

**Working Safely with Nonhuman Primates  
Script (English version)**

**Graphic Open Montage**

**Music**

**Narrator on camera**

You are about to see and hear some very important information; information that could prevent injury and possibly save your life.

The purpose of this training... is to explain some safety procedures when working in a nonhuman primate facility.

The National Institutes of Health requires that you get this information in order to prevent injuries.

Bite and scratch injuries are largely preventable. Wearing proper protective gear can guard against most of these incidents. But as important is learning about nonhuman primate behavior and paying attention whenever you're in an animal room.

It can't be stressed enough. Most bite and scratch incidents are due to carelessness.

As I mentioned, some of these injuries could be lethal.

The most dangerous disease transmitted from nonhuman primates is commonly known as *Herpes B virus* or *Herpes virus simiae*.

*Herpes B virus* is transmitted by several nonhuman primate species that we classify as macaques, such as rhesus and cynomologous.

*Herpes B* is a mild disease in macaques, often without symptoms.

But, it can cause fatal encephalitis in humans. Since 1987, several people have died of *Herpes B* encephalitis. Most of the cases have been due to bites, scratches and possible splashes from the animals or injuries from contaminated equipment.

What's frightening is that for some cases, the route of exposure has not been identified.

Tuberculosis, salmonellosis, shigellosis, amoebic dysentery, Ebola virus and other diseases can be transmitted from monkeys to humans.

Humans can also transmit diseases such as tuberculosis and measles to nonhuman primates. These diseases can delay or jeopardize research projects.

Needle sticks, bites, scratches or splashes from animals or injuries from sharp edges of cages or equipment can expose you to disease. The most important precaution is to treat all macaques as if they were *Herpes B* positive.

Using appropriate protective clothing and equipment is your first line of defense against injury.

These items are essential parts of your protection any time you're in nonhuman primate rooms: a gown or coveralls, facemask, head cover and shoe covers. Nitrile or latex gloves should be worn, use double gloves for high risk procedures when your hands might be close to an occupied cage.

Make sure there are no gaps between the gloves and sleeves.

You should add a plastic face shield or goggles to your protective clothing whenever there's the possibility of splashing of body fluids or aerosols.

Never wear protective clothing outside the animal facility.

Taking off and disposing of the protective gear is part of biohazard containment. Remove the face shield or goggles. Next the mask and head cover, and then your shoe covers. Protective garments and gloves are the last items to come off. Remove them so that they are inside out.

Be sure to put these items in the proper containers for laundry or disposal.

Frequent hand washing is important to protect yourself from potential hazards.

Place all sharp objects like syringes and scalpel blades into a sharps container. Never recap needles!

At NIH, it is the Principal Investigators' responsibility to assure that the required training has been provided for students and trainees and that they have demonstrated competency in performing all activities associated with any nonhuman primates.

All NIH employees, visitors, and contract personnel must comply with training procedures. Immediate supervisors are responsible for ensuring that their employees do so.

#### **Employee @ OMS**

Another way that NIH strives to protect the health of individuals is through the Animal Exposure Surveillance Program. It is managed by the Occupational Medical Service and enrollment is required by all Federal employees who either are involved in the direct care of animals or their living quarters OR have direct contact with viable tissue, body fluid or waste.

Enrollment usually takes place during the pre-placement interview process. There will be a medical evaluation that includes an occupational medical history, safety and health counseling, TB test, and immunizations if necessary.

Contract and non-federal employees are eligible only for emergency medical care, evaluation and treatment of occupational injuries.

#### **CG/ACTIONS SPEAK LOUDER**

The goal of this section is to avoid injury by understanding normal primate behavior, including what may prompt aggressive behavior toward humans.

The better you can interpret the behavior, the safer your work environment.

Primates most commonly seen in research facilities are classified as either New or Old World. Some examples of New World primates are squirrel monkeys, owl

monkeys, marmosets, tamarins and capuchins. New World primates are found in Central and South America.

Old World monkeys are found in Asia and Africa. Some examples include the macaques, (rhesus, fascicularis or cynos, and pigtail monkeys), the colobines, African greens and baboons.

It is important to understand the behavioral differences exhibited by monkeys in the laboratory.

Behavior such as aggressiveness or anxiety may be similar within the same species, but quite different between species. Yawning and displaying of canine teeth represents anxiety in macaques. This anxiety may quickly change to aggression.

Scratching in squirrel or cebus monkeys, can indicate nervousness or stress.

During typical laboratory procedures, some monkeys respond to the approach of a human by fleeing to the back of the cage. Others approach the cage front. Some monkeys come to the front of the cage in order to bite, scratch, or grab clothing and gloves.

Laboratory monkeys may try to attack humans to defend their territory or protect their infants. Infants present in the room and conscious animals being un-caged can increase the anxiety of the entire room. Be especially careful during these times.

The size of the monkey does not matter! All monkeys are capable of scratching, biting or splashing human staff and can pose a serious health threat.

Splashes are particularly dangerous because of the potential for transmission of viral and bacterial infections, another reason why proper protective clothing is so important.

Primates reared in captivity develop complex social hierarchies and behave very much like they do in the wild. They also develop elaborate methods of communicating with facial expressions, body postures, and vocalizations.

In the laboratory, nonhuman primates may establish dominant-subordinate relationships with the human staff.

You can use these behavioral signals to interpret an animal's level of arousal and the likelihood of an aggressive act. The signals are only indicators of behavior; they are not absolute predictors.

If an animal feels threatened by human approach, it may move out of visual range to avoid confrontation and physical contact.

Direct stares are perceived as a threat by macaques.

Sudden quick movements or increased activity by staff may also trigger aggressive behavior accompanied by head bobs, ear flapping or raising and flashing eyebrows or eyelids.

If threats are ignored, macaques may respond by becoming visibly tense and the tail may be held erect or rigid.

The animal may shake the cage, bounce up and down, and make abrupt changes in posture, glances or open-mouth threats.

These behaviors are clear warning signals to care staff.

You may be able to arrest aggression by moving away from the animal.

A thorough knowledge of nonhuman primates' typical behavior combined with wearing appropriate personal protective equipment minimizes your risk for occupational exposure to injury and diseases.

Pay attention during routine husbandry especially during feeding without a food box.

Know the danger zones. Monkeys can and will reach out of cages to grab unsuspecting personnel.

Whenever your hand is anywhere near the cage your risk of a bite or scratch increases.

Primates prefer predictability. Personnel should attempt to follow feeding, cleaning and research schedules to avoid anxiety for the primates.

#### **FIRST AID**

If you are bitten or scratched by a nonhuman primate, administer first aid within five minutes to reduce the risk of B virus or bacterial infection.

Vigorously scrub contaminated skin for 15 minutes using a povidone iodine solution and a lot of water.

The bite kit should be labeled clearly and easily accessible in the work area.

You should know where to find it and how to use it.

If you have been splashed in the eyes, irrigate them at an eyewash station for 15 minutes.

After any injury or exposure notify your supervisor immediately, then report to the OMS clinic, Building 10, Room 6C306.

When OMS is closed, contact the on-call OMS care provider through the page operator before reporting to Suburban Hospital. NIH Animal Center staff would report to Shady Grove Adventist Hospital for medical evaluation.

The animal will be examined and cultured for clinical evidence of viral or other potentially infectious illness.

#### **(Music under)**

We have covered a great deal of information in this video. If you have any questions, ask your supervisor or principal investigator.

Don't become lax about precautions when you work with nonhuman primates every day; following precautions could save your life.