

**Primate Health at the University of Wisconsin,
Madison/Wisconsin National Primate Research Center:**

What We weren't told by the UW

By

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Introduction

Animal experimentation has always been a controversial issue. Spokespersons for laboratories portray this experimentation as vital to human health. Animal protectionists often do not accept experimentation under any terms, questioning both the scientific efficacy and the morality of animal based research.

However, there is one thing upon which both sides agree: the confinement of primates within laboratories can have a profound impact on the animals themselves. Regulations have been put into effect by government agencies to provide primates with environmental enhancement to address this situation.

These things leave us with many questions. How are the primates cared for? Does the laboratory setting or the experimentation to which the primates are subjected subject them to pain or distress? Does it affect them psychologically?

It is very difficult to answer questions like this without gaining access to the labs themselves. However, the officials who run laboratories do not give access to people within the animal protection movement. Therefore we are left only with the researchers own assessments of the treatment of the animals in their care, which is not likely to be objective. Or, we can depend on the opinions of government inspectors. While these inspectors try their best to enforce regulations, they have access to most facilities only a very few days per year. Almost anything can be made to look acceptable for a single day.

Since the aforementioned methods of laboratory evaluation are likely to be flawed, a different approach has been taken for this report. The annual progress report filed by the Wisconsin Primate Research Center for fiscal 02 – 03 has been combined with information from primate necropsy reports for the same facility. When used together these sources of information can paint a very accurate picture of the conditions within the laboratory at the primate center.

Executive Summary

The Wisconsin National Primate Research Center housed approximately 1500 primates during the reporting period for May 2002 – April 2003. The majority of these primates are rhesus macaques and the second largest group is marmosets. The primate center brought roughly \$62,139,601 in funding to the University of Wisconsin, Madison. This funding came primarily from the National Institutes of Health (NIH).

WNPRC reported 147 primate deaths to the NIH, but provided 157 primate necropsy reports as a response to a document request which asked only for documentation regarding primate deaths at the WNPRC. The Report filed by the WNPRC with the NIH listed no macaque births during the reporting period. However, necropsy reports for primates aged: 1 day (3x), 2 day, 1 week, 2 ½ weeks, and 1 month (2x) were provided to SAEN in response to the same document request. Unless some breeder is in the habit of shipping one day old primates, WNPRC has filed an inaccurate and misleading report. The progress report also lists no deaths among infant/juvenile marmosets. However, WNPRC provided necropsy reports for 40 marmosets in the 1 day – 1 month old category.

It is quite apparent that the primates at the WNPRC are extremely stressed. 5 of the 157 primates who died during this period were so severely stressed as to have begun to engage in self-mutilation. 54.3% of the macaques who died exhibited gastro-intestinal tract diseases, while 64% of the marmosets exhibited similar pathological conditions. The marmoset colony had an infant mortality rate of 58.1%. The Macaque colony apparently had either no births, or had a 100% infant mortality rate.

The pathological conditions from which primates at the WNPRC suffered included: lymphoplasmacytic gastritis, lymphocytic enteritis, encephalitis, meningitis, peritonitis, lymphosarcoma, hepatitis, etc. 23 primates (rhesus or macaques) were either markedly thin or cachetic (emaciated) at death. This may indicate that these animals were allowed to progress to an unacceptably excessive level of debilitation as a result of disease.

Several of the more unusual deaths (i.e. encephalitis, meningitis, etc.) were caused by experimental procedures that opened the skull and/or attached head caps on the skulls of primates. Some of these animals had openings in their skulls which left the brain visible. The severe stress level of the primates at WNPRC can, in many cases, be attributed to the experimentation in which the animals were used. Several of these projects deliberately subjected the animals to stress by engaging in practices such as removing young animals from the care of their mothers. However, these projects are not large enough to account for the severely heightened stress levels in the macaques and marmosets caged at WNPRC. The only conclusion that can be drawn is that the laboratory environment itself is the underlying cause.

The severely elevated stress levels exhibited by the inmates at the WNPRC are sufficient to have altered their bodily chemistry such that these animals would respond to situations differently than would their free-ranging conspecifics. If these animals would not accurately represent animals of their own species, it cannot be concluded that data obtained from experimentation on these animals would have any relevance whatsoever to humans.

In response to this information SAEN is expanding our investigations to include other large labs across the U.S. The findings of this report will also be disseminated to legislators on the appropriate committees within the U.S. House of Representatives and the U.S. Senate.

The NIH Progress Report for the Wisconsin National Primate Research Center

This progress report is filed annually by the Wisconsin National Primate Research Center (WNPRC) with the federal agency that funds the center – the National Institutes of Health. During fiscal 2002 – 2003 the University of Wisconsin (Madison) received \$62,139,601 for/through the WNPRC primarily from the federal government through the NIH. This amount includes both the base grant and affiliated research projects.

During this period the WNPRC housed roughly 1500 primates. Most of these primates are macaca mulatta or rhesus monkeys. The next largest group of primates is callithrix jacchus or marmosets. These primates are maintained to be used as research subjects, or in the breeding of primates for research. The center supports research in aging, diet, reproduction, psychology, and other areas.

The colony statistics table from the progress report reveals a number of interesting statistics (the table is attached to this report in an appendix). The year began with 1513 primates in residence at the center. 84 marmosets were born during the year, no macaques were born. For the purposes of the progress report live births are defined as “inflated lungs.” The progress report does not list any infant or juvenile macaques or marmosets dying at the WNPRC. 159 primates were added to the colony from outside sources. 29 primates died during experimentation. 118 primates died of non-experimental causes. The total number of primate deaths listed in the report (experimental and non-experimental) is 147. 95 were sold or transferred outside the center.

Post Mortem Records for WNPRC Primates

The following table lists the numbers of primates for whom WNPRC provided necropsy reports (i.e. post-mortem reports) whose dates correspond to the time period for the progress report that WNPRC filed with the NIH. These primates all apparently died of natural causes.

	Adult	1 day – 1 month old	Stillbirths
Macaques	70	8	10
Marmosets	36	40	21
Total	106	48	31

Note 3 additional necropsy reports were provided from macaque monkeys that were euthanized during experimentation.

Total deaths (non-stillbirths) 157

Closer examination of these records raises many questions. For example: the 8 macaques in the 1 day – 1 month old category had ages of: 1 day (3x), 2 day, 1 week, 2 ½ weeks, and 1 month (2x). If, as the progress report says, no macaques were born during this period, where did these young animals come from? It is not likely that 1 day old primates were shipped in from a supplier. It is even more surprising that the report lists no infant/juvenile macaques as dying. What about these 8 macaques? The progress report also lists no deaths among infant/juvenile marmosets. However WNPRC provided necropsy reports for 40 marmosets in the 1 day – 1 month old category. Apparently the WNPRC conveniently forgot about these 48 short lives when filing their NIH

progress report. The progress report lists 147 deaths at the primate center, but WNPRC provided 157 necropsy reports that occurred during this period.

Many other pieces of information can be derived from the necropsy reports at the WNPRC. This information can reveal patterns in the diseases which functioned as causes of death, thereby providing an indication of the conditions at the WNPRC.

Macaques

1. 38 (54.3%) died with lymphoplasmacytic gastritis – this disease can be caused by stress.
2. 27 (21%) died with enteritis and/or colitis – also potentially caused by stress.
3. 2 had reached a state of emaciation
4. 4 had begun to self-mutilate
5. Other disease conditions included: pneumonia, hepatitis, endometriosis, peritonitis, etc.

Marmosets

1. 23 (64%) had lymphocytic enteritis – this disease can be caused by stress
2. 8 (22%) had become cachetic (emaciated) 6 (16.7%) more were listed as thin -- or -- 14 (38.9%) were substantially undernourished
3. 1 marmoset had begun to self-mutilate
4. Other diseases included lymphosarcoma, hepatitis, meningitis, encephalitis, etc.
5. the infant mortality rate for the marmoset colony is $58.1\% = (\text{live births} - \text{infant necropsies}) / (\text{live births} + \text{stillbirths})$
6. 8 of the infant animals that were given post-mortem examinations had been cannibalized by other marmosets

What do these individual pieces of information lead to? Lymphoplasmacytic gastritis in macaques and lymphocytic enteritis in marmosets can be caused by stress. High infant mortality rates can be caused by stress. Cannibalism can also be influenced by stress. A significant number of primates at WNPRC engaged in self-mutilation. This is likely a result of social isolation. It is very likely that only the most susceptible primates engaged in self-mutilation, others have probably developed behavioral pathologies of a different nature. Additionally, we only have knowledge of the self-mutilating primates that died. We have no way of knowing how many living macaques and marmosets are physically injuring themselves at this very moment.

We must also conclude that the animals within this colony suffer from chronic stress. All the signs are there: gastro-intestinal tract disease.

Conclusions

It is quite apparent that the primates within the WNPRC are highly stressed animals. It is also apparent that the staff of WNPRC is aware of the frequency of the health problems, because the gastric diseases in the marmoset colony are referred to as common within the colony.

The primates within the WNPRC are apparently so severely stressed by the combination of confinement, and in some instances social isolation, that their bodies have begun to feel the consequences. They have developed several stress-related diseases and have even begun to injure themselves. Other diseases (meningitis, encephalitis, etc.) can be causally related to the placement of devices directly onto the skulls of primates, often done with steel screws. This process can be very stressful. It is entirely likely that the primates within WNPRC have a bodily chemistry which is so terribly out of whack that they would not even accurately represent other con-specifics, let alone people.

These health care issues can affect not only the health-and-well-being of the primates, but they have the potential to totally invalidate all research projects involving these animals. Their bodily chemistry would likely be substantially altered, as would the immune system response for these animals, that any results obtained from experiments using these primates would be virtually meaningless.

Additional diseases are direct consequences of the experimental procedures in which the primates are used. For example, projects involving the attaching of devices directly to the heads of primates and/or leaving openings in the skulls of primates have (not surprisingly) led to pathological conditions such as encephalitis, meningitis, etc.

Recommendations:

1. Eliminate all experimentation which causes severe stress to the primates. This would include the confinement of primates to restraint chairs for long periods. Other projects which induce stress in young animals – such as the research of Gary Kraemer – should be eliminated. This could improve the survival rate for young primates at WNPRC.
2. The use of devices such as “head caps” should be eliminated – these devices promote diseases like encephalitis & meningitis.
3. Primates should not be allowed to reach such an advanced state of disease as to be classified “cachetic” or emaciated. This indicates that veterinary care given to these animals was drastically insufficient.
4. Individual housing of primates should be ended immediately. Social isolation can lead to self-mutilation. All experiments which require social isolation should be immediately terminated.
5. The elevated stress levels which are apparent in the primates at WNPRC must draw into question the psychological status of the primates in all other laboratories. This issue must be examined in a thorough and systematic fashion. SAEN has already obtained records from the Washington National Primate Research Center for evaluation. Similar records will be obtained from other laboratories. The results of this and future investigations will be disseminated to appropriate legislators in the U.S. House of Representatives and the U.S. Senate.