

Medical advances from animal research

- aka. but what has animal research ever given us?
- These slides are intended to give an overview of the huge advances made in medical science in the last 150 years or so and to help counter the claim that animal research has delivered no or few benefits.
- They are by no means comprehensive and mention only a small number of the medical advances that animal research has contributed to in that period.
- You may want to add details about other researches such as those that you are or have been involved in.
- More on:
<<http://www.understandinganimalresearch.org.uk/why/health-timeline/>>

Brief history of animal research

1600-1900

- Smallpox vaccine (cows)
- Typhoid, cholera, plague vaccines (mice, rats)
- Rabies vaccine (dogs, rabbits)

1900s

- Rickets treatment (dogs)
- Corneal transplants (rabbits)
- Discovery of vitamin C/ Scurvy (guinea pigs)

1910-1920s

- Blood transfusions (dogs, guinea pigs, rabbits)
- Insulin for diabetes (dogs, rabbits, mice)

1930-1940s

- Antibiotics- Penicillin / streptomycin (mice)
- Diphtheria vaccine (guinea pigs, rabbits, horses, monkeys)
- Kidney dialysis (guinea pigs, rabbits, dogs, monkeys)

1950-1960s

- Polio vaccine (mice, monkeys)
- Kidney transplants (dogs)
- Heart transplants (dogs)
- Cardiac pacemakers (dogs)

1970-1980s

- Chemotherapy (mice)
- Leprosy treatment (armadillos, mice)
- Asthma inhalers (guinea pigs, rabbits)
- MRI scanning (rabbits, pigs)
- River blindness treatment (rodents, cows)

1990-2000s

- HIV combined therapy (mice, monkeys)
- Meningitis vaccines (mice)
- Cervical cancer vaccine (rabbits, cows)
- Parkinson's deep brain stim (monkeys)

A brief history of animal research

Pre 20th Century



Vaccine for smallpox
(cattle)



Typhoid,
cholera and
plague
vaccines (mice,
rats)



Rabies vaccine
(dogs, rabbits)

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1900s



Treatment for rickets
(dogs)



Corneal transplants
(rabbits)



Discovery of vitamin C
(guinea pigs)

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1910s -1920s



Blood transfusions
(dogs, guinea pigs, rabbits)



Insulin
(dogs, rabbits, mice)



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1930s - 1940s



Penicillin and streptomycin
(mice)



Diphtheria vaccine
(guinea pigs, rabbits, horses, monkeys)



Kidney dialysis
(guinea pigs, rabbits, dogs, monkeys)



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1950s – 1960s

Polio vaccine
(mice, monkeys)



Kidney transplants
(dogs)

Heart transplants
(dogs)



Cardiac pacemakers
(dogs)

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1970s – 1980s



Chemotherapy
(mice)



MRI scanning
(rabbits, pigs)



Treatment for leprosy
(armadillos, monkeys)



Asthma inhalers
(guinea pigs, rabbits)



Treatment for river blindness
(rodents, cattle)



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1990s – 2000s



Combined therapy for HIV
(mice, monkeys)



Meningitis vaccines
(mice)



Cervical cancer vaccine
(rabbits, cattle)

Deep brain stimulation for Parkinson's
(monkeys)



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The future



Stem cells for spinal cord,
heart repair
(mice, rats)



Alzheimer's vaccine
(mice)

Gene therapy for muscular dystrophy,
cystic fibrosis, sickle cell disease
(mice)

Malaria vaccine
(mice, monkeys)



Annual Benefits of Animal Research

Each year in the UK:

- 7,000 artificial heart valves fitted
- 50,000 new people treated for breast cancer
- 100,000 new diabetics using insulin
- 3,000,000 operations with general / local anaesthetic
- 30,000,000 prescriptions for asthma
- 40,000,000 prescriptions for antibiotics