

You can help!

Please help In Defense of Animals spread the truth about scientific experiments without using animals. As more people learn that animal testing is entirely unnecessary, they will become a growing force to speak out against this atrocity. **There are many ways that you can be part of this growing force:**

Educate yourself and others about animal experimentation.

Visit IDA's www.VivisectionInfo.org and www.CureDisease.com, the website for Americans For Medical Advancement. And if you'd like to learn in great detail about how experiments on animals are unethical and unnecessary, read "Sacred Cows and Golden Geese: The Human Cost of Experiments on Animals" by Drs. Ray and Jean Greek.

Get active.

Attend demonstrations against animal experimentation in your area. Contact IDA or visit our website to learn about local groups and campaigns against animal experimentation.

Watch where your donations go.

Don't send money to charities that support animal experiments. Contact IDA for a list of charities that do and do not give money to animal research. Also, write to the college or university from which you graduated and inform them that you will not donate to the alumni fund as long as they engage in animal experimentation.

Be a cruelty-free shopper.

Support only those companies that do not test products on animals and boycott those that do.

In Defense of Animals thanks Ray Greek, MD and Americans For Medical Advancement for the material in this brochure. For more information about AFMA, go to www.CureDisease.com



IN DEFENSE OF ANIMALS

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the heart of TECHNOLOGY

A Look
at Modern
Scientific
Research
Methods
That Do Not
Harm or Kill
Animals

Most people believe that experiments on animals, however tragic, are necessary for medicine to progress. Fortunately, this is not the case.

The belief that we must experiment on animals is being challenged by a

growing number of physicians and scientists who are utilizing many

research methods that do not harm or kill animals. Physicians and

scientists also see the negative consequences of

using one species to provide information

about another species; often the results

of animal experiments are misleading or

even harmful to humans.



HUMAN STUDIES HAVE IDENTIFIED ALL KNOWN ENVIRONMENTAL POISONS AND OCCUPATIONAL DISEASES

"Just as the tobacco executives insisted, under oath, that cigarettes did not cause cancer nor were they addictive, those with a vested interest in animal experimentation will state that animal experiments are vital for new cures to be found."

"Animal experimentation is not necessary. It is expensive. It is inaccurate. It is misleading. It consumes limited resources. And further, it is detrimental to the very species it professes to be working to help – humankind."

*Drs. Ray and Jean Greek, authors
"Sacred Cows and Golden Geese:
The Human Cost of Experiments on Animals."*

"If anyone other than white-coated scientists treated monkeys, dogs, cats, rabbits, pigs, and so forth as they do behind the locked doors of the animal lab, he or she would be prosecuted for cruelty."

Jane Goodall

"Growing numbers of professionals like myself are acting to oppose vivisection. I encourage people to fight the dangerous dead end of animal experimentation."

Murry J. Cohen, M.D.

So what are these non-animal methods of scientific research?

The following biomedical research practices reflect true progress-producing, accurate, predictive and applicable results. They offer real, immediate insight toward effectively fighting human disease.

In Vitro Research

Rather than hoping that an animal will respond like a human, *in vitro* research is conducted in an external, controlled environment, such as a test tube or a petri dish. Because most illnesses do their work at a microscopic level, these experiments make ideal test beds for studying the course of human disease.

Not only are *in vitro* tests more humane than killing animals by exposing them to experiments, but they have been shown to more accurately produce results which correlate from the laboratory to real life as well. *Toxicity tests using human cell cultures are two to three times more accurate than tests on rats and mice.*

Penicillin and streptomycin are historical examples of *in vitro* discovery, and there have been thousands since. Today's *in vitro* technology enables researchers to receive accurate information from as many as 100,000 compounds per day.

Technology

Technological advancements in biological science have forged phenomenal frontiers, and we have yet to tap one iota of their potential. The achievements of physicists, chemists, mathematicians, computer engineers and biotechnical engineers have long since outpaced the archaic methods of animal experimentation.

Breakthroughs in physics have allowed imaging techniques such as CAT scans, MRI scans, and PET scans. Our ability to understand disease processes has been vastly improved through X-ray crystallography, single molecule spectroscopies, and nuclear magnetic resonance. Ultrasound, blood-gas analysis machines, blood chemistry analysis machines, microscopes,

monitoring devices, electrocardiograms, and electroencephalograms all provide windows into the human body without using animals.

Chemistry has contributed greatly to DNA sequencing and gene chips, as well as drug delivery devices, biocompatible materials, and separation/purification methods and many more breakthroughs.

Mathematics and computer science have given us the Fast Fourier transforms used in spectroscopy and CAT scans, fast sequence alignment and database methods used in genomics, conformational search and optimization methods used in protein folding, and ecological and population models of disease.

Epidemiology

Epidemiology is the study and control of diseases within a human population. Epidemiology has linked diet to heart disease, smoking to lung disease, and identified *all* known environmental poisons and occupational diseases. By labeling certain habits or substances as dangerous, we can eliminate them from our lives and diminish our chances of illness. Using computers, we can now gather and analyze human population data at an unprecedented rate.

Unfortunately, animal experimentation often impedes the ready acceptance of epidemiological evidence. Asbestos, arsenic and benzene are a few of the products that lingered in the marketplace despite having been proven hazardous to humans through epidemiology.

Clinical Research

The observation and analysis of a patient's condition has always been an important component of

medical research. Examples of tell-tale evidence unfolding at the bedside are innumerable: the successful treatment of childhood leukemia, thyroid disease, our present level of HIV and AIDS therapies, the discovery of multiple cardiac drugs, and many more.

Though findings from animal experiments invariably differ from a drug's effects on humans, corporations continue sinking millions into irrelevant research. Clinical research could be greatly expanded if funding for animal studies was redirected to physicians for clinical research.

Autopsies

Virtually every disease has either been discovered or clarified as a result of autopsy. Autopsies often indicate the presence of illness missed by physicians, and studies show that physicians tend to misdiagnose approximately 10 percent of the time.

Due to higher costs, autopsies are not conducted as frequently as they once were. However, if just one out of five deceased patients was autopsied, volumes of invaluable information could be retrieved. Several European countries have already diverted funds from animal experiments to autopsies.

Post-Marketing Drug Surveillance

Post-marketing drug surveillance (PMDS) is a system of reporting all the effects and side effects of a medication after it has been released to the public. With this practice in effect, health professionals could detect and prevent the dangers of negative drug reactions. In addition, PMDS could also increase the likelihood of finding new uses for existing drugs.

Unfortunately, PMDS is not mandatory, and physicians infrequently report side effects to monitoring agencies. Therefore, it is impossible to compile comprehensive data on a drug's potential for negative reactions. If PMDS was mandatory, we would gather valuable information about drugs much more quickly. Getting this information sooner would mean many more people spared from dangerous side effects, some of

which have proven deadly.

Genetic Research

Genetic research, in conjunction with epidemiological evidence, reveals which genes cause humans to be predisposed to hereditary problems such as birth defects, cancer, and heart disease. By altering flaws in an individual's DNA composition, scientists are working toward correcting abnormal genetic traits.

Some scientists now study DNA in animals for the supposed benefit of science, wasting time and money for irrelevant results. With further exploration, human genetic research has the potential to eliminate cancer and birth defects *before* birth.

Computer and Mathematical Modeling

Computer and mathematical modeling have recently led to new treatments for breast cancer, AIDS, high blood pressure, and aided development of new prosthetics. By mimicking the shape and structure of molecules known to be therapeutic, scientists can improve their design to be even more effective. Similarly, known toxic chemicals can be analyzed to predict toxicity without resorting to unreliable animal testing.

“The animal rights movement is placing increasing pressure on the research community to seek alternatives to animal experiments. I am one of thousands of physicians who believe that this is a healthy process which will lead to responsible research, advance the cause of public health, and restore to medicine a respect for all living things.”

David C. Fabrey, M.D.

TOXICITY TESTS USING HUMAN CELL CULTURES ARE TWO TO THREE TIMES MORE ACCURATE THAN TESTS ON RATS AND MICE.