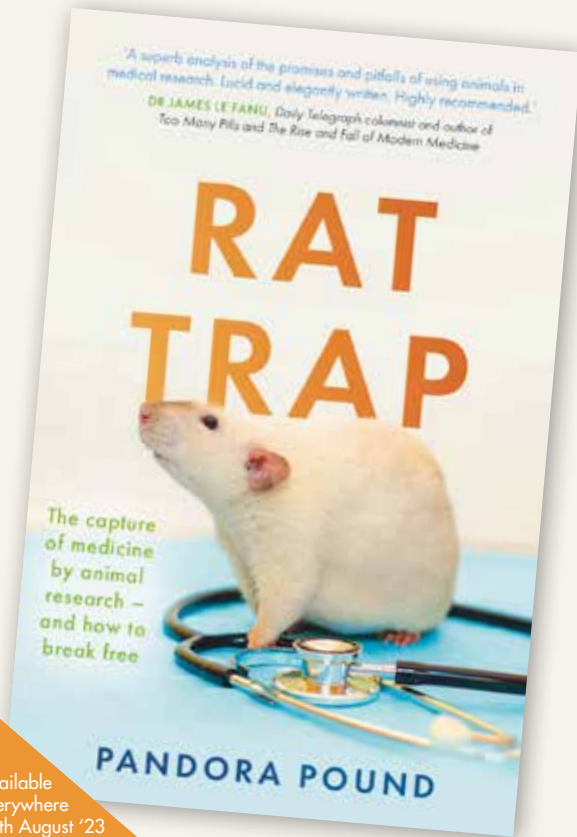


The spark for a revolution in science

Rat Trap ends the debate about animal research once and for all. Dr Pandora Pound shows that, far from being a necessary evil, it is one of the most important and urgent scientific issues of our time.



Animal research harms patients
and holds back medical progress.
Superior technologies based on human
biology could transform medicine if not
for the iron grip of animal research.

Rat Trap is dynamite! It blows the lid off decades of dogma.

**Read it, share it, and help speed the revolution
that will benefit us all.**

Help us replace unreliable animal tests with human-relevant science



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www.SaferMedicines.org

Available
everywhere
28th August '23
see back page

Better science for safer medicines

- Medicines help many of us. But they also send more than a million people to hospital in the UK each year and kill more than 10,000.
- Many diseases have no treatments, despite decades of research on animal 'models'. Often a new drug works well in animals but then has no effect when tested in humans. £Billions are wasted on research that does not translate to humans.
- New methods based on **human** biology *transform* our ability to understand disease and develop new medicines. Investment in human relevant research offers a golden opportunity for the UK to save money, create wealth and improve public health.

The FUTURE

Human on a chip

Human organoids

Human cells and tissues

Virtual humans and AI

The PAST

Animal tests

The best model for humans is human

"The mouse has cost us a new generation of medicines... We keep getting led down the garden path... This isn't just true for TB: It's true for virtually every disease."

Dr Clifton Barry, Chief of TB Research, National Institute of Allergy and Infectious Diseases, USA



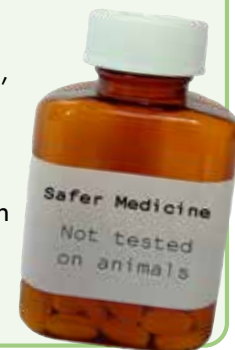
The Mouse Trap,
Daniel Engber,
slate.com
16 November 2011

"Therapeutic use of drugs constitutes a major public health risk" - Institute for Safe Medication Practices, QuarterWatch July 2017



State of the art approaches include:

- **Human cells and tissues** can be grown into mini 'organoids', interconnected in 'organs on a chip', and their genes, proteins and other 'biomarkers' can be studied. 3D 'organs on a chip' can predict adverse drug reactions that were missed by animal tests and even by human trials
(Ewart et al, *Commun Med* (Lond). Dec 6;2(1):154, 2022, Dirven et al, *Sci Rep* 11, 6403, 2021).
- **Computer models** can use 'big data' and 'machine learning' to create virtual organs, virtual patients, and even virtual clinical trials. A virtual heart predicts the safety and effectiveness of heart drugs more accurately than animal tests
(Passini et al, *Frontiers in Physiology*, 8:1, 2017).
- **Human volunteers** can take a tiny, safe 'microdose' of a new medicine, which can be monitored with imaging devices, to reveal how and where it is processed in the human body and help calculate a safe starting dose for subsequent clinical trials (Burt et al, *Alternatives To Laboratory Animals*, 46:335, 2018).



Outdated regulations cost lives

Scientists around the world agree that governments need to take urgent action to speed the use of these new technologies.

Patients are being injured and killed because regulations have not kept pace with scientific advances.

With our partners in the Alliance for Human Relevant Science, we call for **serious** support for human relevant science.

It is time for the government to insist that medicines are tested by the most up-to-date and relevant methods.

Safer Medicines Trust

is a patient safety charity whose mission is to change the way medicines are tested, to a system based on **human** biology: the only way to ensure safety for patients.

Safer Medicines Campaign

exists to challenge the regulations that still require animal-based safety tests when superior methods exist.

We are a founder member of the Alliance for Human Relevant Science

www.HumanRelevantScience.org



A message from our Patrons

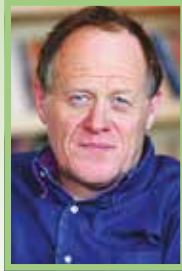
“ What other area of science still relies on the flawed methods of 50 years ago? We must move safety testing into the 21st century – for all our sakes ”



Mat Fraser
Actor and thalidomider



Caroline Lucas MP
Green Party



Dr James Le Fanu
Doctor and writer



Carol Royle
Actress



Grahame Morris MP
Labour

YOU can help

- Buy Rat Trap from bookshops (from 28/8/23) or online as paperback or e-book. The link on our website gives us the best return!
- Write to your MP to offer or send them a copy of Rat Trap
- Order free copies of this leaflet to distribute as widely as possible
- Please donate online or below – our success depends on your support

I would like to help Safer Medicines Trust continue this vital work

I enclose £5 £10 £20 £_____ to support your vital work

Please tick if you are a UK taxpayer and would like to **gift aid** your donation

We can keep costs to a minimum by not sending receipts. Please tick if you **would** like a receipt

Please send _____ more of these leaflets

Please tick if we can contact you (annually) by post

Name: _____

Address: _____

Please tick if we can contact you (once or twice a year) by email

Email address: _____



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Please make cheques payable to 'Safer Medicines Trust' and send to: **Safer Medicines, PO Box 122, Kingsbridge TQ7 9AX**

With no corporate or government funding, we rely completely on your generosity. We don't have expensive overheads: all our office space is donated without charge. Thank you for your invaluable support – we simply can't do this without you. Your details are safe with us. Check out our Privacy Policy at SaferMedicines.org for more information.