

Will exposure to fire smoke at the Grenfell Tower fire cause long-term adverse health effects to firefighters of the London Fire Brigade?

Submission date 31/05/2019	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 31/05/2019	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 21/05/2025	Condition category Injury, Occupational Diseases, Poisoning	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

On the 14th June 2017 a fire broke out in the 24-storey Grenfell Tower in west London, causing the deaths of over 70 occupants and becoming the worst residential fire in the United Kingdom since the second world war. The fire spread unusually rapidly and its extinction – which took 60 hours - required the labour of over 1000 firefighters from the London Fire Brigade. Because of the scale and nature of the fire, a sizeable proportion of them were subjected to unusually high exposures to fire smoke, in many cases without standard respiratory protection; we propose to establish a cohort of the Grenfell firefighters to study a range of potential adverse effects from these exposures.

Who can participate?

Firefighters of the London Fire Brigade who attended the Grenfell fire; and a sample of those who were eligible to do so but did not.

What does the study involve?

1. Consent for personal information (name, date of birth, NHS number) to be linked, in the future, to registries of disease.
2. Participation in a baseline survey of heart and lung health.

What are the possible benefits and risks of participating?

1. Identification of lung and heart conditions at an early stage so they can be treated and/or prevented from getting worse.
2. More generally, an understanding of the health risks of firefighting.

Where is the study run from?

Imperial College, London

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

Baseline survey August 2019 to April 2023

Long-term follow-up: 50+ years

Who is funding the study?

The COLT Foundation, a medical charity.

Who is the main contact?

Dr Johanna Feary

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Contact information

Type(s)

Scientific

Contact name

Dr Johanna Feary

Contact details

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Additional identifiers

Integrated Research Application System (IRAS)

265618

Study information

Scientific Title

The Grenfell Firefighters; establishing a cohort

Acronym

GFS

Study objectives

Will exposure to firesmoke at the Grenfell Tower fire cause long-term adverse health effects to firefighters of the London Fire Brigade?

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 06/12/2020, London-Fulham Research Ethics Committee (Barlow House, 3rd Floor, 4 Minshull Street, Manchester, M1 3DZ, UK; +44 (0)2071048165; Nrescommittee.london-fulham@nhs.net), ref: 19/LO/1847

Study design

Prospective cohort, with baseline cross-sectional survey, single centre

Primary study design

Observational

Study type(s)

Screening

Health condition(s) or problem(s) studied

Respiratory and cardiovascular disease; cancers after exposure to fire smoke

Interventions

No intervention. At the baseline survey we will make a series of non-invasive, physiological measurements of lung (spirometry and impulse oscillometry before and after a bronchodilator) and cardiac function (arterial stiffness) in participating firefighters. We will, at this point, invite them to enrol in a long-term study of their cardio-respiratory health and of cancer incidence; largely through data linkage.

Intervention Type

Other

Primary outcome(s)

Airway resistance at 5Hz is measured using impulse oscillometry at baseline survey.

Key secondary outcome(s)

1. Airway resistance and airflow are measured through impulse oscillometry and spirometry at baseline.
2. Arterial stiffness measured by Vicorder at baseline.
3. Respiratory symptoms are measured using a questionnaire at baseline.
4. The incidence of cardiorespiratory disease is measured using data linkage to national and other registers at any point in the future
5. The incidence of cancers is measured using data linkage to national and other registers at any point in the future.

Completion date

30/04/2023

Eligibility

Key inclusion criteria

1. Firefighters who directly attended the Grenfell Tower fire in June 2017
2. A sample from those who were eligible to attend the fire but did not do so because of annual leave etc.

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Total final enrolment

687

Key exclusion criteria

N/A

Date of first enrolment

27/02/2020

Date of final enrolment

19/04/2023

Locations**Countries of recruitment**

United Kingdom

England

Study participating centre

Royal Brompton and Harefield NHS Foundation Trust

Sydney Street

London

United Kingdom

SW3 6NP

Sponsor information**Organisation**

Imperial College, London

ROR

<https://ror.org/041kmwe10>

Funder(s)

Funder type

Charity

Funder Name

Colt Foundation

Alternative Name(s)

The Colt Foundation

Funding Body Type

Private sector organisation

Funding Body Subtype

Trusts, charities, foundations (both public and private)

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are not expected to be made available: consent has been obtained to share anonymised data with relevant collaborators for other studies relating to firefighter health; however, consent has not been obtained for participant data to be made publicly available.

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No
Other publications	Cancer biomarkers	07/05/2025	21/05/2025	Yes	No
Protocol file	version v1	31/05/2019	31/05/2019	No	No