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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

Registration date
31/05/2019

Last Edited
21/05/2025

Recruitment status
No longer recruiting

Overall study status
Completed

Condition category
Injury, Occupational Diseases, Poisoning

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] 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

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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

Primary study design
Observational

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

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 though 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