

the
LIFESAVING
BENEFITS of
PRIMATE
RESEARCH



ON THE COVER

A high-precision laser scalpel technique perfected with monkeys was used to remove a malignant tumor from a little girl's brain. We lost some lab animals. But look what we saved.

95% of the animals in medical research are rats and mice. ½ of 1 percent are primates.

That's a tiny number. But the impact on our health is enormous. In the past, responsible primate research has led to historic medical breakthroughs that have saved millions of people. Now, a new generation of researchers working with new technologies may save millions more.



To learn more about how this breakthrough brain cancer therapy works, visit www.bit.ly/DukePoliovirus

THEN

Once upon a time, the polio virus put some adults and a lot of kids in iron lungs like this one. In 1952, a vaccine developed with primate research changed all that.

NOW

Did you know a polio virus is being used to cure the deadliest form of brain cancer? It's true!!! So how's this even possible? Brilliant scientists. And of course, research with primates.



SAY 'HEY' TO SOME OF YOUR CLOSEST COUSINS

Did you know you share more than 90 percent of your genes with monkeys? More than 90 percent. That's precisely the reason why they can show us – in ways no other animal, computer or cell culture can – how killer diseases attack our bodies.

A PRETTY GOOD PARTNER FOR LIFESAVING RESEARCH

Before a new vaccine, drug, medical device or other potential treatment can be studied in people, it must be studied in animals.

Most of the animals in medical research today are rodents. But there's only so much they can tell us.

Because the truth is while studies performed with rats and mice are undeniably useful, their applicability to humans can be limited in some disease studies and lines of inquiry.

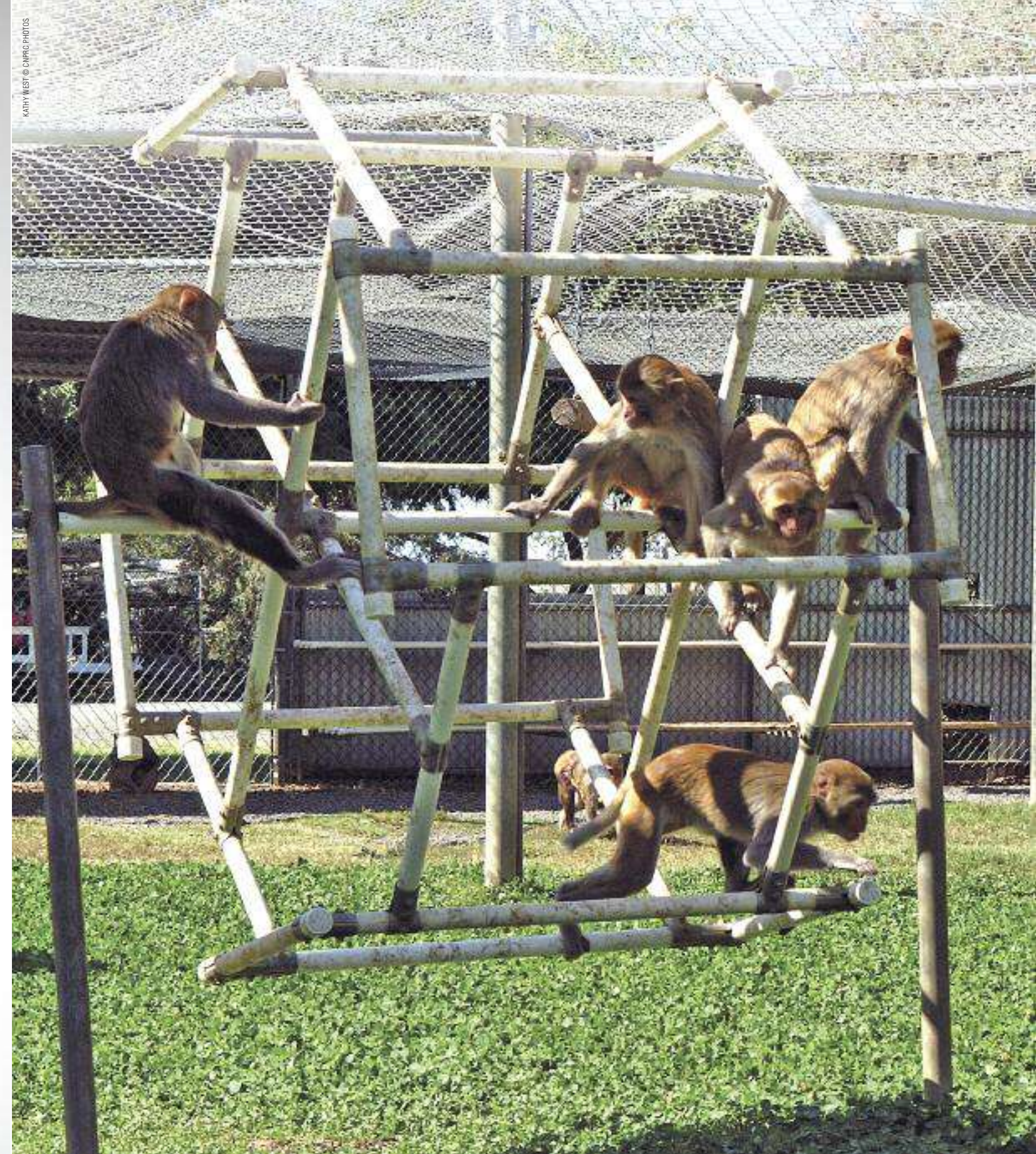
To get a better understanding of how a disease acts or how a new treatment will work in humans, primates in research are essential today and in the foreseeable future.

Scientists in the U.S. don't study chimpanzees. Instead they rely mostly on macaques and baboons.



THEN

AIDS was called the most mysterious health issue of the 20th century. Scientists didn't know anything about it except the death rate was virtually 100%. Some people started wearing a red ribbon to demonstrate compassion for people living with AIDS and their caregivers.



NOW

With monkey research, scientists learned as much about AIDS in six years as they learned about polio in 40. Today it's a manageable disease. And researchers are working on vaccines to prevent infection, better treatments, and potential cures.

CARE, TREATMENT AND RESPECT FOR OUR PRIMATE PARTNERS

It's a top priority for the research community and U.S. government.

Scientists work with monkeys only when no other research model can provide answers to the diseases and conditions they're studying. And they're diligent about how monkeys under their care are treated.

Teams of dedicated, well-trained veterinarians and technicians care for the monkeys and are responsible for insuring their welfare plus the alleviation and elimination of pain.

They'll often work with primate behaviorists to provide for the monkeys' psychological well-being. They'll put them in social groups. And provide environmental enrichment activities such as climbing structures, perches, swings, mirrors, and toys.

Truly, their well-being is a top priority.

Because like all primates (including us!), when monkeys are stressed their abnormal biological responses can distort research results.

Good oral health is just as important for monkeys as it is for us. Here, a well-trained vet tech provides a professional cleaning complete with general anesthesia.





THEN

Virtually every procedure performed in this operating room was the result of research with animals, including primates.



NOW

Virtually every procedure performed in this operating room is the result of research with animals, including primates.

It's pretty easy to take our health for granted. Especially when we're healthy. (That's just human nature.) So it's no surprise some people also take for granted the amazing things scientists have accomplished working with monkeys. [Here are some of the biggest medical challenges they're tackling now →](#)



ZIKA AND OTHER INFECTIOUS DISEASES

Zika's been around for more than half a century but no one paid much attention until it became a fast-moving epidemic and front page news.

Now infectious disease specialists are working overtime to understand how the virus affects a pregnant woman, the developing fetus, and the placenta (which nourishes and maintains the fetus).

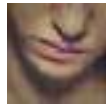
Since much of this research can't be conducted on moms-to-be – it could cause miscarriages – scientists are working with rhesus monkeys and cynomolgus monkeys to get answers.

The Zika virus infects primates just as it does humans, and basically both experience the disease in the same way.

In fact, among research animals, primates most faithfully duplicate the entire process of human infectious diseases starting with how viruses or bacteria are transmitted, how they reproduce inside the body, what symptoms result and how the immune system responds.

The newspaper headline shown here is real. And you should know that what researchers have learned in a relatively short time frame never could have been done with only rodents.

Visit www.bit.ly/NIHonZIKA for the latest information about Zika.



Heartbroken Mom I carried him for seven months. When I gave birth prematurely, I knew something was wrong. We had 17 hours together. Dear sweet baby boy, know you'll always be with us.

PREEMIES, MISCARRIAGE, AND STILLBIRTH

Fetal development in monkeys is surprisingly similar to human fetal development.

So just as obstetricians and gynecologists (ob/gyns) monitor pregnant patients, researchers study pregnant monkeys.

They take blood samples. Analyze amniotic fluid. And use ultrasound to monitor fetal development.

This helps provide a deeper, better, speedier understanding of the principal factors that determine the success – or failure – of a pregnancy.

More importantly, this knowledge allows them to test new vaccines and drugs meant to protect the fetus.

No other lab animal model allows for this broad spectrum of study and application of findings to pregnant women.





KIDNEY, LIVER, LUNG AND HEART TRANSPLANTS

Pretty much ever since the first heart transplant almost half a century ago, organ transplant tolerance has been a goal of scientists.

To prevent organ failure today, organ recipients receive medications to suppress their immune system to prevent rejection. But these immune suppressing drugs can be toxic and can have side effects like infections and even cancer.

The good news? Monkeys are really good research models. Researchers have made great strides in kidney transplant tolerance. First with mice. Then pigs. Then monkeys. Then humans.

But transplant tolerance is species specific and organ specific. So the lessons learned may not apply to other types of transplant operations.

Which means to achieve transplant tolerance for the heart, lungs or other organs, researchers may have to go back to square one with mice. Then pigs. Then monkeys. Then humans.

21 people will die today waiting for a kidney or liver – an organ that can be donated by a living person.



ALZHEIMER'S, PARKINSON'S AND SCHIZOPHRENIA

Human brain function and neurological diseases are very difficult to study in rodents.

Monkeys are the best animal model.

You see, their brain is structured a lot like ours. And since they have longer lifespans, scientists can conduct meaningful studies that would be impossible otherwise.

This type of primate research has relevance to Alzheimer's and all other forms of dementia, Parkinson's disease and other movement disorders, plus a wide range of behavioral and psychiatric problems including alcoholism, attention-deficit disorder, bipolar disorder and schizophrenia.

Research with rodents is incredibly important and for many applications is fully adequate.

But without primate research, the study and treatment of neurological and psychiatric disease will suffer.

TEN FINGERS, TEN TOES, TWO EYES, ONE HEALTHY BABY

This is why researchers do research with monkeys.

“But what about the monkeys?” you ask.

Monkey research is strictly controlled. Research institutions must comply with multi-layered regulatory requirements of the federal *Animal Welfare Act*.

Each organization must have an Institutional Animal Care and Use Committee (IACUC) that reviews proposals, considers the necessity of the research, and rejects or approves it.

As part of the process, scientists must explain why research alternatives like studying cells or using computer simulations aren’t able to achieve their scientific goals. And they must prove their research doesn’t unnecessarily duplicate previous studies.

The research community advocates the highest quality of animal care and treatment.

First, because it’s good science. A well-treated monkey provides more reliable and meaningful research results.

Second and equally important, because all monkeys deserve our respect and gratitude for helping unlock the mysteries of disease.



A note of explanation about this brochure

Scientists have made research discoveries with primates – monkeys for the most part – that would’ve otherwise been impossible without them.

Yet today, as technology accelerates the pace of just about everything, the pace of medical progress could be significantly hindered by those who’d like you to believe animal research is unnecessary and worthless.

The purpose of this educational brochure is to (1) set the record straight, (2) bridge the gap between the biomedical research community and the general public, and (3) remind everyone that researchers who work with animals – especially primates – deserve our trust and support.

Thank you for reading it.

Please share what you now know with someone you know. So they can also make an informed decision about this complex issue based on facts, reason and good will.

The Foundation for Biomedical Research (FBR) is America’s most experienced, trusted and effective non-profit dedicated to improving human and animal health by promoting public understanding and support for biomedical research.

FBR endorses carefully regulated research with monkeys. This research is essential to learning about the biology, treatment and prevention of diseases and conditions that cause human suffering.

FBR receives no government funding and relies exclusively on corporate and private contributions to underwrite its programs and services.

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