

NHP Bite Scratch Exposure Procedure

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1 Introduction

Non-human primates (NHPs) can carry zoonotic agents, some of which [e.g. B virus or *Macacine herpesvirus 1* (formerly *Cercopithecine herpesvirus 1*)] can cause severe disease in humans, including death. Therefore, any person with suspected exposure to such agents must consult Yale Health, Employee Health Department or Acute Care Department (after hours) as soon as possible.

Potential exposure includes:

- An NHP bite that has or may have penetrated the skin
- A break in the skin that occurs while handling NHPs, NHP tissues, or equipment contaminated with NHP secretions (e.g. caging, transport chairs). This includes but is not limited to:
 - abrasions
 - scratches
 - lacerations
 - needle punctures
- Exposure of the eyes or mucous membranes to NHP secretions or excreta such as:
 - blood
 - saliva
 - urine
 - feces
 - materials or equipment contaminated with body fluid or excreta

2 Responsibilities of the Injured Person

IMPORTANT: A copy of this document must be brought to the Yale Health Center to obtain proper treatment. The injured person must perform first aid IMMEDIATELY or as soon as possible following exposure (within 1-2 minutes).

NOTE: Individuals assisting the injured or exposed person must wear gloves.

ACTIONS TO TAKE WITHIN 1 TO 2 MINUTES AFTER THE EXPOSURE:

Wounds

- Obtain a bite/scratch kit located throughout the NHP facilities or use areas. Instructions and supplies for initial wound care are included in these kits. The key instructions are:
 - Under running water, vigorously scrub the wound with a Betadine or Chlorhexidine - impregnated scrub brush for 15 minutes.
 - After scrubbing, use pre-moistened sodium hypochlorite towelette to soak the wound for at least 15 minutes.
- If a bite/scratch kit is unavailable:
 - Wash the wound with hot, soapy water for 15 minutes.

Mucous membrane (i.e., eye, mouth, and nasal passages) exposure to body fluids or excreta

- For exposure of mucous membranes, find the nearest eyewash station to irrigate the exposed area for a minimum of 15 minutes. The use of eyewash solutions provided in the NHP Exposure Response kit is suitable for immediate flushing but is not an acceptable substitute for the required use of **eyewash stations**.
- If such an eyewash station is not readily available, splash the affected mucous membranes with plain tap water from a sink for 15 minutes. Follow up with the use of an eyewash for 15 minutes at the nearest eye wash following the initial washing.

ACTIONS TO TAKE IMMEDIATELY (WITHIN 1 TO 2 HOURS) AFTER THE EXPOSURE

All injuries or exposures

- Inform an immediate supervisor or other staff member that an incident has occurred and provide the name and location of the animal. The supervisor or other staff member should be advised to notify Veterinary Clinical Services of the incident IMMEDIATELY by calling (203) 785-2501.
 - If a supervisor is not available, call the Animal Resources Center with this information at 203-785-2526.
- Notify the Department of Employee Health at (203) 432-7978 of the exposure and arrange for treatment. If Employee Health is closed or unavailable, report to Acute Care at Yale Health Center.
 - **Bring a copy of this document to the Yale Health Center (55 Lock Street, New Haven) or inform the center staff who treats you regarding the importance of following the procedure for Injuries Associated with NHP.** It is available in the bite/scratch kits or on the Yale Health internal website under Nonhuman Primate Exposures on the Policies and Procedures page.

ACTIONS TO TAKE WITHIN 1 TO 2 BUSINESS DAYS FOLLOWING THE EXPOSURE:

- After seeking medical attention, complete an injury report form via the Worker's Comp site.
 - Visit the [Workers' Compensation](#) website for more information
 - **For assistance, contact Yale's Workers' Compensation Manager by calling 203-432-9831**
- Be alert for any signs or symptoms of disease for the following four weeks and notify Employee Health about any suspected illness. See below.
- Notify Environmental Health and Safety (EHS) of the incident at 203-785-3550 to initiate the incident review process

3 Responsibilities of Injured Person’s Supervisor or Other Appropriate Staff

- Ensure that the exposed individual has washed the affected area immediately for 15 minutes.
- Identify the NHP involved and notify Veterinary Clinical Services (VCS) IMMEDIATELY about the incident and which animal was involved.
- Notify EHS of the incident at 203-785-3555 to initiate the accident/incident review process
- Fill out a Yale University [Employee First Report of Injury Form](#) and copy to EHS.
- Confirm that the employee has gone to Yale Health and that the Department of Employee Health was notified.

4 Responsibilities of Yale Health

Treatment

- Verify that the wound has been cleansed. If not, cleanse as in section A.
- If the wound is open, re-cleansed the exposed area by washing it with povidone-iodine, chlorhexidine, or detergent soap for 15 minutes.
- For exposure of eyes or mucous membranes, irrigate the exposed area for 15 minutes with sterile saline or water.
- Obtain a detailed history of the exposure noting time, NHP identification, and any personal protective equipment that was in place (such as gloves, face shield, etc), adequacy and timing of post exposure cleansing on site.
- Contact Veterinary Clinical Services (VCS) ((203) 785-2501) to review pertinent health information about the NHP.
- Draw blood into a red top tube and label it “post monkey bite sera for Herpes B antibodies,” instruct the lab to separate the serum and hold it at Yale Health, and store the tube in an on-site refrigerator overnight. Use a miscellaneous lab slip for this--DO NOT USE Quest Clinical Lab slip or send the samples out.
- Swab the wound for viral culture using Bartel’s viral transport media (available in the lab or in the Acute Care refrigerator) and refrigerate.
- Treat the wound as needed, including a tetanus immunization if indicated.
- For deep bite wounds (e.g. penetration of underlying muscle, connective tissue), consider prophylaxis with antibiotics sensitive to normal oral flora, such as Augmentin or other appropriate bite wound regimen.
- Notify the Department of Employee Health of the incident on next working day so Employee Health can arrange to send the samples to the proper reference laboratory to test for B virus. See shipping address and instructions below.
- Instruct the patient to return to Employee Health for a blood draw 3 weeks post-exposure to re-check for the presence of Herpes B antibodies.
- Counsel the patient to look for and report to Employee Health any symptoms of possible infection with Herpes B virus. These may include:
 - vesicular eruptions at the site of injury
 - localized numbness, pain, itching
 - flu like illness with muscle aches
 - fever and chills—especially any fever over 101.3 lasting more than 2 days
 - severe headache lasting more than 24 hours

- loss of balance or muscle coordination
- shortness of breath
- Inform any employee who is immunosuppressed about the potential increased risk of infection following injury or exposure

Prophylaxis

- Post-exposure prophylaxis with an antiviral drug is recommended if:
 - Exposure is to an animal known to be ill, shedding B virus, or has lesions compatible with B virus infection.
 - Immediate or adequate cleansing of the exposure site did not occur.
 - Deep puncture bites or other wounds to the head, neck or torso
 - Exposure to fluid from the NHP's nervous system or from lesions suspicious for Herpes B virus infection.
 - Lesions that have cultured positive for Herpes B virus.
- Consider prophylaxis for:
 - Any exposure of mucous membrane (even if cleansed adequately)
 - A puncture from a needle used on an ill macaque or from injury involving potentially infected fluid or cell culture
- Antiviral therapy options:
 - Valacyclovir, 1g PO q 8 hr for 14 days for exposure to Herpes B virus. (A small supply of Valacyclovir is in Acute Care for off hours use).
 - OR
 - Acyclovir 800mg PO 5 times a day for 14 days.
- Antiviral prophylaxis is not recommended for injuries that do not break the skin, or for those from a non-macaque species.
- Schedule follow up serologic testing for Herpes B antibodies at 3 months post injury for any patient who has received post-exposure prophylaxis.

5 Responsibilities of Veterinary Clinical Services

- Initiate a bite/scratch record and maintain copies of all forms and records pertinent to the incident including results of B virus testing.
- Anesthetize and examine the animal (by a veterinarian) for lesions indicative of zoonotic infection, within 4 hours post exposure (preferably immediately after exposure).
- Obtain swabs for viral culture from the animal's buccal mucosa, both conjunctivae, urogenital area and from any suspicious lesion.
- Place the swabs in Viral Transport medium (available in the freezers of the VCS pharmacy refrigerator and in the primate area refrigerators). Culture media and swabs must be kept cold during transport. Draw blood from the animal immediately and 2-3 weeks after the incident.
- Centrifuge the blood and store the swabs and serum according to current guidelines provided by the National B Virus Resource Center, as described in the VCS SOP: Processing and Shipping Serum and Viral Swabs.
- Submit swabs and serum from initial blood sample as soon as possible post injury as described in the above-mentioned VCS SOP.

- For exposure during a terminal procedure (e.g. perfusion) obtain 3 x 5 mm tissue sample(s) from the exposed site(s) in the animal and store each sample individually in viral culture media at 2-6.0°C for up to one week (or -60°C indefinitely) for viral PCR.
- Notify the Chief, Department of Employee Health at (203) 432-7978 about the serology results as they become available.
- Notify Chief of VCS and the Attending Veterinarian promptly if any samples test positive for B virus or *Macacine herpesvirus 1* (formerly *Cercopithecine herpesvirus 1*).
- The completed records will be stored in the animal's Vet Care medical record.

6 Contacts

Subject	Contact	Phone
Treatment	Employee Health (EH)	(203) 432-7978 or (203) 432-0123 (after hours)
Animal Health or Injury Notification	Veterinary Clinical Service (VCS)	(203) 785-2501
Employee First Report of Injury Form	Workers' Compensation *Please be sure to copy EHS during submission*	https://your.yale.edu/work-yale/managers/workplace-health-and-safety/workers-compensation
Accident Review Meeting	Environmental Health and Safety Office	(203) 785-3550