

**Animal tests are the baseline for all drug development.**

**ANIMAL-TESTED & RECALLED**

**ZELNORM (Tegaserod):** Gastrointestinal drug. FDA safety analysis shows heightened chance for heart attack, stroke and cardiac chest pain in users.

**HEPARIN (blood thinner):** Recalled after 400+ allergic reactions and 19 people die.

**MILRINONE (cardiac):** Ups survival for rats induced with heart failure. In humans, 30% rise in mortality.

**FIALURINE (hepatitis):** Dog-safe, liver failure in humans.

**NOMIFENSINE (antidepressant):** Okay in rats, rabbits, dogs, monkeys. Humans: liver poisoning, anemia.

**ZOMAX (pain):** Tests safe in animals. 14 humans die.

**STREPTOMYCIN (antibiotic):** Tests safe in forcibly dosed pigs, dogs, guinea pigs. Causes brain damage, deafness, blindness or death in human babies.

**ARAVA (rheumatoid arthritis):** 22 deaths, 130 liver reactions, high blood pressure/stroke, birth defects.

**VIOXX, CELEBRAX, BEXTRA (Cox-2 inhibitors):** Up heart disease risk in humans, despite animal testing.

**PREMARIN, PREMPRO (estrogen from pregnant mare urine):** Wyeth-Ayerst endures recalls after NIH study, Women's Health Initiative, finds long-term use ups risk for coronary heart disease (CHD), invasive breast cancer, stroke pulmonary embolism (PE), endometrial cancer, colorectal cancer, hip fracture, or death.

**BAYCOL, MERIDIA, SERZONE, FEN-PHEN:** Pulled or restricted after animal tests speed development.

**AMRINONE (cardiac):** Shows promise in mice, rats, hamsters, guinea pigs, dogs, rhesus monkeys. 20% of heart failure patients form thrombocytopenia. Some die.

**ISUPREL (asthma):** Recommended dose determined in animal tests. 3,500 asthmatics in Great Britain die.

**CHLORAMPHENICOL (antibiotic):** Dogs okay, cats die, cows tolerate, horses don't. Susceptible humans: Antibiotic leads to life-threatening anemia and is so toxic its use is illegal in animals used for food.

**CLIOQUINOL (anti-diarrheal):** Tests safe in rats, cats, dogs, rabbits. Global recall: Blindness, paralysis in people.

**DIETHYLSTILBESTROL (synthetic estrogen):** Animal data green-lights this miscarriage-deterrent, yet it ups spontaneous abortion, premature birth, neonatal death.

**ERALDIN (cardiac):** Safe in mice, rats, dogs and monkeys. Acute side effects in 7,000 humans, 23 deaths.


**ETC... ADVERSE DRUG REACTIONS ARE 4TH LEADING CAUSE OF U.S. DEATH, 2 MILLION+ VICTIMS EACH YEAR - FDA**

FDA records show 1,734 drug recalls, 2004-2011.

But recalls average once a month, say Brigham & Women's Hospital researchers (2012 Archives of Internal Medicine). FDA recalls just half of Class 1 medical products with potential to harm or kill humans.



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**Estimate: \$12-\$18 billion a year**

**That's how many taxpayer dollars annually fund animal research. National Institutes of Health is the chief grant giver. But the full scope of cross-agency funding for a system flawed by duplication, fraud and human harm is publicly unknown. Fiscal conservatives, are you listening too?**

**YOU PAID FOR IT**

**\$3 MILLION (SO FAR):** A decades-long University of Wisconsin-Madison sound localization lab mutilates cats to ostensibly gain data on how human brains process sound. Holes are drilled in a cat's brain to screw in a steel column that prevents head motion. A second surgery opens the cat's head so experimenters can damage inner ears with toxic matter and lodge electrodes in both ears. The cat awakens completely deaf. Cats are immobilized in nylon sacks for ongoing drills. Double-Trouble, an orange cat in lab photos, was denied food and then "rewarded" if she looked at noise projected from various directions. Lab records note "neurological signs." She twitches, her face is partially paralyzed and 3 months post-surgery a head wound is still "open, moist w/bloody purulent discharge." Before killed to dissect her brain, she appears "depressed." In 2013, USDA validates PETA allegations, citing UW for heating-pad burns to a cat, Broc, and "a pattern of recurring infections..."

**"This work is not cited in studies on human hearing... It can be conducted ethically using sophisticated brain imaging and recording techniques in humans."** Recognized brain research expert, Dr. Lawrence Hansen, neuroscience and pathology professor at University of California-San Diego School of Medicine

# YOU PAID FOR IT

At California National Primate Research Center at UC Davis (University of California, Davis) 14 baby rhesus macaque monkeys are dead from malnourishment. Another 5 mature monkeys are dead from gastrointestinal distress, infection and injury. Shoddy care is behind 19 fatalities at a facility that houses 5,000 primates to use as research models for AIDS, autism, Alzheimer's, malaria, allergies and other human conditions. A 2/4/13 citation from U.S. Department of Agriculture faults UC Davis in the 2009-2010 deaths. Robert Gibbens, western director for USDA's Animal-Plant Health Inspection Service writes that UC Davis "failure to act on its own consistent findings of inanition and dehydration of nonhuman primate neonates constitutes a failure to provide adequate veterinary care under the Animal Welfare Act." In 2011, USDA cited UC Davis for experimentation upon a sick, balding monkey with chronic vomiting.

**\$220,000 ANNUALLY:** In one UC Davis neuroscience lab, Dr. Kenneth Britten anchors monkeys by their heads to embed eye coils and brain electrodes. Many years and dead monkeys trail Dr. Britten's quest to uncover "mechanisms of motion processing in cortex." For similar experiments in 1992, he writes: "Rhesus monkeys were implanted with stainless-steel head holders and scleral search coils for monitoring eye movements..." In 2013, he describes experiments as "ongoing, complimented by multi-electrode recording experiments..." Translation: No end in sight.

**BILLIONS OF DOLLARS & DECADES WASTED:** Mice, the go-to model for human disease, are 100% inaccurate as data sources for fatal human ailments like sepsis, burns, trauma. A study, **Genomic responses in mouse models poorly mimic human inflammatory diseases**, published in Proceedings of the National Academy of Sciences (Feb 2013), backs what animal advocates have long gleaned from animal research flaws: Discrepancies between species (genetic, metabolic, anatomic, physiological, psychological) may render mice useless in immune system studies, including cancer and heart disease. The paper reveals why 150 animal-tested sepsis drugs fail in humans. Sepsis, full-body inflammation from infection, strikes 750,000 patients, one quarter of whom die, and annually costs \$17 billion (U.S.).

Ronald W. Davis, a Stanford University genomics expert and study co-author, said scientific journals initially rejected their paper. **"They're so ingrained in trying to cure mice, they forget we're trying to cure humans."**

Animal data creates false assumptions that can speed new drugs through clinical trials to market, but lead to unforeseen adverse drug reactions. Study investigators found that a particular gene is used in mice, while in humans, the similar gene is suppressed. If researchers disable the select gene in lab mice, the test drug is successful. Yet this variable, when applied to humans, can up fatal effects. Dr. Richard Hotchkiss, a Washington University researcher not involved in this study told New York Times: **"This paper... argues strongly — go to the patients. Get their cells...their tissues whenever you can." To understand the disease process, "you have to go to the patients."**

**ANIMAL EXPERIMENTERS ARGUE THAT REPETITION = ANSWERS:** It's a hard sell, given a lack of cures derived from animals induced with human disease/injury under conditions a human would never encounter. Animals exist in perpetual distress from repeated handling, intense confinement, noise, isolation, pain, fear... Stress hormones influence animal data (Laboratory Animal Science 2004) that shapes medical product development. In one study (Journal: Nature, March 2012) C. Glenn Begley, former head of global cancer research at Amgen, found **47 of 53 "landmark" findings can't even be reproduced. "It was shocking. Pharmaceutical industry relies on these findings." Failure was blamed, in part, on animal models irrelevant to cancers or other disease, in an academic arena that fosters poor science, even fraud, as researchers fight for funds.**

## Funding violent experiments on cats means \$3 million less is spent on research that can actually improve human health.

Dr. Lawrence Hansen, neuroscience and pathology professor, University California-San Diego; named as one of the top 100 researchers in brain research field, Journal of Alzheimer's Disease

**\$734,000 IN 2012:** Since 1989, millions have been spent to study amblyopia ("lazy-eye" childhood disorder treatable if diagnosed early) in primates. University of Houston, College of Optometry, Vanderbilt University, and National Institute of Mental Health track sight growth via electrodes implanted in baby monkeys, some 2-weeks-old. Each monkey's neck is opened to insert a windpipe tube (tracheostomy). They're restrained in head frames for 2-4 day stints of electrical stimulation recording, then killed to dissect brains. "Not surprising" data shows many neural pathways act in a way already known in older monkeys, with no new visual acuity insights gained. **"I've seen no evidence that this research has assisted management of amblyopia. Human clinical investigations have guided management of this condition."** Board-certified ophthalmologist Dr. Stephen Kaufman, in practice 22 years, who reviewed research protocols for In Defense Of Animals



**WHO PAYS FOR ALL THE LAB DO-OVERS?** Taxpayers bankroll multiple agencies that fund noncommercial medical research: Substance Abuse and Mental Health Services (SAMHSA), Health Resources and Services Administration (HRSA), Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDCP), Agency for Health Care Research and Quality (AHRQ), Office of Assistant Secretary of Health (OASH), Department of Defense (DOD)... National Institutes of Health (NIH) is the biggest, with 30-70% of its budget for animal research.

Academic research itself concedes that a highly competitive grant culture creates pressure for experimenters to churn out protocols, regardless of existing data or scientific validity. Each year, universities receive millions that help pay utility bills and other overhead. Indeed, quick money comes from animal research, not human-focused clinical or cell-line studies. "NIH under-funds patient-oriented research," (Committee on Addressing Career Paths for Clinical Research. National Academy Press, Bethesda, MD) with its biggest cut awarded to animal experimentation. A weak economy only heightens contests, with universities vying for a grant pool reduced by federal spending cuts.

**BIG PHARMA OWNS MORE THAN CONGRESS:** A 2012 feature from MoFo Tech, a think-tank for science/technology-based trends, identifies how **pharmaceutical firms forge "arrangements with academia involving millions of dollars. Big Pharma and the academic institution agree jointly on which projects to fund, and in return for financing research, the company has first option to commercialize research results,"** says Morrison & Foerster partner Van Ellis." The article, "Sharing An Umbrella," notes a monetary bond, as more universities hope to evolve scholastic research into saleable drugs. Plus, "universities are [always] looking for new sources of funding. These factors dovetail nicely with Big Pharma's needs." In fact, Pharma's capacity to invest tens of millions has resulted in joint steering committees that pick which academic research gets funding.