

# The Connection between Animal Testing, the Environment, and Human Health

Written by the PRISM research committee with excerpts from Animal Experimentation: the Hidden Cause of Environmental Pollution, written by Ms. Hoorik Davoudian-Telle

Every year our air, water, soil and farm products become increasingly toxic, poisoned by millions of tons of deadly chemicals, most of them tested on animals. Animal testing is the unscientific methodology used by the chemical/pharmaceutical industry to assess toxic compounds before putting them out on the market. The inconclusive, erroneous nature of animal testing creates a smoke screen – an alibi which permits the continued manufacture of thousands of toxic and hazardous chemicals. Animal testing conveys a false illusion of safety but all it ensures is a continued demand for “newer” and “improved” products. The tragic result is that these seemingly “safety tested” poisons are the very ones which pollute our air, food and water and are devastating our planet.

## HOW ENVIRONMENTAL POLLUTION IS GENERATED

Each year, tens of millions of various types of chemical products are manufactured for commercial, industrial, agricultural, military, household, and personal use in the United States. These toxic chemicals not only contaminate the environment when they are used as directed, but during manufacturing and disposal as well.

Toxins pollute the air when chemicals escape into the atmosphere from factory stacks during the process of production, and while being disposed of through incineration or other means. They pollute streams when industries release contaminants into storm water channels, and when chemicals are intentionally poured down street gutters or are washed into them by rain. Chemicals pollute the ocean waters when streams empty into them, and when chemicals flushed down sewer pipes are released, often untreated, into the ocean. They pollute the ground and underground water supplies when chemicals are intentionally poured onto soil, such as with pesticide application onto agricultural land. Contamination also occurs when chemicals seep through soil from broken pipes and leaky storage tanks, and when chemicals thrown out with garbage leach into landfills. According to the State of California Department of Conservation, the United States generates approximately 95 percent of the world’s hazardous and special waste.

## CHEMICAL POLLUTANTS

The exact number of hazardous chemicals manufactured is unknown. The Chemical Manufacturers Association (CMA) has estimated that as many as 20 million different types of chemical substances and products are being manufactured in the United States. Conversely, the Federal Occupational Safety and Health Administration (OSHA) estimates that there are as many as 40 to 70 million different kinds of hazardous products in use by U.S. industries and businesses. Pesticides alone make up 40,000 different formulations. Prescription drugs add up to over 200,000 different types.

These products are made from approximately 70,000 chemical ingredients. In various combinations, these ingredients result in the formulation of the tens of millions of products which are in use nationwide. And, in a never-ending search for “better” and “improved” potions, the list of the 70,000 chemical ingredients is growing at a rate of approximately 1,000 newly synthesized chemicals per year.

## THE ROLE OF ANIMAL TESTING

In order to make these toxic chemicals acceptable to the public, their manufacturers, in league with a score of government regulatory agencies, “safety test” them on a wide variety of animals. Rats, mice, guinea pigs, hamsters, squirrels, gerbils, rabbits, fish, toads, frogs, lizards, insects, dogs, cats, monkeys, apes, wild birds, quails, pigeons, turkeys, ducks, chickens, cows, goats and horses are among the animals used.

Some of the tests are; The Lethal Dose (LD50) which determines the dosage of a substance that will kill 50% of the animals given that dosage, the Maximum Tolerated Dose (MTD) which determines the highest dose of a chemical or substance that an animal species can tolerate for a major part of its life span, the Toxic Concentration Low test (TCL) which determines the lowest concentration of liquid, gas, or vapor capable of producing a defined toxic effect in a specified test specie over a certain exposure period, and the Lethal Dose Low (LDLO) which determines the lowest dose of a toxic material at which the death of the exposed test animal occurs. Because scientists themselves acknowledge that these tests have “little or no significance” when applied to humans, and because of the large number of animals used, the controversy over the use of this kind of testing has caused the use of them to decrease since the 1980’s and 1990’s. The Consumer Product Safety Commission “strongly discourages” the use of the LD50 test while the Food and Drug Administration does not require it. This has not stopped many companies from continuing to use it.

Other tests include the Draize Test, which involves putting a substance in the eye or on the skin of an immobilized rabbit, then observing and recording the results. This test is especially controversial because these tests, which are so brutally cruel, are used mainly for household products and cosmetics and also because human and animal eyes are so obviously different, and because of the subjective nature of recording the results. Countless other tests are done on animals including; carcinogenicity (cancer), mutagenicity (genetic mutation), teratogenicity (birth defects), hepatotoxicity (liver damage) and nephrotoxicity (kidney damage) and many more.

From these studies, massive amounts of ambiguous, contradictory and invalid data are compiled. Any effort to extrapolate animal data to humans is ludicrous. Extrapolation formulas are many pages long, are interpreted differently by individual technicians and different laboratories and have no basis in true science whatsoever. It is from this data that the animal testers draw their conclusions, and since the data is totally subjective, the lab technicians and chemical manufacturers can arrive at any conclusion they desire.

For example, if a manufacturer wants to prove that a particular chemical is not a carcinogen, they simply present the evidence from those animal tests that support his view. On the other hand, if an environmental organization such as the NRDC wants to prove that the same chemical IS a carcinogen then they present animal tests showing the opposite. A blatant example of this was reported in the Los Angeles Daily News December 18<sup>th</sup>, 1989 when a controversy raged over the spraying of malathion over the city from helicopters. According to the article, the EPA and the National Cancer Institute said they had done several mice and rat studies and found NO evidence that malathion causes cancer, while anti-malathion activists, arguing strenuously against the spraying, claimed that their animal studies showed that malathion DOES cause cancer. Predictably, EPA officials said more animal tests were necessary.

Dr. Bruce Ames, Director of the National Institute of Environmental Health Sciences Center at the University of California at Berkeley reported: "Of 392 chemicals in our database tested in both rats and mice, 226 were carcinogens in at least one test, but 96 of these were positive in the mouse and negative in the rat or vice versa. Conversely, important human carcinogens may not be detected in standard tests in rodents; this was true for a long time for both tobacco smoke and alcohol the two largest identified causes of neoplastic death in the United States." A simple analysis of Dr. Ames' findings proves that, for all practical purposes, there is a 50:50 chance that a mouse carcinogen would be a rat carcinogen as well. This amounts to the flip of a coin and means that there is absolutely no correlation between the rat and the mouse. If there is no correlation between two such "closely" related animals, there certainly can never be one between the rat and the dog or the dog and the cat, let alone any correlation between any of these animals and the human animal.

Overdosing animals with toxic chemicals is common in product testing. An example of this is Sweet 'N Low which bears the label, "Use of This product May be Hazardous to Your Health. This Product Contains Saccharin Which Has Been Determined to Cause Cancer in Laboratory Animals." As a result saccharin is "regulated" in California by law. The supporting evidence for such regulation: cancer in bladders of male rats as a result of ingestion of saccharin at doses equivalent to human consumption of 800 to 2,000 cans of diet soda per day for an entire lifetime. The Federal Cancer Policy calls overdosing "a methodological device necessary for finding gross effects in small test samples."

The fallacy of animal testing is not just associated with dosage. Interspecies variation is itself the main reason for the invalidity of animal testing. Since each species of animal is a different biochemical entity, it follows that each species of animal will react differently to various substances, not only from another species of animal, but also from the human animal. Thousands of variations are commonplace between different species. The issue of interspecies variation is not the exception but the rule. In fact, almost every toxicological book, report, or article published today inevitably addresses "scientists'" serious concerns over the issue of interspecies variation. Yet, practitioners of so-called, "modern" science and medicine have chosen to ignore, defy, and/or

conceal their own observations and findings, as well as the most basic laws of nature which govern the endless biochemical differences between different life forms.

## ENVIRONMENTAL REGULATIONS AND POLLUTION PREVENTION

The primary federal agencies involved in the protection of the environment and human health are; the Environmental Protection Agency (EPA) which is involved in the protection of the environment and the areas outside of industrial facilities, the Occupational Safety and Health Administration (OSHA), which is involved in the protection of people in the workplace, the Food and Drug Administration (FDA) which has control over chemicals in food, drugs and cosmetics, the Consumer Product Safety Commission (CPSC) which governs the safety of all consumer products and the U.S. Department of Agriculture (USDA) which maintains control over chemicals in food as well as “gene-modified” foods. There are many other federal, state and international regulatory agencies involved in the testing of chemicals. It is the regulatory agencies that decide what tests must be done after Congress passes laws saying what they want regulated and the results expected. Therefore, regulatory agencies are not forced by law to do animal tests but it is instead their choice whether to do them or not.

The relationship between regulatory agencies and the chemical companies they are supposed to regulate has become increasingly incestuous, which makes it very difficult to pressure companies to stop animal testing. Regulatory agencies have a monetary incentive to grow and increase their executive salaries, move from government jobs into more lucrative positions in the industry they are supposed to regulate, and chemical company executives have a huge monetary incentive to obtain approval of as many toxic chemicals as they can possibly produce in order to sell more product. They all work closely together to ensure that the testing process is as conducive to marketing pesticides, cosmetics and household products as possible, and to lessen as much as possible the cost to polluters by implementing lax environmental standards.

There are many accurate, scientific tests available that can replace the inherently flawed animal tests that dominate the testing industry. They include; donated human blood, human volunteers, computer modeling, *in vitro* testing, which involves the use of human cell and tissue cultures, EPISKIN, EpiDerm, Skin Ethic and Corrositex, which are all brands of synthetic human skin, and TraumaMan, a realistic dummy that can be used by medical students, the military and in crash simulations. Regulatory agencies make it very difficult for alternatives to be accepted as a replacement for animal tests. They require extensive test batteries and individual assays that can take years. They also require that the non-animal tests be validated against animal tests which themselves have never been validated as accurate predictors of human response. Regulatory agencies do not foresee a future where all animal tests will be abolished in favor of scientific tests that actually work.

While groups like A European Centre for the Validation of Alternative Methods (DCVAM) and The Interagency Coordinating Committee on the Validation of Alternative methods (ICCVAM) purport to be looking for “alternatives” to animal tests, in reality they

exist to pacify animal welfare organizations and make activists think that something is being done to end animal testing. In reality their “alternatives”, including their *in vitro* tests, still involve animals, and most of the “alternative” organizations are closely tied to the regulatory agencies and chemical companies who want nothing to do with finding “alternatives” to animal testing because scientifically-valid tests would find many chemicals to be toxic and non-marketable. These “alternative” organizations say that total replacement is not foreseeable in the next 12 years and look beyond 2020 for that to *possibly* happen.

There are several companies who, on their own, are cutting back on animal testing. Allergan recently announced that they are reducing their LD50 tests for Botox to 95 percent. Representatives of the company say they hope to make that 100 percent soon and are encouraging other companies also abandon the LD50 test. Only time will tell if they are sincere. But there are many companies who have become totally “cruelty free” and most animal welfare organizations have lists of those companies.

In order for regulations to protect the public and the environment, they must be founded on sound scientific grounds. If the true intent of safety regulations was the prevention of environmental pollution, such regulations would then have to be based on true science. This means that animal testing would have to be banned for being unscientific and thus hazardous to human health. With the elimination of animal testing, toxicants would then be acknowledged as toxicants. Genuine pollution prevention measures would then consist of laws and regulations that would ban the production of tens of millions of poisons. The limited number of absolutely “essential” poisons to which modern man has managed to addict himself would then be used with caution and discretion under laws that would protect public health and the environment rather than the polluters.

## THE PROBLEM

It is a fact that there exists an intentionally created vicious cycle that supports many interrelated industries; the chemical empire the petroleum empire, the pharmaceutical empire, the food industry, the tobacco industry, the research institutes, the “health” institutes, the military, governments and even the environmental movement. One group creates the problem, one group claims to be “assessing” and “studying” the problem and yet several other groups, many with the best intentions, purport to be “fighting” and “solving” the problem.

Environmental groups pressure industries and the government into spending billions of dollars of our tax monies on “environmental protection” Organizations like the NRDC and Environmental Defense delude themselves into thinking they are protecting the planet by insisting on more regulations to implement various safeguards; Safe drinking Water Standards, Safe Air Quality Limits, The Governor’s List of Carcinogens and Teratogens, The Clean Air Act, The Clean Water Act, the Federal Regulation of Pesticides, The National Environmental Policy Act, The National Toxic Substances Control Act and all the rest. Unfortunately, far from safeguarding the public and the

environment, these “safety” measures make it very safe for polluters to pollute, so long as they do so within the boundaries of the law. If one keeps in mind that the petrochemical empire lobbies for these regulations, the reality of the matter becomes clear; these so-called Pollution Prevention Measures are nothing but a means to enable the legalized pollution of the environment.

Contrary to the beliefs and actions of many well-meaning environmentalists, a clean environment requires not more useless “regulation” but a ban on the production of millions of dangerous and unnecessary chemicals. A clean environment and pesticide-free food will result in healthy people but as long as there are enough chemicals made and sold to cause old and new maladies, people will remain slaves to pharmaceutical drugs, hospitals, doctors, and “research scientists”. As old diseases remain “uncured” after many decades of supposed “research”, and while new diseases are added to the list, the public will demand even more “research” from the National Institutes of Health, The American Cancer Society, The American Heart Association, the American Foundation for AIDS Research, the March of Dimes, Susan Komen and all the other Big Pharma “charities”.

## THE SOLUTION

Confronting the petrochemical/pharmaceutical industry and working to end their stranglehold on politicians, regulatory agencies and the public’s belief system is not an easy task. The petrochemical/pharmaceutical industry has a voracious appetite for more and more profits and they spend millions of dollars every year to lobby politicians in order to ensure that they keep the public believing in a drug-based “sickness care” system. But, to paraphrase Margaret Mead, when paradigm changes are accomplished, it is usually a small group of determined people that make it happen. And we have much more than a small group of people working to expose the chemical industry. Thousands of people in many countries recognize that animal testing is a fraud which is used as an alibi for poisoning our planet and we all must work together on several different fronts to end it.

First and foremost, it is necessary to educate the public regarding the facts that animal testing and animal experimentation cannot be extrapolated to humans and that it harms not only animals, but people and the environment as well. Many wealthy animal welfare groups have a plethora of information regarding the fraud of animal testing. Those of us who are aware must encourage them to invest funds in meaningful public education regarding the scientific invalidity of animal experimentation and testing. The scientific argument against animal experimentation is our most important weapon in successfully ending animal testing and bringing about a regulatory system that truly protects human health, the environment and all of our natural resources.

Whenever we see newspapers, magazines, including natural health magazines, internet web sites and other media outlets promoting animal tests (which they site to give credibility to their claims) we must respond with our arsenal of scientific facts.

Celebrities have a very strong impact on the public and many of them are used by the petrochemical/pharmaceutical industry to raise money for Big Pharma via various disease “charities”. These well-meaning but gullible celebrities need to be enlightened and encouraged to educate themselves as to where the tremendous amounts of money they raise is going; to obscene salaries, self-perpetuation and animal experimentation. When celebrities learn the truth they can truly be instruments for the positive change they wish to accomplish.

Politicians never lead. They follow. They follow the money and they follow what an overwhelming number of voters tell them they want their representatives to do order to garner their votes. We need to put constant pressure on politicians, imparting our knowledge of pollution occurring in our own county and state, of lax regulations and the animal testing that makes it possible. We also need to get involved in local politics and run for office and become the lawmakers we hope to influence.

Letters to companies involved in animal testing can have a positive effect. Write directly to the CEOs and, more often than not, you will get a response. Articulate, well-written letters from thousands of people to amenable executives can bring about change.

Thousands of companies now manufacture natural, non-animal tested, cruelty-free cosmetics and household products. We need to patronize those companies and help them thrive.

It is important that we join organizations such as NRDC, Earthjustice and Environmental Defense so, as members, we can remind the heads of those organizations that animal testing is the alibi used to perpetuate the useless regulations that they fight for and persuade them to join us in exposing the fraud of animal testing.

Doctors and scientists, both inside and outside the petrochemical/pharmaceutical industry, who constantly argue for replacing animal tests with scientific technology, deserve our praise and admiration for the pressure they put on their colleagues to end animal testing. They are in the forefront of the battle to make this a safer, healthier planet for all of us. Let them know you appreciate all that they are doing and ask them how you can help.

Individuals, working alone and with enlightened organizations, who demand that the fraud of animal testing end, can and will shift the toxic paradigm of the petrochemical/pharmaceutical industry to one that is not based on greed, but rather on science and concern for the health of human beings, animals and the planet.

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