

HEALTH GUIDELINES



& REQUIREMENTS

Madagascar: Biodiversity and Natural Resource Management

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BRIEF SUMMARY

Prior to Departure:

- Schedule an appointment with your health care provider or a travel medicine clinic at least 8 weeks prior to departure.
- Take an adequate quantity of all your necessary and prescription medications to last your entire stay.
- Ensure you are up to date on all routine vaccines.
- Discuss your specific travel itinerary (including various in-country locations you plan to visit) with your health care provider and discuss:
 - **Required vaccines:** Covid-19 vaccine and up-to-date boosters are required for SIT programs.
 - **Recommended vaccines** including Tdap booster, adult polio booster (IPV), hepatitis A & B, meningococcal, influenza, typhoid, and rabies.
 - Prevention and treatment of traveler's diarrhea.
 - Malaria prophylaxis.

SIT recommends that you bring a copy of your immunization record with you and insert this document in your passport so that it is easily accessible.

While you are in Madagascar:

- Take measures to prevent traveler's diarrhea.
- Take preventive measures to avoid mosquito bites.
- Do not travel alone and maintain an awareness of your surroundings at all times.
- Remember motor vehicle accidents remain the biggest risk for international travelers. Ride in the back seat, wear seatbelts, and do not be afraid to ask your driver to slow down.

- Use condoms if you are sexually active.
- While traveling abroad, minimize high-risk behaviors.
- Notify your Academic Director if you become ill

GENERAL INFORMATION

To protect your health in Madagascar, you need certain pre-departure immunizations followed by reasonable health precautions while in the country. The following health guidelines and requirements are based on years of experience and the current recommendations from the US Centers for Disease Control and Prevention. They are designed to inform you of health concerns that may be present in Madagascar especially as you venture to smaller cities off the usual tourist track or spend time in small villages and rural areas for extended periods.

It is essential that you review these health guidelines and requirements with your health care provider, to discuss individual issues such as pre-existing medical problems and allergies to specific drugs. Any further questions or concerns should be directed to the US Centers for Disease Control and Prevention (CDC) in Atlanta (www.cdc.gov/travel) or to your own health care provider.



SIT Study Abroad programs may venture off the usual tourist track. Pay careful attention to health and safety guidelines.

PREVENTION OF INSECT-BORNE ILLNESSES

While we have listed the primary insect-borne illnesses below, numerous other infections are prevalent in Madagascar highlighting the importance of personal protective measures.

Malaria

Malaria is present in Madagascar and prophylaxis is recommended. CDC guidelines suggest that prevention of malaria is possible if you carefully follow personal protective measures as described below and take one of the following antimalarial drugs (listed alphabetically) as directed by your health care provider: atovaquone/proguanil (Malarone), doxycycline, mefloquine, or tafenoquine (Arakoda). **The selection should be discussed with your health care provider or health-care provider.** If, in spite of adherence to these preventive measures, you develop symptoms of malaria, prompt medical attention lessens the severity of the illness.

Personal Protective Measures

The following insect precautions should be followed, especially after dark, to prevent mosquito bites that may transmit malaria:

- Wear long-sleeved shirts and long pants.
- Use mosquito netting over bedding.
- Use insect repellents on bedding and netting. (e.g., permethrin – commonly known as Permanone).
- Use insect repellents on skin and clothing. DEET-containing products (e.g., Off, Off Deep Woods, Jungle Juice, and Muskol) may be used on skin in concentrations up to 30–40% and on clothing in higher concentrations. Permethrin (Permanone) may also be used on clothing.

Malaria prophylaxis drugs to be discussed with your health care provider:

- **Atovaquone/proguanil (Malarone)** is a combination drug of atovaquone and proguanil. It is used for prevention of malaria in a **daily** dose with food or milk starting 1–2 days before arriving to Madagascar and continuing for 7 days after leaving the area. Although Malarone may cause mild headache, nausea, vomiting,

and some muscle pain, it has fewer neuropsychiatric side effects than mefloquine.

- **Doxycycline** is an antibiotic related to the antibiotic tetracycline. Doxycycline prophylaxis can begin 1–2 days before arriving to Madagascar. It should be continued **daily** during travel and for 4 weeks after the traveler leaves the area. The dosage of doxycycline is one capsule **daily**. Travelers who use doxycycline should be cautioned about possible adverse reactions due to sunlight exposure, such as sunburn and photosensitivity, as well as other side effects including diarrhea, nausea, and vaginal yeast infection in women.
- **Mefloquine** is an antimalarial drug for prophylaxis. The regimen consists of a single dose of mefloquine to be taken **weekly**, starting 1 to 3 weeks before travel. Prophylaxis should be continued **weekly** during travel and for 4 weeks after a person leaves such areas.

Mefloquine should be used with caution. Many people using mefloquine may experience minor side effects initially including nausea, mild headache, dizziness, or bad dreams. Because of the potentially serious results of contracting malaria, your health care provider may recommend continuing the medication unless the symptoms become intolerable.

If you are pregnant or have a history of significant emotional or psychiatric problems, including depression, severe anxiety, anorexia/bulimia, schizophrenia, and bipolar disorder, or medical problems including epilepsy and cardiac conduction abnormalities, you must communicate with your health care provider regarding the use of mefloquine and possible alternative drugs. More severe side effects such as fainting, vomiting, vertigo, depression, or confusion may require stopping mefloquine and contacting a health care provider to consider one of the alternative drugs.

- **Tafenoquine (Arakoda)** was recently approved as a prophylaxis by the US Food and Drug Administration (FDA) as a new drug for the prevention of malaria in travelers 18 years of age and older. Tafenoquine should be taken as a single dose once **weekly** to prevent malaria, starting 3 days before travel. Upon return, the

final dose should occur 7 days after the last maintenance dose was taken in the country. Possible adverse reactions include headache, dizziness, back pain, diarrhea, nausea, vomiting, motion sickness, insomnia, depression, abnormal dreams, and anxiety.

Tafenoquine should not be administered if one has a deficiency of an enzyme G6PD.

SIT Study Abroad suggests that if you have further questions, do not hesitate to contact the Malarial Division of CDC at 888-232-3228 for recorded information or visit the CDC website:

<http://www.cdc.gov/malaria/travelers/index.html>

Dengue

Dengue is a viral disease and is transmitted by mosquitoes which bite primarily in the daytime. It occurs in urban as well as rural areas and presents low risk in Madagascar. There is no licensed vaccine against it, but personal protective measures against mosquito bites are effective in prevention. The disease causes considerable discomfort (fever, body aching), but is self-limited in adults in most cases.

Chikungunya

Chikungunya is an arboviral infection that is transmitted by day-biting *Aedes* mosquitoes. It is prevalent in tropical Africa and Asia, parts of Central and South America, and the Caribbean. Low risk exists throughout the country and is mainly in Fianarantsoa, Antananarivo, and Toamasina provinces. Symptoms are typically fever and joint pain. There is no licensed vaccine against it, but insect precautions and personal protective measures (especially during peak times (early morning and late afternoon)) are the main prevention strategy.

Plague

Low risk exists in Madagascar including Antananarivo. This serious bacterial infection is transmitted by the bite of fleas' resident on infected rats or is transmitted human to human by respiratory droplets. The disease often begins with high fever and swelling of the lymph glands, especially in the groin, since fleas typically bite the legs. It can also cause pneumonia. CDC reports that the risk to

travelers is low. There is no licensed vaccine against it in the US, but personal protective measures against insect bites are effective in prevention. Insect repellents, protective clothing such as long-sleeved shirts and pants, plus the use of Pyrethrum-treated mosquito netting are therefore essential. Environments attracting rats (e.g., garbage, animal corpses) should be avoided. Travelers who are asymptomatic should seek immediate medical attention and are treated with antibiotics.

Rickettsial Infections: Typhus

Murine typhus is a bacterial disease that is transmitted to people by the bite of infected fleas usually harbored by rats and other small mammals (cats, dogs et al.). Symptoms may vary and its severity but are typically headache, fever, chills, and rash. Low risk exists in Madagascar. There is currently no vaccine to prevent typhus. Travelers should avoid rodents and their fleas. Insect precautions are recommended.



PREVENTION OF FOOD- AND WATER-BORNE ILLNESSES

Diarrhea-Producing Infections

"Traveler's diarrhea" is the most common form of diarrhea in Madagascar. This is a self-limited diarrhea lasting from a few to several days, characterized by watery, non-bloody bowel movements. Traveler's diarrhea usually requires no treatment other than fluid replacement including ORS (the World Health Organization's oral rehydration solution which comes in package form) or other homemade solutions such as 1 teaspoon salt, 1/2 teaspoon baking soda, and 2–3

tablespoons sugar or honey in 1 liter of **clean** water; or carbonated soda diluted by one half.

Antidiarrheals such as Imodium or Lomotil may be used short-term in some circumstances. Pepto Bismol in large amounts and certain antibiotics (doxycycline, sulfa-TMP, ciprofloxacin) can prevent or attenuate the infection. Antibiotics are indicated for more severe cases of traveler's diarrhea.

More protracted and disabling diarrheal illnesses may be due to giardiasis and amoebic dysentery (caused by parasites) and bacillary dysentery (caused by bacteria), including cholera and typhoid. These infections (as well as "traveler's diarrhea") are caused by contaminated food and water. Therefore, the best way to avoid such infections is to follow certain do's and don'ts:



DO WASH your hands scrupulously with non-contaminated water and soap before eating and snacking.

DO DRINK

- Bottled or canned beverages (water, soda, soft drinks) from a trusted source (ensure caps are sealed).
- Hot coffee, tea.
- Water that has reached a rolling boil for a least one minute at sea level (longer at higher altitudes).

DON'T DRINK

- Tap water, this includes not using it to brush your teeth or using ice made from tap water.

DO USE

- Commercial iodide or tinctured liquid iodine to treat water, **ONLY** if bottled water (from a trusted source) is not available and boiling water is not possible. Chlorine in various forms is less reliable than iodine. These provide substantial protection when added to tap water.

DO EAT

- Cooked vegetables, fruits with thick covering (citrus, bananas, and melons); and well-washed raw fruits and vegetables.
- Meat or fish that is thoroughly cooked (pork and lamb should be very well done).
- Pasteurized dairy products.

DON'T EAT

- Unwashed or unpeeled raw fruits and vegetables.
- Fruits that do not have a thick, disposable outside covering.
- Rare or raw meat, fish, or shellfish.
- Dairy products from small, independent vendors without pasteurizing facilities, including food of any kind that has been left out in the sun, especially custards, creams, and mayonnaise.
- Raw (unpasteurized) milk or milk products. Tuberculosis and brucellosis, both serious diseases are transmitted in this way, so the consumption of unpasteurized milk and milk products should be strictly avoided.

There may be times when refusing an offer of food or beverage, even a drink with ice or avoiding a salad will be considered rude. You must decide for yourself, but polite refusals, thought out in advance, are often handy. Discuss these alternatives with your Academic Director(s).

Hepatitis A

Hepatitis A is a highly contagious virus that causes liver inflammation. It is spread through contaminated food and water. Most Americans have not previously been exposed to the hepatitis A virus and are at risk of contracting the disease during travel to areas where the disease is more prevalent. A very effective vaccine is available and should be administered 2–3 weeks prior to travel.

Schistosomiasis (Bilharzia)

Schistosomiasis (bilharzia) is prevalent in Madagascar. The Peace Corps lists it as one of the country's major medical problems. It is acquired by contact with fluke-like parasites, which live on fresh-water snail hosts and can penetrate the skin of people and animals, causing serious illness. There is at present no chemoprophylaxis or immunization for this, but it can be avoided by not swimming in fresh water and by following these guidelines:

- **DO NOT SWIM OR WADE IN FRESH WATER.**
- If using untreated water that comes directly from a freshwater source such as canals, lakes, rivers, streams, or springs) heat bathing water to 50°C (122°F) for 5 minutes. This will destroy the parasites. Iodine treatment alone *will not guarantee* that water is safe and free of all parasites.
- Filter untreated water with a tightly woven cloth or with paper filters. This may also be effective in removing the parasites from untreated bathing water. If these measures are not feasible, allow untreated bathing water to stand for 3 days, as the parasites live only 48 hours.
- Properly chlorinated water that is piped into homes, chlorinated pools and salt water are generally safe from infectious diseases.
- If accidental exposure to suspected water occurs, immediate and vigorous towel drying or rapid application of rubbing alcohol to exposed areas may reduce the risk of infection.

If you suspect that you are infected, contact a health care provider or hospital *immediately* and obtain urine and stool tests. If you do test positive, praziquantel is the treatment of choice.

Typhoid Fever

Typhoid is an infection caused by a particular species of the salmonella bacterium. It is spread by contaminated food and water. Symptoms include fever, severe toxicity, rash, and in about half the cases, bloody diarrhea. Untreated, there is a 30% mortality rate. Vaccines are 60–70% effective in prevention. One vaccine involves a single injection, with immunity lasting 2 years. A second one is administered orally every other day for 4 doses and lasts 5 years. Antibiotic resistance has been developing, but treatment of the disease with certain well-known antibiotics is usually effective. As with all

diarrheal illnesses, careful dietary discretion continues to be the main line of defense.

OTHER DISEASES

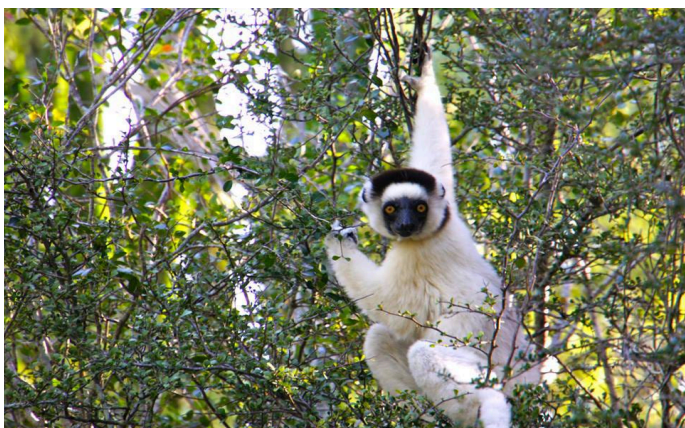
Hepatitis B

Hepatitis B is a serious and often chronic viral infection of the liver. Since this type of hepatitis is most often acquired from contact with infected blood, sexual contact (as with HIV), or skin-to-skin contact of mutual open cuts and sores, appropriate precautions to avoid these types of exposure are necessary. This includes avoiding getting tattoos, or ear/body piercings and avoiding cuddling children with sores or draining insect bites. A series of three immunizing injections is recommended. This series should be initiated as early as possible so that at least two doses are taken prior to departure which will provide partial protection. The third shot should be taken five months after the second dose and may be given after returning home to achieve full, long-lasting immunity. An accelerated schedule can also be used as an alternative.

HIV/AIDS and Blood Supplies

HIV/AIDS is a concern worldwide. The HIV virus is transmitted by way of bodily fluids from an infected person. HIV is spread mainly by having anal or vaginal sex or sharing drug injection equipment with a person who has HIV. AIDS is an acquired immune deficiency that can result in life-threatening infections and is the most advanced stage of the HIV infection. It is the student's responsibility to protect him /herself from acquiring the disease through sexual transmission. Students anticipating even the possibility of sexual activity are strongly urged to bring their own condom supply. Other potential routes of infected blood transmission such as tattooing, body piercing, and needle sharing must be strictly avoided.

With regard to blood transfusions, our Academic Directors have identified hospitals, through consultation with the local US embassy, where safe blood is available. In a life-threatening situation, the risks versus benefits of an emergency blood transfusion must be examined carefully and a decision made based on the best information at hand.



Rabies

Rabies is a viral disease almost always caused by animal bites (especially dogs and bats). Risk occurs in Madagascar and, therefore, you should take measures to prevent it. Given the serious danger posed by rabies as a uniformly fatal disease, follow these important guidelines:

- Consider pre-exposure immunization (if available).
- Avoid bites from all animals and especially avoid handling or feeding puppies, kittens, monkeys, or other animals. They can have rabies before it is obvious.
- If you have been bitten or have had direct contact with the saliva of a suspected rabid animal, immediately wash the affected area with a soap solution and running water thoroughly to neutralize and to rinse out the virus. **Then proceed immediately for post-exposure treatment.**
- If possible, the animal should be captured and kept under surveillance until the diagnosis and therapy are completed. If capture is not possible, a clear description of the animal and the circumstance of contact should be carefully recorded.

Tuberculosis

Tuberculosis (TB) is a bacterial disease spread by airborne droplets from a person with untreated pulmonary TB or by ingestion of TB-contaminated unpasteurized milk products. Transmission is more likely in conditions of crowding and poverty. A TB test can indicate prior exposure to tuberculosis and is recommended prior to travel. A repeat test is also recommended after returning to the US even if the pre-departure test was negative.

Coronavirus COVID-19

COVID-19 is a respiratory virus that is spread through direct contact with an infected person as well as through respiratory droplets produced when an infected person coughs or sneezes. Symptoms of COVID-19 may appear **2-14 days after exposure** and may include fever, cough, and shortness of breath. The illness can also cause muscle or body aches, sore throat, vomiting and diarrhea. Reported illnesses have ranged from mild symptoms to severe illness and death. Vaccines are available to protect against the coronavirus disease 2019 (COVID-19). *The best way to protect yourself is to obtain the COVID-19 vaccine and up-to-date boosters and to continue to follow COVID-19 precautions!*

- **Clean your hands often**-wash your hands carefully and frequently with soap and water for at least 20 seconds especially after you have been in a public place, or after blowing your nose, coughing, or sneezing. If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry. Avoid touching your eyes, nose, and mouth with unwashed hands.
- **Cover your mouth and nose** with a tissue when you cough or sneeze or use the inside of your elbow. Throw used tissues in the trash.
- **Clean AND disinfect** frequently touched surfaces daily. This includes tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, and sinks.
- **Avoid close contact.** Put distance between yourself and other people, if possible.
- **Inform your Academic Director immediately** if you have a pulmonary disease or any respiratory illness; have a fever or feeling sick; if you have been in close contact with a person known to have COVID-19; and/or have recently traveled from an area with widespread or ongoing community spread of COVID-19.
- **Contact ISOS and a health care provider** if you develop symptoms.
- **Avoid travel if you are sick or have a fever.** Your Academic Director will make appropriate accommodations for students who are ill.
- **Wear a facemask**, anywhere required by host country laws or in locations where SIT staff and partners on the ground have determined it is necessary based on current circumstances.

- **Most importantly, stay connected:** especially during your Independent Study Project or Internship. Communicate daily with your SIT Academic Director. SIT continues to update its contingency and evacuation plans to ensure that we are prepared to take appropriate action in the event of a change in circumstances.

SIT recommends that students check the country's consular website for up-to-date information on entry and exit requirements.

Sun Exposure

SIT Study Abroad recommends the use of sunglasses, wide-brimmed hats, sunscreen lotions, and lip protection to reduce problems related to sun exposure.

With reasonable attention to health and hygiene rules, your stay in Madagascar should be a healthy one. Aside from minor ailments due to adjustments to the new food, water and climate, the large majority of SIT Study Abroad students remain healthy throughout the semester. We do, however, recommend you see your health care provider when you return to the US to test for any possible lingering infection contracted overseas.

Take good care of yourself!

