

Protocol Number	PI	Deviation Type	Species	# of Animals	Comments
19-1678R	(b) (6)	Food and water restriction	Marmoset	1	If needed for motivation during testing, food and/or water may be regulated. Food may be withheld during the standard AM/PM feeding and provided during the testing session. If additional motivation is needed, water may be withheld prior to testing but not to exceed 7 hours of restriction. Baseline weight will be collected prior to behavioral training, and loss of more than 10% weight from baseline will prompt a return to the general colony's feeding schedule.
19-1678R		Prolonged Restraint	Marmoset	1	Restrained in chair with head restraint for training/recording sessions for up to 6 hours per day. Marmosets are gradually acclimated to chair restraint with positive reinforcement.
19-1678R		Husbandry Deviation	Marmoset	14	Single housed post-surgery or if incompatible with others. Group housing in family units exceeds floor space recommendations, but cages have extensive vertical space and many non-floor surfaces available to provide ample room for all marmosets in the cage.
19-1678R		Multiple Major Survival Surgeries	Marmoset	1	Placement of head posts and chamber implantation; Major head cap repair (if necessary); Vasectomy/castration (if necessary)
18-1630R		Fluid Regulation	Rhesus	2	Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day when animals are done working. On days when animals are not working, their water allotment is split between the AM and PM. Amounts of water provided will vary with the animal's weight, current work regimen, and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation".
18-1630R		Prolonged Restraint	Rhesus	2	The animals will be seated in an NHP chair during behavioral testing for a maximum of 6 hours, up to 7 days a week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. In order to prevent the animals from accessing implanted devices or gloves for data acquisition, an arm restraint may be used to limit the use of one arm. The arm restraint consists of a Velcro wrist cuff and nylon tether, which is attached to the work table. Arm restraint will only be used while the monkey is performing a task. A primate jacket, shirt, sleeve, and/or glove may also be used to position small LED sensors down the length of one arm so that arm position may be tracked.
18-1630R		Husbandry Deviation	Rhesus	2	Animals may not be pair housed during recovery after surgical procedures (~2-4 weeks). Suitable pairing partners may not be available for all animals.
18-1630R		Multiple Major Survival Surgeries	Rhesus	2	A maximum of 6 types of devices may be surgically implanted per animal. Procedures include: placement of pedestals for head fixation, placement of posts for head fixation, implant of recoding chamber/cannulas (right and left hemispheres), implant of chronic arrays (right and left hemispheres), explant of chamber/arrays, implant repairs, and vasectomy/castration.
20-1744R		Water Restriction	Rhesus	1	Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day when animals are done working. On days when animals are not working, their water allotment is split between the AM and PM. Amounts of water provided will vary with the animal's weight, current work regimen and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation".
20-1744R		Prolonged Restraint	Rhesus	1	The animals will be seated in an NHP chair during behavioral testing for a maximum of 6 hours, up to 7 days a week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. In order to prevent the animals from accessing implanted devices or gloves for data acquisition, an arm restraint may be used to limit the use of one arm. The arm restraint consists of a metal tube that one arm is placed inside. Arm restraint will only be used while the monkey is performing a task. A primate jacket may also be used to position small LED sensors down the length of the monkey's arm so that arm position may be tracked.
20-1744R		Husbandry Deviation	Rhesus	1	Animals may not be pair housed during recovery after surgical procedures (~2-4 weeks). Suitable pairing partners may not be available for all animals.
20-1744R		Multiple Major Survival Surgeries	Rhesus	1	A maximum of 4 surgically implanted devices per animal. Procedures include: pedestal implant, post procedure, right hemisphere electrode array cortical implant, left hemisphere electrode array cortical implant, implant removal, and vasectomy/castration.
21-1821R		Fluid Regulation	Rhesus	1	Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day. On days when animals are not working, their water allotment is split with one half administered in the AM and the second in the PM. Amounts of water provided will vary with the animal's weight, current work regime, and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation".
21-1821R		Prolonged Restraint	Rhesus	1	Animals are restrained in primate chairs typically 2-8 hours per day, five to seven days per week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. The head restraint is necessary in our tasks as the monkey's head must be perfectly still for recordings and to monitor eye position.
21-1821R		Husbandry Deviation	Rhesus	1	Animals are pair housed except for recovery periods following surgery or if there is a danger of the paired animals injuring one another. Since we use such small number of animals, a suitable pairing partner may not be available.
21-1821R		Multiple Major Survival Surgeries	Rhesus	1	Implantation of pedestals for head fixation; Placement of posts for head fixation; Implantation of craniotomy chamber; Implant repairs; Implant removal; Vasectomy/castration
21-1818R		Fluid Regulation	Rhesus	1	Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day. On days when animals are not working, their water allotment is split with one half administered in the AM and the second in the PM. Amounts of water provided will vary with the animal's weight, current work regime, and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation".
21-1818R		Prolonged Restraint	Rhesus	1	Animals are restrained in primate chairs typically 2-8 hours per day, five to seven days per week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. The head restraint is necessary in our tasks as the monkey's head must be perfectly still for recordings and to monitor eye position.
21-1818R		Husbandry Deviation	Rhesus	1	Animals are pair housed except for recovery periods following surgery or if there is a danger of the paired animals injuring one another. Since we use such small number of animals, a suitable pairing partner may not be available.
21-1818R		Multiple Major Survival Surgeries	Rhesus	1	Implantation of pedestals for head fixation; Placement of posts for head fixation; Implantation of craniotomy chamber; Implant repairs; Implant removal; Vasectomy/castration
20-1743R		Water Restriction	Rhesus	4	Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day when animals are done working. On days when animals are not

	(b) (6)				working, their water allotment is split between the AM and PM. Amounts of water provided will vary with the animal's weight, current work regimen and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation".
20-1743R		Prolonged Restraint	Rhesus	4	The animals will be seated in an NHP chair during behavioral testing for a maximum of 6 hours, up to 7 days a week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. In order to prevent the animals from accessing implanted devices or gloves for data acquisition, an arm restraint may be used to limit the use of one arm. The arm restraint consists of a metal tube that one arm is placed inside. Arm restraint will only be used while the monkey is performing a task.
20-1743R		Husbandry Deviation	Rhesus	4	Animals may not be pair housed during recovery after surgical procedures (~2-4 weeks). Suitable pairing partners may not be available for all animals.
20-1743R		Multiple Major Survival Surgeries	Rhesus	4	A maximum of 7 surgically implanted devices per animal. Procedures include: pedestal implant, post procedure, cuff electrode implant (if necessary), chamber implant, right hemisphere electrode array cortical implant, left hemisphere electrode array cortical implant, bone plate implant, left arm peripheral nerve array implant, right arm peripheral nerve array implant, implant removal, vasectomy/castration, and repair procedures as needed.