

**Death, Disease & Insanity:  
Health and Well-Being of Primates  
at  
New England National Primate Research Center/Harvard**

**By**

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## **Contents**

<b>Introduction</b>	<b>2</b>
<b>The 2002 – 2003 Progress Report of the New England National Primate Research Center</b>	<b>3</b>
<b>Funding</b>	<b>3</b>
<b>Primate Life &amp; Death at NENPRC</b>	<b>4</b>
<b>Psychological Well-being of NENPRC Primates</b>	<b>5</b>
<b>Summary</b>	<b>6</b>
<b>Recommendations</b>	<b>7</b>

## **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 New England National Primate Research Center (which is funded through the Harvard Medical School) for fiscal 2002 – 2003 has been used as a basis for assessing the condition of primates within this facility.

## **The 2002 – 2003 Progress Report of the New England National Primate Research Center**

### **Funding**

The Annual Progress Report for the New England National Primate Research Center (NENPRC) with the National Institutes of Health (NIH) contains many pieces of information which will reveal significant issues within the labs of NENPRC. During this reporting year (2002 – 2003) the NENPRC brought approximately \$216 million to Harvard. The vast majority of this funding comes from the federal government through the National Institutes of Health. Approximately \$0.7 million of this funding total came from private sources.

The effect of monetary issues on animal experimentation, and thereby the condition of the primates is difficult to assess. For example, the center has ten projects (9 sub-projects of the primate center grant and one independent grant) that deal with issues of abnormal behavior in captive/isolated primates. Over 320 primates are described as having some level of abnormal behavior in the abstract of one of these projects. If these animals were not the subject of so many research projects, which each bringing more funding to the Center and thereby to Harvard, their situation might be improved. However, since potentially millions of dollars are dependent on the abnormal behavior of these animals, it is unlikely that their situation will change in any meaningful way.

The area of addiction experimentation in primates is one which bears mentioning in this section. Roger Spealman has four independent grants which examine addiction in primates which are funded by the NIH at the NENPRC. There are also thirteen sub-projects of the NENPRC grant which fund research in this same area, by the same researcher. The four independent grants total \$1,032,210 in federal funding, while the sub-projects are estimated to be worth \$841,450. This area of research, by this researcher alone, likely brings \$1,873,660 to Harvard, with a substantial amount also going to the researcher as well.

Spealman studies cocaine addiction in squirrel monkeys and heroin addiction in macaque monkeys. This is a highly duplicated area of experimentation. The NIH funds 76 projects which examine cocaine or heroin in macaque monkeys, squirrel monkeys, or baboons. In light of the number of projects which exist in this area, it is highly possible that unnecessary duplication exists.

## **Primate Life & Death at NENPRC**

The NENPRC houses rhesus monkeys, cynomolgus monkeys, marmosets, aotus monkeys, squirrel monkeys, and cotton-top tamarins. The overall colony size began the year at 1705 primates and ended the year at 1749. Essentially, the size of the colony did not change in any meaningful way.

The colony of cotton-top tamarins did not change in size. 22 tamarins were born, and 22 died. The center started the year with 1062 rhesus macaques, there were 92 live births, 127 died in experimentation, 17 died of natural causes, and 48 came to the center from outside sources – resulting in an ending population of 1056. 8 aotus monkeys began the year at the center one died during experimentation, leaving 7 at the end of the year. 60 squirrel monkeys started the year at the center. 12 were added to the population from outside sources, 15 died during experimentation, leaving 57 at the end of the year.

Similar trends existed in other species at the center, population tables are attached to this report as appendices.

Potentially the most significant finding came in the marmoset colony. 323 marmosets started the year at NENPRC. 5 marmosets were born during the year. 222 more marmosets were brought in from outside sources. 15 marmosets died during experimentation. However, 148 died of disease or other non-experimental causes. The majority of these deaths from disease came in the experimental colony of marmosets. This colony began the year with only 145 with 39 being added during the year. 15 died during experimentation and another 144 died of disease, leaving only 16 at the end of the year. In other words, 80% of this colony died of disease during the year. This is an outrageous level of death from disease, and must draw the veterinary care at the NENPRC into question.

Overall, 417 primates died at the center during the last reporting year, or approximately 1 out of every 5. At least, the pathology section of the report lists 417 post mortem workups (necropsies) being done on center primates. This may be cause for concern because the colony tables list only 368 deaths. This is a discrepancy of 49 primates.

The successful birth rate at the NENPRC is also a cause for concern. The progress report lists 119 live births. The report also lists post mortem workups on 144 neonatal/aborted primates, which could indicate an infant mortality rate of 55%. This information can be broken down further. 5 marmosets, 92 rhesus macaques, and 22 tamarins were born. However, the same report lists post mortem reports for 17 rhesus macaques, 47 tamarins, and 80 marmosets – all in the neonatal/abortion category. These statistics may indicate a very high rate of abortions/stillbirths. This could be the source of the 49 primate discrepancy listed above. There may have been 49 naturally occurring abortions at the primate center. If this is the case then there were 168 total pregnancies at the center. All that can be said for certain is that young primates do not survive at NENPRC.

The bacteriological lab at NENPRC diagnosed the presence of many very pathogenic bacteria within the primates. Staphylococcus bacteria was isolated 233 times from center primates. Other pathogenic bacteria were also isolated: E. coli – 318, and Streptococcus was isolated 238 times. As many as 45% of the center's final population could have been positive for one of these pathogenic bacteria.

## **Psychological Well-being of NENPRC Primates**

In January of 2003 the Division of Behavioral Biology assessed roughly 360 macaques and squirrel monkeys psychologically. 50 of the squirrel monkeys were found to be behaviorally abnormal, this accounts for 83% of the squirrel monkeys at NENPRC. 300 rhesus macaques were listed as behaviorally abnormal; this is 28% of the rhesus macaques at the center. Some of the primates in this category exhibited self-biting, or as many as 3 other abnormal behaviors. These behaviors are often considered to be the result of either social isolation or stress. Another section of the report lists that 362 rhesus macaques are individually housed, and that 321 of these animals exhibited at least one abnormal behavior. For this group of animals 88.7% exhibited at least one abnormal behavior. This could mean that a minimum of 371 primates (321 rhesus and 50 squirrel monkeys) are psychologically abnormal. Or, a minimum of 30% of the rhesus monkeys and 83% of the squirrel monkeys could be psychologically abnormal. The colony of 60 squirrel monkeys which are initially listed as being evaluated for abnormal behavior are a part of the research colony at NENPRC. The only research projects listed at NENPRC which use squirrel monkeys involve experimentation with addictive drugs (cocaine and heroin). Addiction experimentation can involve the use of primate restraint chairs, the subjecting of the subjects to withdrawal and/or electric shock. The source of the behavioral abnormalities in this group of primates may be the type of experimentation in which they are used. Again, the income generated by these experiments may be put before the welfare of the primates.

However, it appears that the number of animals exhibiting these psychologically abnormal behaviors may be increasing. According to the progress report the number of primates assessed with abnormal behavior increased by 25 (7%) in a six-month period. This increase in abnormal behaviors could be caused by insufficient environmental enhancement by NENPRC staff. Or, it is highly possible that these primates are being deliberately maintained in conditions that promote abnormal behavior because they form the pool of subjects for several experiments at NENPRC which depend on the existence of a population of animals with psychological pathologies. In fact, nine separate experiments at NENPRC are examining psychologically abnormal behavior in captive macaque monkeys. It appears that the funding which this experimentation brings to the research facility may be considered to be more important than the psychological well-being of these primates.

It must also be noted that these statistics are not based on assessments of the total primate population within the center, but on assessments of small segments of the population. The actual percentage of primates with psychological abnormalities is likely to be much larger.

## **Summary**

It is apparent that the condition of the primates at the NENPRC is a cause for great concern. The psychological well being of these animals is a major issue with over 370 primates (rhesus and squirrel monkeys) exhibiting abnormal behavior. Apparently the situation is worsening as ever more primates are listed with psychological pathologies. It is highly possible that these unfortunate primates are being maintained in a purposely stressed and psychologically abnormal condition so that they may serve as subjects in one of ten separate experiments at NENPRC which deal with psychological pathology including self-injury. It is also possible that the instances of psychological abnormality within the squirrel monkeys at the NENPRC may be due to the use of a group of these primates in addiction experimentation which can involve confinement to restraint chairs, the use of electric shock, and/or drug withdrawal.

The overall infant mortality rate at the center may be as high as 55%, with 144 neonatal deaths/spontaneous abortions taking place in one year. Also, the vast majority (159) of the marmosets within the experimental colony of the center died during the last reporting year, primarily from disease.

417 primates died (were necropsied) at the center during the 2002 – 2003 reporting year, or more than one animal every day. 189 died of disease, 179 died during experimentation. Another 49 deaths remain unexplained.

The only conclusion that can be drawn from these issues is that the primates at the NENPRC are, overall, highly stressed animals with significant instances of disease both physical and psychological in nature. The issues raised in this report must cast doubt on the quality of veterinary care given to the primates within this laboratory. The high number of animals who die during experimentation must also raise serious concerns as to the invasiveness of the experimentation. The psychological needs of many of these animals are also apparently being ignored to insure the existence of a population of mentally aberrant animals for use in experimentation.

The physiological and psychological condition of the primates at NENPRC are causes of such serious concern as to raise substantial doubts as to the validity of the experimentation at NENPRC. The high levels of disease in the marmoset colony raise serious doubts as to the scientific validity of all experiments involving marmosets. The apparently high level of psychologically abnormal behavior in the squirrel monkey population and in the individually housed macaques at NENPRC raises serious doubts regarding any experiments involving these animals.

## **Recommendations**

- Immediately suspend all experiments involving squirrel monkeys, marmosets, or individually housed macaque monkeys at Harvard/NENPRC.
- Make health care records and experimental protocols for all primates at NENPRC/Harvard available for evaluation. Give access to NENPRC facilities to media representatives and SAEN staff.
- Independently evaluate the care of all primates at NENPRC from both veterinary and psychological viewpoints.
- Review all drug addiction projects at NENPRC/Harvard concerning unnecessary duplication. Examine these projects versus the 76 currently funded addiction experimentation projects in primates utilizing cocaine or heroin. Terminate unnecessarily duplicative projects.
- Institute congressional investigative hearings to examine conditions within the eight laboratories which constitute the Primate Research Center System.