



HEALTH AND SANITATION STANDARDS FOR GIBBON STUDIES

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Introduction

The personnel at the International Center for Gibbon Studies (ICGS) practice strict health and sanitation procedures to prevent disease transmission. All primates new to International Center for Gibbon Studies must enter our primate quarantine station, licensed by Center for Disease Control (CDC), for a minimum of 33 days. All primates that are imported into the US must be housed in squeeze cages during their quarantine period. During this quarantine period, feces are examined twice for ova, parasites and bacteria. A complete blood count and chemistry panel are taken, and blood is examined for viruses. Quarantined gibbons are tested, 15 days apart, for tuberculosis (TB) with Cooper's Tuberculin Mammalian, Human Isolates Intradermic and must have three consecutive negative results. Once the gibbons' result prove they are in good health, they are housed outdoors. All gibbon feces are monitored daily and are analyzed three times a year. A blood work up and a TB test are performed approximately once a year to ensure the gibbons are in good health. Tetanus vaccinations are given every seven years.

Prior to entering the center, visitors must disinfect the soles of their shoes with phenolic/ quaternary disinfectant spray. ICGS does not permit visitors who are ill, or who have been recently exposed to anyone who was sick (e.g., flu, measles, etc.) to enter the property. Visitors must stay at least 2 m. away from enclosures. Strict procedures have been established at ICGS to help prevent the spread of herpes simplex virus infection and any other zoonotic diseases between gibbons. Personnel wear protective clothing when inside the gibbon enclosures. Each enclosure has its own cleaning equipment and disposable gloves, disinfected with foamed hand ethanoled degermer, are worn during feeding and cleaning (Mootnick *et al.*, 1998). A disinfectant is sprayed on the soles of the rubber boots before entering and when exiting an enclosure. Below are some of the procedures that are utilized at ICGS.

General

(a) No animals, other than the gibbons housed at this facility, may enter the facility.

(b) Entered in the daily log book are the date, time, and description of any of the following instances, or anything thought to be relevant, injuries, illness, and food left uneaten 2-3 hours after each feed.

(c) To avoid contamination to the gibbons or to humans, it is essential that you wash your hands before and after feeding the gibbons, before preparing food, working outside, and before and after using the toilet.

Food Preparation

(a) Wash your hands with either germicidal soap or surgical hand scrub before preparing any food for the gibbons.

(b) Wash your hands with either germicidal soap or surgical hand scrub before and after using the toilet.

(c) Do not wash your hands in the kitchen sink, as this is used for food preparation. Always wash hands in the restroom or laundry area sink.

(d) The food preparation area should be kept clean throughout the day, after each use. Wipe down the cutting boards and counter tops before existing the kitchen. The cutting boards should be cleaned with germicidal soap at least twice a week.

(e) Wash all produce before preparing it.

(f) Inspect all the food in the refrigerator daily. Remove and dispose of spoiled food, mold, or dirt.

(g) Clean the inside of the refrigerator a minimum of three times a week.

(h) No discarded produce should be left inside the kitchen trash receptacle over night, in order to prevent fruit flies from living in the kitchen.

(i) When taking dry food from the storage cans, never let the inside of the lid touch the ground, and always make sure the lid is tightly shut, to prevent rodents and insects from entering the dry food containers.

Interaction

Do not touch the gibbons. This spreads germs between you and the gibbons and also can imprint humans on them, which may cause aggression between them and their cage mate (or future mate).

Water

(a) Check the gibbons' water buckets during each feed, if stools, food, or other contaminating matter are present, change the water immediately. It is important to change their water everyday, whether it is dirty or not, in order to prevent algae from forming and contaminating foreign matter from collecting.

(b) When using the hoses to change the gibbons' water or to rinse out the food buckets, turn on the water and let it run for approximately 2 minutes before using it to clear out the settled minerals. Do not set the nozzle of the hose in standing water or mud.

(c) During the time you are giving the gibbons fresh water, it is important to scrub the chain link surrounding their feeding areas (with the brush, marked "food" for that particular enclosure), and to rinse the food platforms or blocks everyday with strong water spray.

Medication

When medicating a gibbon, remain patient and dedicated to ensure they receive the proper amount of medication. Repeated trips to the kitchen may be unavoidable if the gibbon is picky about what food the medication is on. It is very important to document the amount of medication the gibbon took and what food they preferred it on. If the gibbon does not receive the proper dosage of medication, its health will be in danger as the pathogen might become resistant to the medication.

Feeding the gibbons

(a) If any food is dropped near a gibbon enclosure during feeding, the food becomes that gibbon's meal. If any food has been offered to or touched by a gibbon, it becomes their food.

(b) Be careful to avoid dropping food on the ground when placing it on food platforms.

(c) Check for uneaten food every day, two hours after each feed. If left overnight, the rodents will eat it. Document any uneaten food at each cage (quantity, food) in the log book. If a pattern develops, discuss this with your supervisor to determine if it should be eliminated from the diet.

(d) Do not offer any food that you are eating to the gibbons.

(e) Do not eat any of the gibbons' food and do not eat while you are feeding the gibbons.

(g) Do not allow the gibbons to touch the dry food or the food in the hand-held feed buckets. Keep these containers at least 2m from the enclosures.

(h) If you feel slightly ill, you must wear a dust mask and disposable gloves when preparing the gibbons' food and feeding them. Remove and replace the disposable gloves when using the toilet.

(i) If you are sick you cannot be close to the gibbons' food or the gibbons.

(j) If you have a Herpes cold sore on your lip you cannot feed, prepare their food, or get close to the gibbons, since Herpes virus can be fatal in gibbons (Mootnick *et al.*, 1998).

Sanitation

(a) Take out the garbage a minimum of twice a day, and make sure the trash can-lid is closed properly. Do not leave produce in the kitchen trash can over night. The kitchen trash can should always have one plastic liner in it and one smaller plastic grocery bag in which all garbage is placed. Throw away the smaller bag when full or when it contains matter that will attract fruit flies. Leave the liner in the trash can and always put another plastic bag in when needed. Immediately put garbage outside in trash can after removal from can in kitchen.

(b) Always make sure hand held feed buckets (that are used to carry food to the gibbons) are rinsed and scrubbed, both inside and out, including the handle, with a brush (that is labelled food containers) at the end of the feed. This will ensure that no insects are brought into the kitchen and that remaining food particles do not spoil and get fed to the gibbons on the following feed. Once a week diluted bleach should be used to scrub food buckets. Be careful not to get bleach on your clothes. These hand held food buckets should never be put in the kitchen sinks.

(c) Do not wear rubber work boots in the office or kitchen as they track in mud and are used when cleaning the gibbons' enclosures. If your shoes are muddy, leave them outside. Don't go barefoot in the kitchen; wear slippers or a different pair of shoes (or socks) indoors. Rubber boots should be sprayed off with water at the end of each day.

(d) When using the high-pressure washer on cage material, you must wear rubber gloves, dust mist mask, face shield and disposable coveralls over your coveralls.

Reference

Mootnick, A., Reingold, M., Holshuh, H.J., Mirkovic, M. (1998). Isolation of a herpes simplex virus type 1-like agent from the brain of a mountain agile gibbon (*Hylobates agilis agilis*) with encephalitis. *J. Zoo. Wildl. Med.*

