

# HEALTH SUGGESTIONS FOR TRAVELERS IN THE AMERICAS *(Continued)*

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A person may go about safely in malarial districts during the day-time, but should remain in efficiently screened rooms at night if in infected territory and if it is probable that there are malaria-bearing mosquitoes in the vicinity.

Mosquito-bars, if properly used, and if kept free from mosquitoes inside, reduce in some measure the danger from malaria; but in unscreened houses one may be bitten before the hour of retiring, and so too much faith should not be placed in mosquito-bars alone. If a part of the body lies in contact with the mosquito-bar, the mosquito bites between the threads or through the meshes.

Travelers usually wish to know whether or not quinine should be taken as a prophylactic in malarial districts. The answer to this question seems to be that from 6 to 10 grains of quinine per day for adults, taken either in a single dose or in divided doses, night and morning, will usually enable a person to avoid the symptoms of malaria and keep him up and about, but he will often have the organisms in his blood. Not infrequently when quinine is discontinued, the disease develops even after the person has left the malarious district. It is, perhaps, not advisable to take prophylactic doses of quinine too long without intermission, and it is not recommended that one should live under conditions where continuous doses of quinine are necessary if this can possibly be avoided. Plasmochin and atabrin are comparatively new drugs that are being used in the prevention and treatment of malaria, but they should not be taken except on the advice of a physician.

## AMOEBIC DYSENTERY

This is a very serious disease which, once contracted, may last for many years. Amoebic dysentery not infrequently results in invalidism and may also cause abscess of the liver. It is common in tropical and semitropical climates. Perhaps the most frequent source of amoebic dysentery is drinking water which is contaminated with the alvine discharges of human beings. Unpasteurized milk may be similarly contaminated, due to the fact that the containers have been washed in contaminated water, or the milk may have been drawn or handled by a carrier. Flies may convey the disease.

Lettuce and strawberries may have been grown in polluted soil and they should be very thoroughly washed several times in water that has been boiled or in water that is known to be safe. Water-cress is more likely to be contaminated than other leafy vegetables. Any food that is to be eaten raw and that will stand immersion in very hot water, preferably near the boiling point, for from a few seconds to a few minutes, according to the temperature, is made reasonably safe by such treatment, particularly with regard to the danger from amoebic dysentery. Cooking, of course, removes the danger. *Heat kills germs*, and dead germs are harmless. Tree fruits are not likely to be contaminated unless handled by disease carriers. They can usually be washed clean from disease germs if safe water is available.

To protect oneself against amoebic dysentery in countries or districts where it exists requires constant vigilance. If water is not safe, it should be boiled for five minutes. If milk is not safe, it should be boiled for two minutes, or pasteurized. Boiled water and boiled milk are absolutely safe insofar as disease germs of any kind are concerned. Water for bathing and for other domestic uses should be boiled as well, if regarded as unsafe. Bottled waters for drinking may be used in an emergency; they are usually safe, but not always so.

It has been supposed that the boiling or pasteurizing of milk materially injures its food value. This opinion is almost entirely erroneous. Vitamins A, B, and D, contained in milk, are uninjured by boiling or pasteurizing. It may be true that the vitamin C content is diminished by these processes, but this vitamin can easily be obtained from other foods, particularly oranges, tomatoes, and lemons. Orange or tomato juice, or both, should be given daily to young children whose diet is chiefly, or only, milk. Adults usually get plenty of vitamin C in fruits and vegetables.

If safe fresh milk cannot be obtained, powdered, evaporated, or canned milk may be used, supplemented by orange and tomato juice, as in the case of pasteurized milk.

Beginning amoebic dysentery has often been mistaken for appendicitis. Operation, if the case is amoebic dysentery, is very dangerous. There is no method of vaccinating against amoebic dysentery.

#### BACILLARY DYSENTERY

Bacillary dysentery is an acute disease, often quite severe, and sometimes fatal, especially in young children and in old or enfeebled people. It is contracted in practically the same ways as amoebic dysentery and typhoid fever, except that it is much more often contracted by *contact with the sick* or with articles they have soiled, or by contact with soiled latrines. Methods of avoidance are the same as those already given. Avoid soiling the hands when around cases of bacillary dysentery and wash them thoroughly after each contact. Avoid the use of latrines used by persons suffering from dysentery.

Flies frequently convey bacillary dysentery. Some success is claimed for vaccination against this disease, but reliance should be placed chiefly on avoiding contaminated water and food, including milk, and also on protection against flies and care in contacting the sick.

GASTRO-ENTERITIS, DIARRHEAS: "CHOLERA INFANTUM", ETC.

Diarrheas, particularly those of childhood and infancy, are often due to contaminated water and contaminated milk. They may be due to spoiled food, including milk, or to meats, to milk from diseased animals, or to eggs from diseased fowls. They may also be due to the handling of food by carriers of disease germs. Flies play an important part in the spread of these diseases. Recently cooked food (that is, food cooked within half an hour) is generally safe if the food has been well cooked. Keep food cold (40° to 48° F.) both before and after it is cooked. A poor ice box is a bad investment. Check your ice box at top and bottom with a thermometer that registers maximum and minimum temperatures. Be careful when contacting the sick.

TYPHOID FEVER

Water used for drinking and other domestic purposes which is contaminated with the alvine discharges of human beings is the most frequent source of typhoid fever. Contaminated milk or milk products are also frequent sources of this disease. Fresh raw vegetables grown in polluted soil or washed in contaminated water may convey typhoid fever. Flies may also act as carriers. Careless contact with the sick may give rise to the disease. Human carriers of the typhoid germ are not infrequently the source of local outbreaks.

To avoid typhoid fever one should drink only safe water or water that has been boiled, and use milk that has been boiled or pasteurized, or use canned or powdered milk. Avoid raw vegetables which may be contaminated with body wastes, either from having been grown in polluted soil or washed with polluted water. Flies should be avoided by proper screening. (Read precautions for amoebic and bacillary dysentery.)

Vaccination against typhoid fever affords a good measure of protection against this disease, but it should be repeated every three to six years to be continuously effective and should not be relied upon to the exclusion of the other sanitary precautions mentioned. Be careful when visiting a typhoid patient, and wash the hands well on leaving the room.

YELLOW FEVER

Yellow fever was once the scourge of tropical and semitropical America and frequently extended into the temperate zones in the summer. The disease is conveyed only by the bite of an infected

mosquito, usually *Aedes aegypti*. This mosquito lives in houses and breeds in the immediate vicinity. It bites at night, but also in the early morning hours and late in the afternoon, and in dark rooms at any time of the day. It rarely bites in bright daylight in the open. It is not dangerous to go about outdoors in an infected locality in bright daylight. Going into a house where there may be infected mosquitoes is very dangerous, particularly at night, or if the rooms are dark.

Yellow fever has been almost, but not quite, eradicated from the Americas. Certain parts of Brazil, Colombia, and eastern Bolivia are still considered infected. The disease is prevalent in a considerable portion of tropical West Africa.

To avoid yellow fever in infected localities, avoid the yellow-fever mosquito. Seek rooms that are very carefully and efficiently screened. If possible, secure rooms on the third or fourth floor of hotels, or higher, but insist on *screened* rooms.

Immunization against yellow fever is still in the experimental stage; but anyone who is visiting in places where the disease exists should be immunized, if possible. The procedure devised by the Rockefeller Institute of New York is recommended and is apparently quite effective.

#### SMALLPOX

Smallpox is still present in most American Republics. In a few it has been eradicated; in others, after years of freedom from the disease, it has been reintroduced. At times this disease is present in a very dangerous form.

*Recent successful vaccination* will protect against *all* forms of smallpox. A number of Latin American countries require a certificate of successful vaccination for entry. Such certificates should be viséed by the consular or diplomatic representative of the country to which the traveler is bound.

*Alastrim* is a relatively mild form of smallpox and is prevented by vaccination.

Do not wait too long between vaccinations. Revaccination, if performed within five years, causes very little inconvenience. It is the first vaccination that makes the arm sore, or the secondary vaccination if performed after many years have elapsed since the first. There is no substitute for vaccination. One either has to get vaccinated or get smallpox at sometime in his life, almost without exception, unless he should die young.

#### SCHISTOSOMIASIS

This disease is not very common, but occurs in the West Indies and along the northern and eastern coast regions of South America. It is caused by a very troublesome worm which will live in the body for

many years, sometimes producing much suffering, though not always so. The eggs of this worm pass from the infected individual with his body wastes and hatch out in fresh water. The newly hatched embryo then enters the body of a snail, where it undergoes further development and multiplication. When the newly formed "cercariae", as they are called, escape from the body of the snail, they will penetrate the skin of man.

In order to avoid infection with these worms, one should not, in infested localities, wade or bathe in water that may be contaminated with the alvine discharges of human beings. This precaution applies to small pools and ditches, as well as to larger bodies of water. Such water, of course, should not be drunk.

#### FILARIASIS

This is a disease caused by an exceedingly small worm which lives in the lymphatics of man, the very young worms (embryos) appearing in the circulating blood. It is not very common but, when contracted, it lasts indefinitely and may cause a great deal of annoyance and disfiguration. It is conveyed from one person to another by the bite of a mosquito. It occurs in certain southern States, in Puerto Rico, in Mexico and Central America, and in South America as far down as the Tropic of Capricorn. There is no satisfactory treatment. Prevention lies in avoiding mosquitoes in infected localities.

#### ONCHOCERCIASIS

This is a serious condition when the eye is affected. The disease is caused by a filarial worm which lives in the lymphatic glands, but the larvae may invade the eye, often causing blindness. It is apparently conveyed by the bite (anywhere on the body) of a small fly, probably a species of the so-called "buffalo gnat." Onchocerciasis exists principally among the Indians in certain parts of Mexico and Guatemala and, perhaps, in other countries. All races are susceptible. So far the infection seems to be limited to certain rural or small urban areas, usually remote from the present routes of travel.

#### ANCHYLOSTOMIASIS

(Hookworm Disease)

Hookworm disease is present in many rural districts and also in towns where the water is unsafe or where there is not adequate and sanitary disposal of sewage (body wastes). The usual manner of infection is through the skin of the feet. "Toe itch" or "ground itch" is an eruption due to the penetration of the skin by the larvae of the hookworm. The disease may also be contracted by drinking water that is contaminated with the alvine discharges of persons who have the disease. *Safe drinking* water and the *wearing of shoes* will enable children (and adults) to avoid hookworms.

## ROUND WORMS

These are often abundant in rural districts where there is not adequate disposal of body wastes, or where the drinking water is contaminated. Hogs are often heavily infected.

Avoid contaminated water and milk and keep children away from polluted soil. Do not allow children to play with others who live under conditions of soil pollution.

## TYPHUS FEVER

This disease often prevails in the temperate and colder regions of many countries. It is rare in very hot climates. The disease is conveyed chiefly by body lice, possibly by other lice, and to a less extent by fleas. Avoid these and typhus is robbed of its dangers.

## BUBONIC PLAGUE

Plague has occurred from time to time in a number of American republics, including the United States, since about 1900. Plague exists in three forms: Pneumonic, septicemic, and bubonic. The latter two forms are not transmitted from man to man, except through the medium of insects (usually bites) particularly of fleas. Pneumonic plague is directly contagious. When rat plague exists in any city or other locality, human cases are produced by the transmission of the disease from rat to man by rat fleas. The disease may be conveyed by human fleas. There is relatively little danger to travelers, so far as plague is concerned, in any of the countries of the Americas at the present time, even though they may be stopping in cities where the disease is actually present. The way to prevent plague is to avoid rats and fleas, particularly rat fleas. Ground squirrels may be infected with plague.

## ASIATIC CHOLERA

At the time this leaflet is being prepared (1934), cholera does not exist in the Americas. The disease prevails to some extent in the Philippine Islands and in other places in the Orient. The cause is a microscopic plant-germ, present in the bowel discharges and in vomited matter of infected persons. It is transmitted by food and water polluted by the alvine discharges of infected human beings and by contact with the sick. Flies may convey cholera.

*Precaution.*—These are much the same as for typhoid fever and dysentery; the germ must be swallowed in order to produce the disease. Vaccination against cholera is recommended if one is contemplating a visit to an infected district.

## SNAKE BITE

Write to the Pan American Sanitary Bureau for its special publication on this subject.

## LEPROSY

Leprosy is present to some degree in many countries in the Americas, including the United States. It is not very contagious. Flies and other insects may possibly be carriers of the disease.

## DENGUE FEVER

Dengue fever, while not a very dangerous disease, disables for a time those who have it and causes considerable suffering. It is transmitted by the same species of mosquito that transmits yellow fever. Precautions against dengue fever are the same as for yellow fever.

## SPRUE

Sprue is a form of chronic diarrhea in which there often occur alternating periods of improvement and relapse. The onset of the disease is very slow, the first manifestations being soreness of the mouth and vague digestive disturbances. The tongue becomes raw. The stools are large and frothy and are most abundant in the early morning hours.

The cause of sprue is not definitely known. There is some evidence that it follows amoebic dysentery and other intestinal disturbances and also that it may be due to an unbalanced diet. Both of these factors, perhaps, are at times associated in producing the disease.

The treatment of sprue is a matter of very great importance, as the disease is one of serious consequences, often resulting in invalidism and death. Fortunately, it is not very common. Any one who contracts sprue should, if possible, leave the tropics at once, then go to a physician who knows how to treat the disease and make a business of getting well before it is too late. Diet is of the utmost importance. Blood transfusion is required in some cases.

The prevention of sprue, in the light of our present knowledge, depends in great measure on the partaking of a well-balanced diet in which milk, fresh fruits, and fresh vegetables are included. Be sure that water for bathing and drinking is free from contamination with the alvine discharges of human beings. Milk should be boiled or pasteurized. (Read again the remarks on amoebic dysentery.)

## FUNGUS DISEASES

Dhobie itch, pinta, various forms of ringworm, and many other fungus diseases of the skin are not uncommon in the tropics. These are annoying affections, often chronic, and some are disfiguring. They may be prevented by cleanliness and by avoiding contact with infected

persons and their belongings. Treatment should be carried out under the guidance of a physician.

#### FAVUS

Favus is a chronic, contagious disease of the skin, caused by a fungus affecting, chiefly, the scalp and often the nails. It is more prevalent in certain European countries than in the Americas. Favus has frequently been found in European immigrants who travel steerage.

The lesions of favus consist of small yellowish saucer-shaped crusts, which often run together. Favus of the scalp is exceedingly difficult to cure and tedious to treat. The same is true of ringworm of the scalp.

Both favus and ringworm can be prevented by avoiding contact with infected persons and their belongings. Children should not be allowed to play with other children who have favus or any form of ringworm, or who live under insanitary conditions. The use of individual combs and brushes is imperative. Infection is sometimes contracted in barber shops.

#### MEASLES

This disease is prevalent in all countries of the two Americas and is always dangerous. Few people realize how serious a disease measles is, particularly in very young children, in whom it is often fatal. If possible, avoid exposure of children to measles, at least until they are of school age. Keep children under five *at home* when measles is prevalent, and keep other children away.

#### DIPHTHERIA

This dangerous disease is usually not so prevalent in tropical and subtropical climates as in temperate and colder regions. It may be prevented by immunizing children by the toxin-antitoxin or, preferably, the toxoid method. Neglect of this precaution may be fatal.

#### SCARLET FEVER

Scarlet fever is conveyed from person to person through the secretions of the mouth, nose, and throat, and possibly from discharges from the ears. It is contracted by direct personal contact and also through contaminated unpasteurized milk. Scarlet fever is less prevalent in tropical and subtropical countries than in temperate and cold climates, though it may be found anywhere. It may be conveyed by fomites, that is, articles soiled by the sick.

Avoid exposure to scarlet fever whenever possible, and use only safe milk (pasteurized, boiled, canned, or powdered milk).



## SEPTIC SORE THROAT

This disease is often dangerous, sometimes fatal, and is frequently, perhaps most commonly, conveyed by raw milk. Avoid the use of unpasteurized milk.

## TUBERCULOSIS

All forms of tuberculosis are, as a rule, much more prevalent in most of the Latin American countries than in the United States. Bone and joint tuberculosis, the kind which causes shortening of the leg and produces "hunchbacks", is frequently contracted from unpasteurized milk from tuberculous cows. Well-nourished people who live under proper sanitary conditions are much less likely to contract pulmonary tuberculosis than those who are poorly nourished or subjected to unfavorable living conditions.

To avoid tuberculosis, shun "open" cases, drink safe milk, keep the body well nourished, partaking of a balanced diet, and live under as good sanitary conditions as possible, avoiding excesses of all kinds and loss of sleep. Avoid those who have the disease.

## RECAPITULATION

Safe water, safe milk, and proper disposal of the body wastes are the foundation stones and much of the superstructure of community sanitation. Immunization against smallpox and diphtheria are both public and individual duties and responsibilities. Add to these a balanced diet, cleanliness, regular exercise, sufficient sleep not interrupted for long periods, the avoidance of excesses and the shunning of communicable diseases and their sources, immunization against diseases other than smallpox and diphtheria, when deemed advisable, and one is fairly well protected against disease. The knowledge necessary to enable one to apply many of these measures can be gained only by intelligent effort; there are, however, authoritative books on almost any phase of disease prevention.

Finally, when in doubt consult a physician.

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*Nuevo microscopio perfeccionado.*—En la Escuela Técnica Superior de Berlín han fabricado recientemente un microscopio, el cual, sostienen, aumenta en 25,000 veces el tamaño natural del objeto. El instrumento no es directamente óptico, y en vez de los rayos luminosos corrientes utiliza rayos catódicos, o sean electrones de carga negativa. Como no puede percibirlos el ojo humano, el nuevo aparato utiliza para hacerlos visibles placas fotográficas. El objeto se somete a una descarga intensa de electrones regida por condensadores, que vienen a hacer las veces de las lentes del microscopio corriente. Las "fotografías" así tomadas pasan por dos tiempos de aumento, y por fin se visualizan en una placa o pantalla. En Inglaterra parece que también han elaborado un instrumento semejante.—Apud, *U.S. Nav. Med. Bull.*, 360, jul. 1934.