

# HEALTH SUGGESTIONS FOR TRAVELERS IN THE AMERICAS

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## General Observations

Those seeking advice with regard to climatic, health, and sanitary conditions in any of the American Republics should remember that almost every variety of climate may be found in many of these countries, and that health and sanitary conditions are often even more variable, depending on the particular location. Very often, in the same country, one may go from a midsummer to a midwinter temperature in a few hours and from a relatively safe to a potentially dangerous locality in a few minutes.

Sanitary conditions in the Americas are constantly changing, especially in the larger cities where safer water, safer milk supplies, and better disposal of sewage are reflected in a corresponding improvement in the general health. Of course, wherever milk and water are not safe, and where there is no provision for the proper disposal of sewage, then water- and milk-borne diseases are still plentiful and dangerous. Furthermore, one city may have a safe water supply while a neighboring town, a few miles away, may not, and a break in the operation of a chlorinating plant may render a city water supply temporarily unsafe; seasonal variations in the amount of rainfall may cause an increase in the turbidity of an unfiltered water sufficient to render chlorination inadequate and the water dangerous, as chlorine will not purify muddy water. A tropical or semitropical city may be free from malaria-bearing mosquitoes and from malaria, while a few miles away, in a rural district or in a smaller town, this disease may be prevalent and very dangerous. Both safe and unsafe milk are often sold in the same town, even by the same dealer, as when pasteurized, and unpasteurized milk, the latter contaminated, are offered for the option of the purchaser.

The time is happily at hand when the intelligent layman can, if he will, learn enough about diseases and the ways in which they are contracted or avoided to judge for himself of the safety of a given locality, both for visiting and as a place of residence, provided he can obtain the necessary facts with regard to local conditions. He can also learn how to apply measures of protection to himself and to his family when such measures are feasible.

The question has often been asked, Will prolonged residence in a continuously hot climate materially affect, adversely, the health or well-being of a person who has always lived in a temperate or a cold climate? In the present state of our knowledge, an authoritative answer to this question can hardly be given. There is no doubt that many other conditions that now prevail in most tropical climates are infinitely more dangerous than heat alone; but healthful as sunlight is, it has never been demonstrated that continued and prolonged exposure to excessive heat is beneficial to man; in fact, most of the evidence seems to be that it may be detrimental, more so, perhaps, to some individuals than to others.

Taking the foregoing facts into consideration, it will be understood that advice upon health and sanitary conditions and upon climate must be general in character. It is believed, however, that the following observations will be helpful.

#### THE WATER-BORNE DISEASES

Water-borne diseases are those diseases that are most commonly contracted by drinking or bathing in water that is contaminated by the alvine discharges of human beings—to a much less extent by those of animals. The principal water-borne diseases are typhoid fever, amoebic dysentery, bacillary dysentery, Asiatic cholera, and diarrhea, particularly of children, including the dreaded infantile diarrheas which are so often fatal.

In addition, hookworm, the common lumbricoid, or roundworm, and fluke worms are sometimes acquired through drinking, bathing, or even wading in infected waters. Infectious jaundice and paratyphoid fever are believed to be conveyed occasionally by drinking water.

It must not be supposed that water-borne diseases may not be contracted in some other way; at times they are, as we shall see.

#### THE MILK-BORNE DISEASES

When we consider that milk may be contaminated by polluted water, as when milk cans or other containers are washed in such water, and also that it may be contaminated by the secretions of the mouth and nose, or by the alvine discharges of the milker and other milk handlers, conveyed to the milk by the hands, we can easily understand that typhoid fever, paratyphoid fever, cholera, amoebic dysentery, bacillary dysentery, and diarrheas of many kinds, particularly infantile diarrhea, may also be conveyed by milk. Indeed, these diseases are often contracted by drinking milk that is contaminated in one way or another. Such contamination may be almost infinitesimal and cannot be detected by the consumer, but it is sufficient to produce illness often fatal in character.

In addition to the diseases mentioned, milk may convey diphtheria, scarlet fever, septic sore throat, undulant fever, and tuberculosis, particularly the kind of tuberculosis that produces scrofula and much of that which attacks bones and joints and causes crippling deformities such as "hunchback", or disease of the spine, and also hip- and knee-joint infections. It is believed that infantile paralysis is occasionally conveyed by unpasteurized milk.

Notwithstanding the dangers of unsafe milk, it must not be supposed that milk should be excluded from the diet; to do so would be a serious and very grave mistake. Milk can be rendered absolutely safe both for adults and children and is one of our best foods. Perhaps it is not too much to say that milk is the best food there is for children. Milk, of course, is not a complete food for any but very young children, babies in the first 2 or 3 months of life.

#### THE INSECT-BORNE DISEASES

Mosquitoes, fleas, lice, and ticks, particularly, but also flies, cockroaches, bedbugs, mites, gnats, and other blood-sucking insects may convey disease.

The mosquito-borne diseases are malaria, yellow fever, dengue, and filariasis. Fleas, particularly rat-fleas, convey bubonic plague and one form of typhus fever. Lice convey typhus fever, trench fever, and certain forms of relapsing fever. Ticks convey tularemia, Rocky Mountain spotted fever, and other types of fevers, particularly certain forms of relapsing fever. Flies may convey typhoid fever, dysentery, diarrhea, particularly infantile diarrhea, cholera, tularemia, and such diseases as anthrax, contagious diseases of the eyes, tuberculosis, or almost any other disease in which the causative agent or germ is found in the alvine discharges or in the secretions of the nose or mouth. Transmission of disease by flies is usually by simple mechanical transfer of the germ from infected material to food, or to the lips, nose, or eyes of human beings. A certain biting fly conveys one form of sleeping sickness not yet found in the Americas. Another fly, mis-called a gnat, conveys a form of filariasis, present in America, which may eventually destroy the sight. Bedbugs convey a form of relapsing fever. Cockroaches may convey disease mechanically by their contact with food. The so-called "kissing bug", a large blood-sucking insect found in a number of American Republics, transmits a serious disease known as "American trypanosomiasis", or "Chagas' disease", cases of which have been reported in Argentina, Brazil, El Salvador, Peru, and Venezuela.

#### DISEASES CONVEYED CHIEFLY BY SECRETIONS OF THE NOSE AND MOUTH

In this category are placed most of our contagious diseases, the hand-to-mouth diseases, such as measles, German measles, diphtheria,

scarlet fever, mumps, whooping cough, chicken pox, and smallpox. The germs of such diseases pass from person to person by the transfer of these secretions from one to another on the hands and by handling soiled articles; in food, particularly in unpasteurized milk, but in any other food handled by human hands unless the food is well heated afterwards; and by any other way that such secretions can be transferred from one person to another.

#### DISEASES CAUSED BY CARRIERS

Healthy human beings sometimes act as unconscious reservoirs of disease germs. Perhaps the two most conspicuous examples of such diseases are diphtheria and typhoid fever. In diphtheria the germs are in the secretions of the nose and throat; in typhoid fever they are in the alvine discharges. There are also carriers of the germs of malaria, the dysenteries, of filariasis, and a number of other diseases.

#### WHAT ARE DISEASE GERMS?

All of our infectious diseases are caused by small forms of animal or vegetable life which are spoken of as parasites, bacteria, microbes, or just plain germs. Most of these germs are microscopic in size; some are so small or of such form that they can not be seen even with the most powerful microscope yet invented, but they are living things, just as real as rattlesnakes, and many of them are much more dangerous.

#### NUTRITIONAL DISEASES

During the past 25 or 30 years a tremendous advance has been made in our knowledge of the influence of food, or rather, the lack of certain food elements, in conserving the health and in actually causing disease.

Paradoxical though it is, one can actually over-eat and starve to death at the same time.

The classical diseases actually caused by deficiencies in diet are scurvy, xerophthalmia (a disease of the eye), pellagra, beri-beri, rickets, and dental caries, or decay of the teeth; but these diseases do not begin to tell the story of the many obscure, unnamed ailments that are due to eating too much of certain kinds of food and too little of others.

#### THE PREVENTION OF WATER-BORNE DISEASES

There are few surface waters (such as found in lakes and streams) that are today safe to drink without special treatment. Wells are also easily contaminated.

In the Americas, the most common way of purifying water for drinking and other domestic purposes is by a process of sedimentation,

filtration, and the addition to the water of very small quantities of chlorine gas. These measures require constant skilled supervision to be made effective, and all three procedures are usually necessary to make the safety of the water 100 percent. If water is unusually clear, then filtration and chlorination alone may suffice. In very clear water, chlorination alone will kill practically all disease germs that may be present, except those that cause amoebic dysentery; it apparently requires more chlorine to kill the germs of this disease than is permissible to be used; filtration, however, will catch and destroy the amoebae which cause this form of dysentery.

When one is temporarily in a place where he cannot be sure that the water is safe, he will do well to boil all the water he drinks. When stopping at a hotel where there is both hot and cold water, it is a good plan to turn on the hot water spigot in the bathtub and, when the water is hotter than the hand will bear, catch a pitcher full, set it aside until it cools, and use this for drinking and brushing the teeth. Bottled waters are usually safe, but may not always be so.

#### PREVENTION OF MILK-BORNE DISEASES

Pasteurization is the best and surest single measure for the prevention of milk-borne diseases. If reasonably clean milk is efficiently pasteurized, delivered promptly chilled (48° F. or lower), and kept cold, or is consumed promptly, it is safe. Pasteurization may be done at home or the milk may be simply boiled if pasteurization cannot be done conveniently. Orange and tomato juice should be added to the daily diet of infants 2 months old or over when pasteurized, boiled, powdered, or canned milk is used, in order to restore any vitamins that may be lost in carrying out these processes. These juices more than offset the small loss of vitamins.

#### PREVENTION OF INSECT-BORNE DISEASES

One should learn and remember what diseases are insect-borne and what insects transmit them, and he should know whether or not such diseases are present, and to what extent, in the locality he proposes to visit. He should also learn how to combat or avoid the insect, if this can be done.

#### PREVENTION OF DISEASES SPREAD BY SECRETIONS OF THE NOSE AND MOUTH

One should, if possible, avoid contact with persons who are ill of contagious disease and should always use individual towels and drinking cups. Immunize against smallpox, diphtheria, and typhoid fever; avoid known carriers; learn the technique of visiting the sick without carrying away infection on the hands or clothing. Be careful to keep out of range of the secretions of the nose and mouth, especially when

the patient is coughing or sneezing. Wash the hands thoroughly on leaving the sick room.

#### IMMUNIZATION AGAINST OTHER DISEASES

Immunization is of some value against paratyphoid fever and against Asiatic cholera. Immunization against measles, scarlet fever, whooping cough, bacillary dysentery, and a number of other diseases may be said to be still more or less in the experimental stage. Immunization against yellow fever can be produced with certainty; but, as yet, this cannot very well be done on a large scale. More will be said about immunization under headings of individual diseases.

#### EATING FOR HEALTH

Notwithstanding the many important advances that have been made by scientific workers in recent years in the study of nutrition, few people know what and how much to eat; fewer still can, or will, take the trouble to eat wisely, and, outside of hospitals or other institutions guided by a trained dietitian, it is often harder to get what one should have than what he shouldn't. Many people think that, because they get more to eat and a greater variety of food than their grandfathers had, they are better fed than their grandfathers were; but our grandfathers got a number of very important food elements in certain simple, plain foods, which elements, for the most part, have been removed from some of the refined substances that we partake of so freely.

It would be impossible, in a short paper devoted entirely to the subject, even to outline our newer knowledge of nutrition, and no attempt will be made to do so here; the information is available, however, in the very excellent and authoritative books that may be bought at a reasonable price. The masses will not reap the benefits of this knowledge until the household buyer acquires it; even then, if the buyer is not insistent upon obtaining what reason dictates should be eaten, man will continue to be both overfed and undernourished, as is commonly true at the present time.

One of the most eminent authorities in the world on nutrition advises us that the diet should center around whole grain cereals, in whatever form taken, whole milk, properly safeguarded, milk products, eggs, meat, fresh fruits, and fresh vegetables, supplemented by canned fruits and vegetables when fresh products cannot be obtained.

#### FOOD POISONING

Food poisoning is a subject on which volumes have been written. It cannot be discussed here in detail. The following advice is given with regard to eating when in localities where one is not certain that reasonable care is exercised in storing, handling, and serving food.

Time and again outbreaks of severe diarrhea are caused by infected or "spoiled" food. Very often this is due to the presence in meat or eggs of a germ known as "Gärtner's bacillus" or one very similar. In many of these cases the meat is from a sick animal, the illness being unrecognized, or the eggs are from sick fowls. When the animal is killed, or the egg is new-laid, the germs may be very few in number, but apparently they are capable of increasing until they permeate the meat or the egg throughout.

The best way to avoid such infections is to eat only meats that have been thoroughly cooked and served hot, or eggs that are served immediately after cooking. Meats that have been cooked without sufficient heat, that are left over and not kept at a sufficiently low temperature, and then are lightly reheated and served as "hash" or "goulash", or in any other way, are likely to cause trouble. The eating of cold egg salad has, on many occasions, produced extensive outbreaks of severe diarrhea within a few hours.

There is a belief to the effect that milk and shellfish, particularly crabs, taken at the same meal, will produce severe illness. Milk and shellfish spoil easily, so that in taking the two together the chances of becoming ill are a little greater if either (or both) of these foods has been kept at too high a temperature and allowed to spoil. That is all there is to this belief. Even pasteurized milk may produce diarrhea if kept too long, unless kept very cold. Milk should be kept at from 35° to 42° F., if possible—below 48° at any rate.

Any food that is spoiled, whether canned or fresh, should not be eaten. Diarrheal diseases from spoiled or infected foods are much more common in hot weather than during the winter season.

#### PROPHYLAXIS OF INDIVIDUAL DISEASES

##### MALARIA

Malaria is conveyed from person to person by infected *Anopheles* mosquitoes and in no other way; only the females bite, and these bite only between sunset and sunrise—rarely, perhaps, in dark rooms in the daytime. They bite most frequently in the early evening. They seem to have a preference for the ankles, but will bite any part of the body.

*Anopheles* mosquitoes are found in nearly every part of the two Americas, except in the colder climates. However, these mosquitoes do not convey malaria except in localities where the temperature remains above 60° F. for a considerable period of time. Generally speaking, malaria is prevalent in most warm climates, and in hot tropical lowlands the disease is very dangerous. One is much more likely to become infected with malaria when spending the night outside the larger cities in such districts.

(To be concluded.)