

**Website**
http://www.nhsggc.org.uk/

**ROR**
https://ror.org/05kdz4d87

# Funder(s)

**Funder type**
Charity

**Funder Name**
Cancer Research UK

**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

# Results and Publications

## Publication and dissemination plan
Results will be published in peer reviewed clinical and scientific journals, and presented at local, national and international scientific meetings. In addition, results will be published on the PREDICT-Meso website (in development) and the PREDICT-Meso Twitter page (https://twitter.com/PREDICT_Meso). We will utilise our established relationships with the Scottish Mesothelioma Network, Macmillan Cancer Support and Mesothelioma UK and their websites, social media, newsletters and events, to inform patients and participants of study results.

## Intention to publish date
01/02/2028

## Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are/will be available upon request from the PREDICT-Meso Research Tissue Bank (REC approval 21/WS/011). Please contact alexandrea.macpherson@glasgow.ac.uk for details on the data available and application process. Patient consent will be obtained that allows storage in the Research Tissue Bank and appropriate sharing of samples and data with the mesothelioma research community. A copy of the PREDICT-Meso Research Tissue Bank Governance, Collection and Access policy can be made available upon request. This covers access criteria; what data will be shared including with whom, for what types of analyses, and by what mechanism comments on data anonymisation, any ethical or legal restrictions)

## IPD sharing plan summary
Available on request