HEALTH PRECAUTIONS FOR VISITORS TO THE TROPICS

In order to take care of the many inquiries constantly received on this subject, the Pan American Sanitary Bureau has prepared this brief account with the hope that the suggestions offered may prove of practical value to persons contemplating extended trips or temporary residence in the tropics.

The tropics present a great variety of health problems, the complexity of which is enhanced by variations in climate, topography and geography. Fortunately all these troubles are not usually found all in one place, so some advance knowledge of the diseases or risks in the particular parts one expects to travel or sojourn in are very necessary.

1. **Physical Examination.**—A thorough medical examination is an essential requirement prior to spending any length of time in the tropics. The examining physician can and should advise the prospective travelers of any gross physical defects which would render a visit to the tropics inadvisable. It is also advisable to consult an ophthalmologist, if glasses are worn or needed, and carry along an extra pair of glasses. Dental examinations and necessary treatments should be attended to prior to leaving to avoid the discomfort and the possibility of missing out on “the most interesting part of the trip” by toothache. Reliable dentists can usually be found in the larger cities—contact the national embassy or consulate for advice and reference when in need of either medical or dental attention. The quality of medical service varies in different countries, but in general the larger centers of population have good general practitioners, surgeons and specialists including dentists, many of whom have been excellently trained either in their own country or abroad. Really professional nursing is as yet hardly obtainable, but the service rendered by hospitals is being constantly improved.

2. **Vaccinations.**—Smallpox vaccination is required by law for admission to most countries. In order to maintain immunity, re-vaccination should be done at least every 5 years. Typhoid-paratyphoid inoculations offer protection against these diseases for 2 or 3 years. In addition, at present, there are available yellow fever and typhus vaccines which confer quite a degree of immunity. These vaccines—smallpox, typhoid-paratyphoid, yellow fever and typhus—are of practical value and should be administered prior to leaving home. Yellow fever vaccination is of course only for those people intending to reside or work in the few yellow fever areas in the Western Hemisphere.

Children going to the tropics should be vaccinated against smallpox and diphtheria. As whooping cough is quite prevalent in such zones, serious consideration should be given to inoculation against the disease.

3. **Malaria.**—Malaria is the most prevalent serious disease in the tropics. It is transmitted by the bite of a certain species of mosquito, the *Anopheles*. Prophylaxis centers around mosquito control and drug therapy. There is no vaccine which will prevent infection. Anti-malarial drugs will stave off attacks of fever but will not prevent infection. Prophylactic doses of quinine (ten grains daily in 5 grains doses) is usually considered adequate. Atabrin in doses of 0.1 gram daily may be used in place of quinine. Prolonged use of these drugs is dangerous unless authorized or supervised by a reliable physician.

Persons visiting or residing in malarious regions should avoid exposing themselves to mosquito bites particularly at night. The *Anopheles* usually bite only between sundown and sunrise, most frequently at dusk. Screening, the use of
repellents, and swatting are the usual methods of protection against the bites of mosquitoes. Screened houses and the use of mosquito nets will materially reduce the danger of infections. The screen should be No. 18 (18 meshes to the inch). When traveling at night a head net can be worn over the face and neck attached to the helmet and tucked under the coat. Hands and wrists can be protected by gloves, and the ankles should be protected by boots or leggings. Fumigants usually employed to destroy mosquitoes are sulphur dioxide, pyrethrum, and phenol-camphor. Repellents which can be applied to the body are oftentimes ineffective, but may be of some value. Oil of citronella is the most common. This is usually combined with other volatile oils in various mixtures and also with creams. Some efficient repellents may be obtained in the market under proprietary names.

4. Drinking Water.—Water is oftentimes contaminated and can be the source of typhoid fever, dysentery, amoebiasis, and many other diseases. All untreated surface water is unsafe for drinking purposes. The safest method of purification is boiling for ten minutes. The “boiled taste” can be removed by aeration, pouring several times from one container to another.

Chemical sterilization of water will render it safe except for the more resistant forms of amoebae (cysts). Travelers are advised to procure prior to leaving the U. S. A. a supply of halazone tablets which may be used where it is impossible to obtain boiled water. Theoretically, one tablet of halazone is sufficient to chlorinate one quart (or about 1,000 cc) of water. If the water contains foreign or organic matter, two tablets or even more may be required. After adding the tablets to the water the container should be shaken to promote solution of the tablets. Thirty minutes contact of the chemical with the water should be allowed before using the water. Tincture of iodine (one to three drops to a quart of water) will render it relatively safe. Ice is very little safer than water and should be avoided unless prepared from a safe water supply.

Beer is not a satisfactory substitute for water, although fruit juices and coconut water may be. To avoid contamination, coconut water is best taken directly from the fresh nut. Tea and coffee served hot are always safe. Highly charged mineral waters are usually safe.

5. Milk and Milk Products.—Milk may also be the source of many diseases. Where the milk is not pasteurized, which is often the case in the tropics, it is advisable to heat it to the boiling point and then cool. Cheese and ice cream made of raw milk also may be dangerous.

6. Food.—The greatest danger from foods is the eating of uncooked vegetables, lettuce, cabbage, celery, radishes, strawberries, etc. These articles may have been grown in contaminated soil or washed in contaminated water. Beware of raw vegetable salads. Foods served hot which have come directly from the stove are usually safe. Fruits which are peeled by the consumer are safe. Spicy foods and unusual dishes should be indulged in sparingly until the newcomer knows definitely his digestive organs can stand them.

Beverages.—Those accustomed to the use of alcoholic beverages should indulge in them sparingly in the tropics. Most beverages and ice cream sold by street vendors are dangerous. All soft drinks with the possible exception of those of universally known brands are usually unsafe.

7. Protection against Heat.—Excessive heat can be as disastrous to health as the infectious diseases. To avoid undue exposure it is best not to travel or work during mid-day. Suitable clothing and headgear should be worn, and the eyes should be protected from excessive light by dark lenses.

Sodium chloride (ordinary table salt) is an essential to normal body physiology. Under ordinary circumstances the body’s requirement is met in the average diet.
In warm climates, where much salt is lost through excessive perspiration, more salt should be added to the diet. Ten grains added to each pint of drinking water is not noticeable to the taste and will aid in preventing heat exhaustion and sunstroke. Salt tablets may also be obtained.

8. Clothing.—It must be kept in mind that in the tropics one may experience all extremes of temperatures. If one’s visit is to include time at the sea shore and time in the mountains both heavy and light clothes will be required for comfort. It is always advisable to have convenient for use a light woolen sweater and a water resistant top-coat. Rains and rapid changes in temperature are to be expected in the tropics. Trips into the jungle require clothes, including high-top boots, to protect against the bites of reptiles, mosquitoes and other insects.

9. Insects.—The tropics are the paradise of animal and especially insect life. Mosquitoes have already been referred to. Flies as well as ants and cockroaches may also become a nuisance, and daily mopping of floors with kerosene and water helps to control the latter and screens to keep out the former.

10. Rest.—A short period of rest, a few days of taking things easy for a short while after arrival, seems advisable. This is especially needed in cases where high altitudes are involved.

11. Miscellaneous.—It is advisable to have a standard first-aid kit with sterile gauze, bandages, adhesive, tincture of iodine, aspirin, boracic acid, etc., especially if stays in out-of-the-way places are anticipated.

The above remarks are not intended by far to discourage travel to some of the most beautiful lands on earth or to create undue alarm. Cheerfulness tempered with caution and common sense should be the watchword of the wise tourist. Constant worrying and overanxiety do not help and it is much better to stay at home than to move about in a continual atmosphere of fear and mistrust of one’s surroundings.

A cirurgia como ciência-arte.—A arte precedeu a ciência, porquê os operários de trabalhos manuais delicados (Virurgos), deixaram que os barbeiros, tornando-se cirurgiões, se apropriassem do termo com exclusividade absoluta. Como ciência, é biológica, compreendendo a estática e a dinâmica e, como método de estudo, repousa sobre o conhecimento da lesão e da função perturbada. Sendo biológica, é experimental e por isso se fortalece da investigação e do método anatomo-clínico. É graças a essa nova orientação que a patologia cirúrgica servirá para o diagnóstico, prognóstico e tratamento. Dessa modo, o patologista poderá, muita vez, na sala operatória, acompanhar a intervenção, recebendo o material, fornecendo imediatamente não só o diagnóstico histopatológico como, em certos casos, a marcha provável, condicionada ou não pela intervenção radical ou paliativa. Por vezes, o cirurgião conhecedor da fisiopatologia não necessitará que o patologista o acompanhe durante a intervenção. Eles possuem meios de propedeutica, cujos resultados lhe ditarão a conduta. Assim, por exemplo, quando encontrando uma vesícula repleta de cálculos, verifica uma apreciável dilatação do canal comum. Será o aumento do diâmetro do hepatocolédoco uma adaptação de uma vesícula excluída ou há uma dicinesia do esfincter de Oddi? A colangiografia operatória evidenciará a fisiopatologia do sistema biliar e decindirá da conduta terapêutica. Em ambos os casos é uma patologia do vivo e não do morto. É avaliação de um processo, tal como um vulcão em atividade e não uma fogueira extinta.—ALFREDO MONTEIRO: Med. Cir. For. 241, maio, 1944.