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# PERSONAL HYGIENE IN TROPICAL AREAS

## SOME ADVICE FOR THE USE OF STAFF AND CONSULTANTS OF INTERNATIONAL ORGANIZATIONS

This booklet, which is normally included in the medical kit, has been prepared by the Joint Medical Service for the United Nations and Specialized Agencies in Geneva in collaboration with the technical and administrative services of the World Health Organization.



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### Contents of Medical kit

A plastic bag containing:

- a WHO publication "International Travel and Health"
- a booklet entitled "Personal hygiene in tropical areas"
- a leaflet on food safety for travellers
- a yellow leaflet listing the syringes included in the kit and stating that the kit is the property of the Organization
- a list of addresses of UNDP dispensaries
- an insect repellent stick
- insect repellent lotion
- insecticide powder
- antimalarial tablets
- anti-inflammatory cream
- antifungal ointment
- antifungal powder
- antibiotic tablets
- antidiarrhoeal tablets
- water purification tablets
- sachets of oral rehydration salts
- syringes and needles
- a perfusion set
- antalgic and antipyretic tablets
- sterile dressings impregnated with antiseptic lotion for local application
- adhesive dressings

# JOINT MEDICAL SERVICE

for the United Nations and Specialized Agencies in Geneva

## **PERSONAL HYGIENE IN TROPICAL AREAS**

Some advice for the use of staff and consultants of international organizations

The following advice is intended to make adaptation to local conditions easier for personnel of international organizations going to tropical or subtropical areas on a mission or on transfer. It is of particular interest to those who have not had any experience of life in these climates. It is not possible to prepare a set of guidelines applicable to all regions but these suggestions are valid for most tropical countries.

This is not an official text and may not be used by personnel to make requests for improvements in their living conditions, but is simply intended to provide guidance on certain points that should be followed as closely as possible.

In the pages that follow you will find information on:

- the preparations to be made before departure
- the health precautions to be taken after arrival
- the drugs and other items to take with you
- malaria prophylaxis

These recommendations are not exhaustive and they are merely intended to draw attention to the main essentials. The Medical Service will be pleased to provide further information upon request.

Dr H. Celton  
Director  
Joint Medical Service



# I. PREPARATIONS BEFORE DEPARTURE

Before departure it is advisable to study the reports prepared by the United Nations for the personnel of the United Nations Development Programme and staff on mission for each region of the country concerned (TAB/POST series). Careful preparations should be made before departure and the essential steps are:

## A. A preliminary medical examination.

This is to see whether your general state of health is all right for you to travel and to see what vaccinations and other measures of prevention are needed for your particular destination.

It consists essentially in a clinical check-up to ascertain your general state of health and avoid the discovery of a condition that may be difficult to treat when you arrive. A dental check-up should be carried out if you will be away for several weeks and any dental treatment required should be given before departure. If spectacles are worn, it is wise to take a spare pair.

## B. A check on vaccinations

- (1) **Vaccination against yellow fever** is required by some countries for entry into their territory, in accordance with the International Health Regulations, depending on the traveller's point of departure and itinerary.

In any case, this vaccination is strongly recommended for people travelling to endemic areas.

- (2) Certain vaccinations are recommended:
  - **Tetanus vaccination** is recommended for all people who are not properly immunized (including those who have not been revaccinated in the last 10 years). Combination with diphtheria vaccine is recommended.
  - **Poliomyelitis vaccination** is recommended for all people who are not properly immunized.

- **Hepatitis A vaccination** is recommended for people who have not already visited highly endemic countries. If this vaccine is not available a gamma globuline injection may be useful.
  - **Hepatitis B vaccination** is recommended for health professionals and people making extended or frequent visits to highly endemic countries.
  - **Typhoid vaccination** is recommended for all staff travelling to tropical and subtropical areas in Africa, Asia, the Middle East and the Mediterranean countries, and especially for those likely to be exposed to insanitary conditions.
  - **Meningococcal meningitis vaccination** is recommended for people visiting hyperendemic areas if they will be in close contact with the local population.
  - Other vaccinations may be recommended depending on the circumstances (rabies, Japanese encephalitis).
- (3) A study of skin allergy to tuberculin, before and after their stay, is recommended for people whose positivity in the tuberculin test is not known and whose work exposes them to tuberculosis.

Prophylactic treatment should be considered in the event of a test becoming positive other than after BCG vaccination.

- (4) Because of the minimum periods required for performing the vaccinations, it is important to fix a time table with the attending physician in the light of general health status, the destination, the length and nature of the journey and the time available. The traveller should therefore get in touch with the attending physician or the Medical Service in good time.

## **II. HEALTH PRECAUTIONS AND MEASURES OF PREVENTION TO BE TAKEN AFTER ARRIVAL**

### **A. Life-style**

During the first few days or weeks, newcomers unused to the conditions of life and climate are likely to have a lower resistance. They should avoid excessive physical or intellectual strain, lead a regular life and if possible take a short siesta and sleep for eight hours at night.

### **B. Diet**

This should be well balanced, avoiding heavy meals; alcoholic drinks should either be excluded or consumed only in very moderate quantities and only in the evenings. On the other hand, enough liquid should be drunk to compensate for perspiration losses and it may be advisable to increase salt intake in the case of profuse perspiration.

When meals are prepared by private domestic staff it is advisable to inspect the kitchen daily. Rules of elementary hygiene can then be enforced - cleanliness of hands, crockery and cupboards and destruction of flies, cockroaches and rodents.

Dirty hands and unclean food or drink are the usual source of infection with amoebic dysentery and other enteric infections. These are very widespread in the tropics and give rise to acute or chronic digestive troubles, which can be prevented by appropriate hygienic precautions.

## The main precautions for food safety

- the fundamental rule is **“boil it, cook it, peel it or leave it”**
- avoid raw foods
  - unless well washed in safe water
  - unless the fruit or vegetables can be peeled
- food should be well cooked and served while hot; once it has been prepared or cooked, food should not be eaten from one day to the next if it has not been kept in a refrigerator or if it has been left for several hours at room temperature
- ice-cream from unreliable sources or of doubtful quality should not be eaten
- unpasteurized milk should be boiled

## Water for drinking

- **water not specifically known to be safe should be regarded as suspect and purified**
  - boiling is the safest method
  - disinfection with slow release tablets is possible but must be done in strict compliance with instructions
  - if a filter is used, it is also essential to boil the water after filtration
  - ice should be avoided when it is not known whether it has been prepared from safe water
  - if in doubt about the quality of the water, use encapsulated bottled mineral water or drink water in the form of hot infusions
  - carbonated drinks and bottled or otherwise packaged fruit juices are safe to drink, as are beer and wine (in moderation!)

## What to do if you get diarrhoea

- Most diarrhoeal attacks are self-limiting and clear up in a few days.
- It is usually sufficient to compensate for fluid loss by drinking safe water, clear soup, light tea or fruit juice and continuing to eat normally.
- In case of severe diarrhoea, it is also advisable to take oral rehydration salts, following the instructions on the sachets in the medical kit. The contents of the sachet should be dissolved in one litre of drinking water. This solution should be drunk without boiling or further preparation.
- An antidiarrhoeal (loperamide: Imodium) may be used, in addition to fluids, for symptomatic relief.
- Certain antibiotics (e.g. cotrimoxazole) may be indicated if a doctor is not available and there is blood in the stools, or fever.
- adults: 160 mg of trimethoprim and 800 mg of sulfamethoxazole twice a day, for 5 days
- If these measures are not effective within 48-72 hours, it is essential to consult a doctor.
- Prophylactic use of antibiotics is not recommended.

### C. Personal hygiene and suitable clothing

As a result of profuse perspiration, the skin can easily become the seat of fungal or other infections. Daily showers are recommended, followed by thorough drying. Children and people who are overweight may use talcum powder to dust sensitive skin areas.

The water used for oral and dental hygiene should be purified or boiled beforehand; if in doubt, mineral water should be used.

Clothing should be light, loose, comfortable, well ventilated and made of cotton. A light and fairly broad-brimmed hat will provide effective protection against the sun. In areas where onchocerciasis is endemic, long trousers give protection against blackflies. Sun glasses will also be needed.

## **D. Protection against insects**

Certain insects and particularly certain mosquitos in hot countries can transmit infections such as malaria.

It is advisable to prevent insects from entering living quarters by protecting all access to rooms with metal mesh screening. It is recommended that mosquito nets, if possible impregnated with insecticide, should be used in areas where malaria is endemic when it is not possible to sleep in a room where there are no mosquitos (air-conditioned). However, mosquito nets are only effective under certain conditions:

- if the material is undamaged and made of sufficiently fine mesh
- if they are folded correctly during the day
- if they are properly set up at night so that insects cannot get in.

Inside houses, insects must be destroyed by spraying with an insecticide. Insecticide vaporizers may be used if necessary.

If there are a lot of mosquitos, bites can best be avoided by:

- wearing long-sleeved clothing and long trousers
- applying an insect repellent to exposed skin areas.

## **E. Malaria prophylaxis**

Ask the medical service of the Organization concerned or the United Nations examining physician whether malaria is endemic in the region of the assignment. In the affirmative, regular prophylaxis with preventive medication is essential and should be strictly followed.

Prophylaxis: please refer to the malaria prophylaxis table (IV).

## **F. Prevention of bilharzia or schistosomiasis**

In any area where this affection is found and there is no reliable information, it is important to avoid contact with unsafe water, as infestation is brought about by penetration of the skin by the larval form of the parasite.

Bathing in rivers or other waters such as lakes, pools or marshes, and walking or washing in fresh water should therefore be avoided.

## **G. What you should know about AIDS**

### **What is it?**

AIDS - the acquired immunodeficiency syndrome - is the late stage of infection with the human immunodeficiency virus (HIV). After the virus enters a person's bloodstream, it slowly destroys the body's immune system, leaving the person increasingly defenceless against other infections and some cancers. Based on experience to date, it is expected that most, if not all, HIV-infected people will sooner or later develop AIDS.

### **Can HIV-infected people who do not have AIDS transmit the virus to someone else?**

Yes. As soon as someone becomes infected with HIV, he or she can infect others. Since HIV-infected people usually go for many years without any signs of disease, they are often unaware of their infection - and may be unwittingly passing it to others.

### **How is HIV transmitted?**

AIDS is essentially a sexually transmitted disease. HIV is found in semen and vaginal fluids, which means that sexual transmission can occur heterosexually - that is, from man to woman or from woman to man - or homosexually - from man to man. The men and women who have many different sex partners are at highest risk of sexual transmission. Having other sexually transmitted diseases, such as syphilis, also increases a person's risk of acquiring or transmitting HIV infection. Worldwide, three-quarters of all HIV-infected adults got the infection through sexual intercourse with a person of the opposite sex (heterosexually).

Like some other sexually transmitted diseases, the virus that causes AIDS can also be transmitted through blood; the virus may be present in transfused blood that has not been screened for HIV antibodies, or on unsterilized needles or syringes and other skin-piercing instruments.

HIV can also be transmitted from an HIV-infected woman to her unborn or newborn child.

## **How is HIV not spread?**

Over a decade of scientific observation shows conclusively that HIV is not spread through casual contact in school, in the workplace, in the swimming pool, or at the market. You will not get HIV from sitting on toilet seats, shaking hands, hugging, kissing, sharing the same dishes, drinking from the same glass, or eating food handled by HIV-infected people in restaurants. This is why the presence of HIV-infected people in society is not a public health danger.

HIV is not transmitted by mosquitos and other insects because this particular virus cannot survive inside the insect's body.

## **How can you protect yourself?**

Obviously, abstaining from sex will protect you from sexual transmission. For sexually active people, safety lies in mutual fidelity between uninfected partners. You should avoid having sex with people who engage or have engaged in high-risk activities, such as casual sex and drug injecting.

If you are not absolutely certain that neither you nor your sex partner is carrying the virus, you must practise «safer sex». Either avoid sexual intercourse (vaginal, oral, or anal penetration), or always use a new latex condom with a water-based lubricant. Used correctly, and each time you have intercourse, condoms greatly reduce the risk of HIV infection.

Do not share razors, needles, or any other skin-piercing instruments with someone you even suspect of being HIV-infected. Do your best to avoid having unnecessary surgery, injections (most drugs can be given by mouth), or blood transfusions, e.g., by taking common-sense precautions against road accidents and other injuries, especially in areas where the level of medical care is uncertain. The JMS Medical Kit contains sterile syringes and needles. In the event that you need to use them, make sure that it is your sterile equipment - no substitutes - that is used on you.

## **Where you can get further information**

A special booklet entitled AIDS and HIV Infection. Information for United Nations Employees and their Families gives more detailed information on how to protect yourself and your loved ones from HIV infection and provides information and advice to people who may already be HIV-infected. Copies in English, French and Spanish are available from the Joint Medical Service.

## II. DRUGS AND OTHER ITEMS TO TAKE WITH YOU

### A. Your medical kit contains a number of necessary drugs and other items

Certain organizations supply their staff members leaving on missions with kits containing:

#### 1. **Erythromycine (500 mg tablets)**

- this antibiotic is active against numerous pathogenic agents responsible for respiratory, stomatologic, cutaneous, genital infections
- the usual dose is 1 tablet of 500mg three times a day
- the treatment must be continued for 5 to 10 days



#### Precautions for use

- the tablets should not be taken with meals, preferably 45 minutes before meals

#### 2. **Paracetamol (Doliprane 500 mg tablets)**

- antalgic-antipyretic drug, used for the symptomatic treatment of painful and/or febrile diseases
- the usual dose is 1 to 2 tablets, 1 to 3 times a day at a minimum of 4 hours interval



#### Precautions for use

- all allergic reaction (cutaneous rash, erythema, urticaria) impose to stop the drug

#### 3. **Rehydration salts:**

see "What to do if you get diarrhoea" (II.B)

#### 4. **Loperamide (Imodium):**

see "What to do if you get diarrhoea" (II.B)

- antidiarrhoeal preparation used for symptomatic treatment of acute diarrhoea
- the usual adult dose is 2 gelules initially followed by 1 further gelule after each unformed stool, not exceeding 8 gelules per day

5. **Antimalaria medication:** see "Malaria prophylaxis" (II.E & IV)

6. **Insect repellents:**

- Kik Lait or Kik Vapo
- Insectipen Vapona
- follow the instructions on the package

7. **Insecticide powder:** Lindane

- for lice, dust on underclothing
- for bed bugs, dust in the cracks of the bed and under the sheets
- for fleas, dust on the floor



**Precautions for use:**

- it is preferable to avoid use of this powder for young children
- in the case of adults, a week's interval should be allowed before further application to body areas
- do not use insecticide powder when oily products have been applied to the skin

8. **Prevention of cutaneous mycoses:**

Mycil powder and Clotrimazole cream

9. **Flumetasone-Clioquinol cream (Locacortène-Vioforme):**

- cream containing a cortisone derivative which has an anti-inflammatory action and vioform which is both antibacterial and antifungal
- can be used for minor skin infections (e.g. after insect bites), infected eczemas and fungal eczemas



**Precautions for use:**

This cream must never be applied

- to the conjunctiva of the eyes
- to skin eruptions of viral origin

**Instructions for use**

- apply a thin layer once or twice a day
- may be covered with a protective dressing if necessary

10. **Single-use sterile syringes, needles and perfusion set**

11. **Water disinfectant (Hydroclonazone):**

- water disinfectant active against germs, with the exception of parasites and viruses



**Precautions for use:**

The disinfectant is less effective if the water is cloudy and contains a lot of substances in suspension, in which case the water should first be filtered

**Instructions for use:**

- water-soluble tablet
- 1 tablet per litre of water
- shake well and leave for 1 hour before using

12. **Adhesive dressings**

13. **Sterile dressings impregnated with antiseptic lotion**

- for local application

**B. OTHER DRUGS AND USEFUL PRODUCTS**

Before departure it may be useful to obtain certain drugs and products which are not easy to find in tropical areas, such as:

- any current medication (take a sufficient quantity)
- an antispasmodic
- a digestive powder
- a sedative for insomnia or night travel
- eye drops for conjunctivitis
- nasal drops for colds and rhinitis
- travel sickness pills
- condoms
- a mosquito net (possibly impregnated with insecticide)

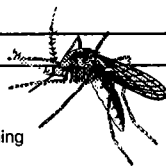
These drugs should be selected in consultation with your attending physician who will specify indications and contraindications for use in your own particular case (e.g. if you have any allergies).

# PROPHYLAXIS AGAINST MALARIA

Staff on duty travel are reminded that :

- protection from mosquito bites is the first line of defence against malaria;
- no antimalarial prophylactic regimen gives complete protection;
- prophylaxis should not be automatically prescribed for all travellers to malarious areas.

## A PROTECTION FROM MOSQUITO BITES



- ➔ 1 use of a repellent on all uncovered areas of skin (evening and night)
- ➔ 2 use of a mosquito net, impregnated with insecticide, if available, when there is no air conditioning
- ➔ 3 use of insecticides (sprays, dispensers, coils...) between dusk and dawn

## B CHEMOPROPHYLAXIS

Depending on the area and/or country visited, one of the following chemoprophylaxis regimens can be recommended:

### Chloroquine



\* adults : 300mg per week (3 tablets of 100mg once weekly)

* children :	< 1 year 25 - 50mg	1 - 4 years 50 - 100mg	5 - 8 years 100 - 200mg	9 - 15 years 200 - 300mg
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*The few people who do experience uncomfortable side-effects such as gastro-intestinal disturbance, may tolerate it better by taking the drug with meals and in divided twice-weekly doses.*

### Chloroquine + Proguanil



\* adults : - Nivaquine : 300mg per week (3 tablets of 100mg once weekly)  
- Paludrine : 200mg per day (2 tablets of 100mg once daily)

* children :	< 1 year 25 - 50mg	1 - 4 years 50 - 100mg	5 - 8 years 100 - 200mg	9 - 15 years 200 - 300mg
Nivaquine +Paludrine	25mg	50mg	75mg	100mg

*In case of gastro-intestinal upsets, taking the drugs with meals and dividing the Chloroquine dosage into twice-weekly doses may reduce the side-effects.*

*It is recommended that Nivaquine and Paludrine be taken at a similar time each week and day respectively.*

### Méfloquine



\* adults: 250mg per week (one tablet of 250mg once weekly)

* children:	< 2 years not recommended	2 - 4 years 1/4 tablet	5 - 8 years 1/2 tablet	9 - 15 years 3/4 tablet
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*Mild side-effects such as dizziness or gastro-intestinal effects may occur transiently during early prophylaxis, and they spontaneously resolve. Travellers who find continued effects unacceptable should switch to another regimen.*

*Mefloquine is contra-indicated in case of history of epilepsy and psychiatric disorders, in case of conduction disorders, and during the first three months of pregnancy.*

### Doxycycline



\* adults :100mg per day (one tablet of 100mg once daily)

* children :	1 - 7 years contra-indicated	8 - 12 years children's dose not available	> 12 years 100mg
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*tablets must always be taken with plenty of fluid and never taken just prior to lying down.*

*Doxycycline is contra-indicated throughout pregnancy.*

## VERY IMPORTANT

- 1 All antimalarial drugs to be taken at weekly intervals should be started 1 week before departure.
- 2 Antimalarials to be taken daily should be started 1 day before departure.
- 3 All drugs should be continued for 4 weeks after the last possible exposure to infection.
- 4 In case of high fever :
  - a. consult a physician immediately
  - b. If it is impossible to find a physician and/or establish a diagnosis within 24 hours, then one of the treatment regimens is recommended : start the treatment and seek medical care

## C TREATMENT

Depending on the area and/or country visited, and the chemoprophylaxis regimen taken, one of the following treatment regimens can be recommended :

- Mefloquine** \* adults : 15mg per kg body weight (maximal dose 1000mg or 4 tablets of 250mg) in one or two doses at 8 hours interval (depending on tolerance) taken with a meal.
- e.g. for a person of 60kg and above : 4 tablets of 250mg  
 - in one single dose  
 - or in two doses at 8 hours interval:  
 2 tablets of 250mg immediately  
 and 2 tablets of 250mg, 8 hours after the first dose.
- \* children : 15mg per kg body weight in one or two doses at 8 hours interval (depending on tolerance) taken with a meal.
- e.g. ± 1 tablet of 250mg for 15kg  
 - in one single dose  
 - or in two doses at 8 hours interval :  
 1st dose : 1/2 tablet  
 2nd dose : 1/2 tablet 8 hours after the first dose

*Mefloquine is contra-indicated in case of history of epilepsy and psychiatric disorders, in case of conduction disorders and during the first three months of pregnancy.*

*It is preferable that Mefloquine treatment be medically supervised. This is necessary in cases with cardiovascular disorders.*

**Fansidar**

* adults :	3 tablets in one single dose		
* children :	1 à 3 years 1/2 tablet	4 to 11 years 1 tablet	12 to 15 years 2 tablets

*but avoiding a second dose later because of problems due to sensitization which can be dangerous.  
 Fansidar is contra-indicated in case of allergy to sulfonamides.*

**Quinine**

- \* adults : 2 tablets of 300mg, 3 times a day, at 8 hours interval, for 7 days  
 \* children : 10mg per kg body weight, 3 times a day for 7 days

**Quinine +**

**Doxycycline**

- \* adults : **Quinine** : 2 tablets of 300mg, 3 times a day at 8 hours interval for 7 days  
 + **Doxycycline** : 1 tablet of 100mg, 2 times at 12 hours interval the first day, then 1 tablet of 100mg thereafter, for 7 days

**Halofantrine**

- \* adults : 2 tablets of 250mg, 3 times at 6 hours interval  
 \* children : 8mg per kg body weight, 3 times at 6 hours interval

*a second full course is recommended, one week after completing the first one.*

*Halofantrine is contra-indicated in people with QT prolongation, conduction disorders, ventricular arrhythmia, treatments causing QT prolongation, in people on Mefloquine prophylaxis or treated with Mefloquine, in pregnant women.*

**Chloroquine**

* adult :	6 tablets of 100mg immediately, then 3 tablets of 100mg, 6 hours, 24 hours and 48 hours after the first dose			
* children :	< 1 year 1/8 adult	1 - 4 years dose 1/4 adult	5 - 8 years dose 1/2 adult	9 - 15 years dose 3/4 adult

The above recommendations have been drawn up in collaboration with the WHO Malaria Control Unit.

## NOTES