HOW TO COME BACK ALIVE!

A TROPICAL HEALTH MANUAL

By John Miles

CONTENTS

Further copies of this booklet can be obtained from -

Intedrnational Teams, 102 Javelin Avenue, Castle Vale, Birmingham B33 7LW

Tel/Fax 0121 441 3028

INTRODUCTION

The information and advice in this booklet is drawn from publications by Inter-Health, Tear Fund and our own research and experience. The *information is up-to-date at the time of printing*. It must be remembered however, that medical research is continually up-dating this type of information. We will do our best to continually revise this booklet, but if you are reading a copy of this that is several years old, please bear this in mind. If in doubt, check with your doctor.

Any trip abroad carries with it the risk of health problems. Just a package holiday to Spain or Portugal carries a 25% risk of having Diarrhoea. A longer trip to the third world, opens the possibility of a much wider range of infections. Some complaints are rare, but because of their seriousness, we must take precautions. An example of this is Malaria. Some less serious complaints such as Diarrhoea are more common, and even though you can take precautions - and certainly reduce the risk - it will probably get you at some time!

A trip abroad, whether it is a holiday, a job, or voluntary work, can be absolutely ruined by continual bad health. ***Many of the ailments that are likely to afflict you can be avoided by simple precautions and common sense***. One of the aims of this booklet is to help you to take all reasonable precautions before and during your trip. It will also tell what to do if you do if you do fall sick, and give you a brief outline of some of the diseases you may come across.

Don't let any of this put you off travelling. Most things can be prevented or easily dealt with. It is a rare person that has to give up travelling for health reasons.

We welcome comments and information on any of the topics in this booklet.

Remember -

Putting the advice in this manual into practice,
may save you from a ruined trip or even your life!

Enjoy your trip.

John Miles

International Teams - Africa

Be wise - immunise !

A journey to a clinic or surgery with a resultant sore muscle is a small price to pay for protection from several nasty diseases. Your doctor has the latest requirements for the countries you will be traveling to, your first step is to go and ask there.

Essential **Immunisations**	**Immunisations required in *some* countries**	**Immunisations *occasionally* required**
Hepatitis A	Hepatitis B	Diptheria for adults
Polio	Meningitis	Measles
Tetanus	Rabies	Mumps
Tuberculosis (BCG)	Yellow Fever	Rubella (for women of childbearing age with no immunity)
Typhoid	Cholera exemption certificate	Plague

Children should have completed or be undergoing a course of DPT (Diphtheria, Pertussis, Tetanus), polio vaccine and MMR (Mumps, Measles, Rubella).

WORKING OUT AN IMMUNISATION SCHEDULE

Here are some suggestions:

1. *FOLLOW* the advice given by your medical advisor.

2. Now work out a *TIME SCHEDULE* with the doctor or nurse likely to be giving these to you.

3. Allow *PLENTY OF TIME* to fit them all in, usually at least 3 months. This way you will be able to complete these courses without having to take vaccine with you.

TAKING BOOSTER DOSES WITH YOU

Sometimes it is not possible to complete a course of immunisation before you leave. This is especially true with rabies and sometimes with hepatitis A and B. However it is much easier to plan well in advance and complete these before leaving.

Any of these three vaccines can be taken in your hand luggage and can be kept out of the refrigerator for short periods of time (up to about 7 days), providing they are kept as cool as possible and refrigerated on arrival. They must not be frozen and therefore should not be put in the aircraft hold. Some GP's will provide them

privately - otherwise they can be obtained from Inter-Health. They should be administered only by an experienced doctor or nurse using a sterile syringe and needle.

WHERE TO HAVE IMMUNISATIONS DONE

If you want to save money have as many done as possible on the NHS, ie from your GP surgery.

Usually available on NHS	Sometimes available on NHS	Not usually available on NHS
Typhoid	rabies	yellow fever
Polio	hepatitis B	meningitis
BCG		
hepatitis A		
DPT		
MMR for children		
Cholera exemption certificate		

If you are prepared to pay, all immunisations can conveniently be given at travel clinics. All are available at Inter-Health.

DIFFERING ADVICE!

Immunisation advice sometimes conflicts. It helps to understand the reasons: CORRECT advice changes frequently both because of new vaccines and differing country-by-country recommendations; EXPERTS do not always agree; ADVICE from UK sources is not always the same as that of our European or North American colleagues. Also, GP's cannot be experts on everything and from time to time out-of-date information is given.

The vaccines which most often cause disputes are rabies and hepatitis B because of differing risk assessments by different doctors, and cholera, because of the difficulty of keeping abreast with which countries are likely to demand a certificate, or where serious outbreaks are occurring.

It is usually simplest to follow the advice of the medical advisor of the organisation you are going with, rather than shopping around. For Next Generation Missions this is **Interhealth.**

SPECIAL NOTE for seasoned travellers and long-term expats: you may assume that your hard-won immunity removes the need for immunisations but your risks are not much less than the first-time traveller. When next home it is worth checking what immunisations are recommended.

2 COPING WITH DIARRHOEA

"Travel broadens the mind but loosens the bowel"

For most expatriates and volunteers in developing countries diarrhoea is almost inevitable. This aims to help you deal with it, and to recognise and treat the more serious cases.

DIARRHOEA DANGER ZONES

- Unboiled water or milk
- Salads
- Shellfish
- Unpeeled, uncooked or unsterilised fruit or vegetables
- Inadequately cooked meat, fish and eggs
- Ice and ice-cream
- Reheated food
- Cold food left uncovered

SAFE food and drink

- Food which you carefully cook or prepare at home
- Food thoroughly cooked and served hot
- Fruit and vegetables thoroughly peeled, cooked or sterilised
- Tinned foods
- Boiled or sterilised water
- Tea and coffee
- Carbonated drinks with sealed tops

If you do get diarrhoea treat it sensibly

Dehydration is the main danger- treat as follows:

- Drinking oral rehydration salts (ORS) according to instructions on sachet
- Make your own ORS- 6 teaspoons of sugar, 1 teaspoon of salt, 1 liter boiled water
- Drinking carbonated drinks, soup, tea, etc.
- Drink one cup of fluid per loo-trot

Double amount taken if signs of dehydration occur, eg:

- dry lips and tongue
- inelastic skin
- absent or highly concentrated (dark coloured) urine

If vomiting also occurs, sips should be taken more slowly.

Food: Eat only the lightest diet and then only if you feel like it

Medicine: Unless seriously ill, wait before rushing to the medicine box or doctor as it will probably clear up without medication. Use medicines if:

- You have a programme you can't alter: take Imodium (Loperamide) 2 together then 1 every 6 hours until the diarrhoea improves.
- You have severe symptoms, eg. Blood in your stool with fever. Take Immodium as above and Ciprofloxacin 250mg tablets 2 daily for 3 days.
- It lasts longer than 7 days

Children under 2 are spooned one quarter to one half cup after each stool. Breast-fed children should continue to receive breast milk.

See a doctor if:

- **you are seriously ill**
- **you have uncontrollable vomiting or marked dehydration**
- **it is getting worse**
- **it lasts longer than 7 days**

If you get it -

♦Don't keep it a secret, tell your colleagues or friends, prevent it spreading.

♦Don't try to carry on working or 'tough it out'. This can lead to serious trouble. Rest and treat it, you will recover quicker.

♦Beware of dehydration, take counter-measures at an early stage.

3 Avoiding Diarrhoea

Top Ten Tips on avoiding diarrhoea

1 Be paranoid about germs- Wash your hands frequently, particularly after:
- ♦going to the toilet.
- ♦playing with children.
- ♦shaking many peoples' hands
- ♦handling money & shopping

2 Always wash your hands before eating
3 Keep the place you live in as clean as you can, use disinfectant.
4 If eating communally, keep and wash your own plates, cup and utensils.
5 Avoid re-heated food, food exposed to flies, dirty salads
6 Minimise your contact with an infected person.
7 Restaurants that look dirty, probably are, avoid them.
8 If you are in the habit of touching your face a lot, try not to.
9 Avoid contact with animals.
10 If you camp, don't camp near open sewers or waste pits etc. Survey it first.

Safe drinking water

WAYS OF MAKING WATER SAFE

STEP 1 - IDENTIFY A SOURCE

The nearest, cleanest source could be:

- ♦a spring
- ♦a deep well
- ♦a rain water tank (but not where roofs are thatched or painted with lead)

Tap water ONLY IF you have checked the source AND pipes and joins are sound

In a hotel: hot tap water left to cool

BEWARE of shallow tube wells which are often contaminated.

An ideal water supply is cool, clear and odourless.

STEP 2 - IF CLOUDY, LET IT STAND

Then decant it (or filter it through

a cloth or "Millbank Bag")

STEP 3 - MAKE IT SAFE

(a) BOILING:

Boiling is THE BEST WAY unless your water is from a safe source or there is a lack of fuel.

5 minutes at a rolling boil will kill everything. 20 minutes is unnecessary and wasteful.

After boiling, let water cool and stand for a few hours to improve the taste.

(b) FILTERING:

Water is filtered for one of two reasons.

- Filtering removes suspended material prior to boiling (see step 2)
- It can be an alternative to boiling if short on fuel or time

Water should not be filtered after it has been boiled.

A good, clean, correctly used filter can be almost as reliable as boiling, though some viruses may not be excluded.

There are several materials used for filtration:

- **CERAMIC filters**, using porcelain "candles". The pore size should be as small as possible, ideally 0.5 mu, and the filter impregnated with silver which kills micro-organisms. Katadyne is a well known brand.
- **IODINE RESIN filters**. Contact with iodine kills micro-organisms, and releases a low level of iodine for continuing disinfection. 'The Trekker Travel Well' is a reliable and medically approved model, ideal for the road.
- **CHARCOAL filters** improve the taste of water, remove certain chemical impurities, but if used alone do not destroy disease-killing organisms. Disposal PAPER CARTRIDGE filters are not recommended.

All filters need to be carefully maintained according to the manufacturers instructions. They should be regularly cleaned, handled with care and checked for any breaks or cracks which will render them useless. Ceramic candles can be boiled unless impregnated with silver.

(c) DISINFECTING/STERILISING

Use this method only if boiling or filtration are not possible. It is less reliable than boiling but about equivalent to the best filtering.

Puritabs, Steritabs and Halothane are CHLORINE-based disinfectants.
Household bleach can also be used:

- 5% to 6% solution of available chlorine — 1 or 2 drops to 1 litre
- 1% solution — 4 to 8 drops to 1 litre

1 drop is about 0.05ml. The water should smell and taste faintly of chlorine. It will kill most organisms but not amoebic cysts.

IODINE disinfectants can be used. These kill most organisms and have some action on amoebic cysts.

- 2% Tincture of Iodine (normal strength) — 4 drops in 1 litre
- Potable Aqua or Globuline tablets — follow maker's instructions

This should not be used long-term, and should be used sparingly during pregnancy or if suffering from thyroid problems.
After sterilisation, water should stand 20 to 30 minutes at normal room temperatures, or for 1 to 2 hours if very cold.

STEP 4 - STORAGE

- **Boiled water -** ideally store in the container in which it was boiled.
- Alternatively pour into a previously sterilised earthenware jar, and place on a clean surface.
- The jar will need careful and regular cleaning and should be kept covered.
- Many expatriates keep two large kettles, using each in turn both to boil and store.
- Taking water from a storage container: Dipping something into it is unsafe, because you could contaminate the whole supply. Use a tap if there is one, or pour the water from the container.

"tap or tip, don't dip"

Drinking on the move: Top five tips

1 Carry your own water bottle with you at all times. Try not to share it with others if possible. Don't waste good drinking water on other purposes- eg. boiling for tea. Make sure you clean the top of your drinking bottle well. Especially if it has a screw top, they attract dirt.

2 HOT drinks. Tea and coffee are usually safe and the milk will have been boiled together with it.

3 Keep to CARBONATED soft drinks from bottles with metal tops from reputable firms. They are likely to be clean - Their acidity will kill some organisms

4 WATER STERILISING TABLETS should always be with you. They should be dry and reasonably fresh. (Yellowing tablets are losing their potency.)

5 AVOID ICE. Freezing does not kill organisms and ice often comes from an impure source.

Thank heaven for Coca Cola!
A can if you can – bottles if the top is perfect

Invest in a quality, thermally insulated drinking flask

If you pass the bottle around – you pass the germs around

****

4 COPING WITH HEAT

Your body takes 14 to 21 days to become used to a hotter climate. During that time your sweat glands will become more efficient, and your water and salt regulation will improve. Discomfort and risk may continue beyond these three weeks, especially for the elderly, overweight, or unfit. Risks are increased during strenuous physical activity in the sun, or in a hot and humid atmosphere. There are two forms of illness caused by heat - one common and easily treated - heat exhaustion, and the other rare and much more serious - heat stroke.

HEAT EXHAUSTION

Results from:

- heavy sweating (loss of fluid and salt)
- inadequate fluid and salt replacement

Symptoms:

- lethargy
- headache
- faintness
- inability to concentrate.
- muscle cramps (if predominantly salt loss)
- marked thirst (if predominantly water loss)

The temperature (which should be checked) remains normal, and sweating still occurs, though signs of dehydration may occur.

Treatment:

- Rest in a cool place
- Take large amounts of oral rehydration solution, fruit juices or drinks to which salt has been added.

HEAT-STROKE

This occurs when the body is no longer able to control its temperature, which starts to rise, often rapidly.

Caused by:

- fatigue of the sweat glands
- severe lack of fluid.

Symptoms:

- The skin becomes hot and dry
- The patient soon loses consciousness

Treatment:

***Heat-stroke is an emergency*.** The patient should be undressed, wrapped in a wet sheet or cloths, fanned and taken to hospital.
Malaria can cause or worsen this condition.

Heat-stroke and heat exhaustion can both be prevented by "not rushing the tropics", respecting the body's need to acclimatise, and keep up fluid and salt intake.

5 THE SUN - FOE NOT FRIEND

On returning from an assignment overseas, friends and acquaintances may show more interest in your lack of sun tan than in what you have actually been doing. Most expatriates soon realise that the sun is largely something to be avoided except when carefully controlled. However, sunburn is still common, not always because of over-exposure on holiday, but because of outdoor work projects, or in the case of children, forgetful or distracted parents.

Too much sun, apart from causing sunburn in the short term, also leads to an increased risk of skin cancer in the long term. Moreover, it is worth remembering that uncontrolled exposure ages and damages the skin. "The bronzed beauty of today, is the wrinkled prune of tomorrow". However, a few common sense precautions will enable you both to enjoy the sun, and develop a tanned and largely undamaged skin.

Watch out you ginger tops!

GUIDELINES FOR SKIN PROTECTION

1. Remember:

(a) The power of the sun increases rapidly...
- the nearer you get to the equator,
- the higher the altitude at which you are living
- the nearer it is to the middle of the day, most burning taking place between 10 and 3 O'clock.

(b) Reflecting surfaces increase the burning power of the sun. This includes sand, (beaches and deserts), sea and snow.

2. Expose yourself gradually - starting with 15-20 minutes and doubling it each day. If the skin starts to look red or feel sore go into the shade at once.

3. Use of sun lotion

Apply sun lotion every 1 to 2 hours and again after swimming or heavy exercise. If your skin is very fair or the sun especially hot, start with a protection factor of 15 to 20, otherwise 10 to 15 will be sufficient. This can be reduced as your skin adjusts. Use a cream which protects against the two main forms of UV light UVA and UVB. Uvistat and Soltan do this.

4. Wear a hat if you frequently have to walk or work in the sun, or use an umbrella or head scarf, keep your arms covered and apply suncream to your face. This will help to protect against the long term effects of the sun.

5. Children need careful protection at tropical beaches or swimming pools, especially if fair or freckled. It is sad when a child's only memory of the potential holiday-of-a-lifetime is the agony of sunburn. Spend time explaining why protection is important so that you are working together on the problem.

6. Certain parts of the body need extra protection, especially the lips, any depigmented patches or areas only rarely exposed.

7. Some medicines increase the tendency of the skin to burn, especially tetracyclines and certain diuretics. So do certain cosmetics.

8. Treat severe sunburn with calamine, rest and aspirin (those over 12) or paracetamol. Keep blistered areas clean. See a doctor if the burn is very severe, or blisters start to get infected. Avoid the sun until the skin is thoroughly healed.

'I am from Scotland, and this is my colour – pale blue. I have to sun bathe for a week to go white'
Billy Connolly

Attention you sun bathers!

In many third world rural areas, there is a lot of dust in the atmosphere. This tends to filter out some of the ultra violet rays that give you a sun tan. You can spend long and frustrating hours trying to get a tan and meanwhile you will be suffering the effects of the heat as described above! In mountain areas where the air is very clear, the opposite is true. You can be caught out and burn very quickly. Is the purpose of your trip to get a tan anyway? Let's get real about mission.

6 GIARDIASIS

This is also common in many areas of the tropics and within the former Soviet Republics. **Symptoms include:**

- offensive wind
- diarrhoea
- loss of appetite
- horrible tasting burps
- nausea
- heartburn.

It occasionally leads to milk (lactose) intolerance (see below).

TREATMENT is as follows: EITHER Tinidazole 500 mg (Fasigyn), 4 together after food, repeat same dose in 2 weeks, OR Metronidazole 400 mg (Flagyl) 5 tablets together (2 grams), repeat same after 2 weeks.

Avoid alcohol while on treatment -will cause vomiting.

7 CHOLERA

CAUSE: Cholera is a disease of poverty and is most common in areas of social and economic deprivation or civil war. It is spread by faecal contamination of water supplies and food, in particular fish and shellfish, the causative agent being known as Vibrio cholera.

RISK AND PREVENTION: The risk to travellers is low and it can be prevented by taking care with personal hygiene and by following strict rules on drinking water and food preparation (see separate sheet).

A cholera vaccine is available and gives about 50% protection. Although it is not currently recommended for use by the World Health Organisation there is a strong case for using this if working amongst local people, or travelling in areas where the cholera epidemic is still active. The full course is two, followed by a booster dose after 6 months from a reliable health facility. Remember that care with food and water is of far greater importance than the use of the vaccine, but if you are immunised you should not be lulled into a false sense of security.

SYMPTOMS: Cholera usually starts suddenly with massive, often continuous, watery diarrhoea, often resembling rice water. There is commonly vomiting, but abdominal pain is usually mild. Dehydration occurs rapidly and can cause death within 24 hours if untreated.

TREATMENT: This depends on the use of adequate amounts of oral rehydration solution. You can either use packets of ORS made up with boiled water or make your own mixing six level teaspoons of sugar and one level teaspoon of salt to 1 litre of boiled water and drinking 1-2 cups per stool. Vomiting is best treated by

rehydration. Start with small amounts at a time and increase as rapidly as possible.

Also take Doxycycline tabs 100 mg, 2 together for 3 days (total 6). One trade name is Vibramycin. It is worth taking two courses (12) with you. Your GP can prescribe these, either on the NHS or on a private prescription.

If your symptoms or those of your colleague suggest cholera, you should follow this procedure:

- Start oral rehydration solution at once and continue until the diarrhoea has improved and a good output of urine is produced.
- Take Doxycycline as recommended above.
- Call in a doctor if possible. Go to hospital if it is close, good quality and convenient, or if your condition is markedly deteriorating.

Remember – With Cholera, it is the severe dehydration that kills!

8 TYPHOID FEVER

Diarrhoea usually occurs with typhoid in the later stages but constipation is often present early. A typical attack of typhoid causes a severe and worsening illness, the temperature rising higher each day, with the pulse staying relatively slow, at about 80 beats per minute or less. After one or two weeks there is usually diarrhoea, offensive breath, abdominal pain and bloody diarrhoea.

If you have been immunised against typhoid, symptoms may be less severe and harder to tell apart from other conditions. Typhoid may occasionally be the cause of persistent or intermittent diarrhoea, low-grade fever or worsening health.

If you think you may have typhoid you should see a doctor. The emergency treatment is Chloramphenicol 500 mg qid for 2 weeks or Cotrimoxazole 2 bd for 2 weeks.

9 BILHARZIA - schistosomaiasis

Bilharzia is a tropical disease affecting more than 100 million people in South America, Africa and Asia. Two main types exist, affecting either the intestine or bladder.

The disease is caused by parasitic worms, spread through water contaminated with human sewage. Parasite eggs are passed out in either the faeces or urine and hatch in water. The larvae which emerge enter a species of water snail and after changing their form inside the snail, free-swimming larvae (called cercariae) are released into the water. These cercariae can penetrate the skin of anyone entering the water, enter the bloodstream and pass to almost any organ in the body, particularly via the lungs to the liver. After 3 weeks the male and female worms migrate to their final position in the veins of the pelvic cavity associated with the bowel or bladder, and shed their eggs into the stool or urine depending on the type of infection.

Symptoms

Itching and rashes of skin may occur on penetration of cercariae. as the worms migrate through the lungs and liver, the patient may experience a cough and fever. During the egg-laying stage, there may be bloody diarrhoea, loss of weight and abdominal cramps. In the bladder form of the disease, blood stained urine and dysuria (pain on mictruition) can occur for several months. In both forms, anaemia becomes marked. In chronic cases, formation of fibrous tissue and scarring of the liver, bladder and intestine occur. Tiredness is often the first sign.

Top Five Tips for avoiding Bilharzia

1 Do not bathe or swim in likely water spots. Cercariae avoid fast flowing water, and cannot survive in cold water i.e. mountain water. They prefer the edges of dams, lakes and streams where they emerge from the snails and must find a human host within 48 hours.

2 Leave bath water standing for some time in a container. Boil all drinking water.

3 Most African rivers, particularly those of Mozambique are severely contaminated. Lake Malawi is highly infested.

4 Once you have the parasite, you will contaminate other water sources, without due attention to hygiene. Do not urinate or defecate in or near water sources.

5 Treatment is available in tablet or injection.

IMPORTANT: If you have had contact with fresh water lakes or rivers you must arrange a test on return.

10 MALARIA

HOW TO PREVENT IT & HOW TO TREAT IT

PLEASE READ THESE NOTES CAREFULLY

In many developing countries malaria is the most important and most serious disease you are likely to face. It is therefore worth being extremely careful about **PREVENTING** it and prompt and sensible in **TREATING** it. To be able to do this you will need to know some basic facts about the disease.

WHERE IS MALARIA FOUND?

- It is found in at least 105 countries.
- Nearly 2 billion people are at risk.
- Malaria is thought to kill over 1 million children in Africa alone.

Risks often vary according to time of year. The risk in winter (June-September) is significantly less than during the rainy season (December-April)

It is becoming more common & it is becoming harder to treat.

There are several reasons for this:

- mosquitoes are becoming more resistant to insecticides
- Malaria is becoming resistant to drugs especially chloroquine
- worsening economic conditions
- the opening up of frontier regions
- human migration

WHAT ARE YOUR RISKS AS A TRAVELLER OR EXPATRIATE?

Each year a large number of expats and travellers suffer from malaria, mostly in tropical Africa. Some become seriously ill, a few (usually unnecessarily) die. In the UK about 2000 imported cases are reported each year, mostly in those returning from Africa and from the Indian subcontinent; the numbers are increasing.

Your risk depends on:

- which country you are visiting
- on your occupation and lifestyle
- how well you protect yourself

By taking a few simple precautions and following them rigorously, you are much less likely to get malaria. If you start treatment as soon as suspicious symptoms develop you are very unlikely to become seriously ill.

WHAT IS MALARIA?

Malaria is caused by a single celled organism called Plasmodium. This is carried by the female Anopheline mosquito and injected into the blood stream through a bite. The disease develops after an incubation period of at least 7 days,

sometimes much longer. The parasites multiply in your blood. The longer it is untreated, the more serious it becomes, often leading to death if not treated at all.

There are two main forms of malaria:
MALIGNANT malaria, caused by Plasmodium falciparum, is the most serious and the commonest in most areas, including Africa.
BENIGN malaria, caused by P. vivax, ovale or malariae tends to be more a nuisance than a danger, is rarely fatal, and usually responds to chloroquine.

WHAT ARE THE SYMPTOMS OF MALARIA?

Malaria can have the following symptoms, depending on the type of Malaria:

- HOT & COLD phases
- Aching joints
- Headache
- Stomach ache & nausea
- Diarrhoea & Vomiting
- Fever recurs once every 2 days

(Occasionally, backache)

Most attacks of malaria do not have all of these symptoms. Malignant malaria especially, may cause a variety of symptoms *including continuous or more often irregular fever, especially if prophylactics have been taken.*

This means that malaria can mimic a whole range of illnesses. Experienced hands learn to recognise them. Mild fever, headache, a bout of vomiting and diarrhoea, or simply feeling off colour may indicate an attack. A severe cold, an operation, and a time of stress or exhaustion may cause a relapse and bring out symptoms. The strain of bringing a family, or just yourself, back to the UK may trigger an attack.

Malignant malaria if not treated early can progress rapidly and cause serious illness within hours.
Danger signs, usually obvious, include:
drowsiness, confusion, absent urine, shortness of breath, jaundice and persistent fever.
Repeated attacks of malaria may lead to exhaustion and contribute towards depression. The spleen may enlarge and anaemia may develop.

TOP TEN WAYS OF AVOIDING MALARIA

1 Sleep under a mosquito net
2 Cover your skin if you go out at night
3 Screen the room with mosquito netting

4 Spray the room with insect killing spray
5 Use mosquito repellant
6 Sleep under a fan
7 Burn a Mosquito coil at night
8 Don't go outside at nighttime unless you have to
9 Deal with the source of the mosquitoes
10 Don't forget to take your prophylactics regularly

TAKING prophylactics (antimalarials) to prevent malaria.

If you take the CORRECT pills WITHOUT MISSING DOSES you are much less likely to get malaria, and even if you do it will probably be less severe and allow you longer to receive proper treatment. Recent research shows that the majority of those insisting they have taken their antimalarials have, in fact, forgotten a significant number of doses.

Whichever antimalarial you take, follow these three rules:

1 Choose the recommended regime before you leave, and do not change or stop unless there is a compelling reason such as unacceptable side-effects. Advice from expats or nationals that pills are unnecessary, dangerous or useless should be treated with caution. So should pressure to change one type for another.

2 Don't miss pills. Try and take them at the same time each day (or week), keep them in the same place as part of a regular routine. Always keep a supply with you when you are travelling, plus a few extra for forgetful friends.

3 If you vomit within 2 hours of taking your antimalarial, repeat it once. If you have severe diarrhoea at the time of any weekly antimalarial, repeat it once (Maloprim and Mefloquine are exceptions and should not normally be repeated).

When do I start taking the tablets?

Start antimalarials 1 week before travelling (2½ weeks if you are use a Larium product such as Mefloquine). This ensures an adequate blood concentration of the drug and also brings to light any serious reactions to the drug when you still have time to change. Continue antimalarials for 4 weeks after you leave any malarious area.

Follow the correct regime; the following are currently recommended:

NOTE – the most commonly recommended at the moment (2005) is **Doxycycline**

1 REGIME "CqP" BOTH *Chloroquine AND Proguanil (Paludrine) -
Chloroquine (Avloclor) 150 mg (base) tablets: 2 weekly, AND Proguanil (Paludrine) 100 mg tablets: 2 daily.

EYES AND CHLOROQUINE: Damage to the retina is not now thought to occur if weekly chloroquine only is taken. If however, chloroquine is in addition used for treatment it may accumulate in the retina in which case regular eye checks should be carried out.
Chloroquine is no longer effective in many parts of Africa.

2 REGIME "MaCq" BOTH *Chloroquine AND Maloprim -The regimes for these countries is Chloroquine 150 mg (base) tablets: 2 weekly AND Maloprim 1 tablet weekly.

3 REGIME "Ma" Maloprim only -Maloprim (Deltaprim, Malasone) one tablet weekly
Weaker preventative than others but can be adequate for trips taken during the dry season

4. Mefloquine (Lariam)

Mefloquine tablets: 1 weekly

WARNING: Mefloquine can cause serious side effects, including insomnia, irritability, vivid dreams, mild anxiety and depression. Should not be taken for longer than 3 months. These occur far more frequently than the manufacturers will admit.

5. Doxycycline One tablet daily.
This is an antibiotic and also gives some protection for some people against other infections.

6. Malarone newly available in the U.K. Probably the best one of all. The drawback is that it is very expensive.

Which preventatives should I use?

Interhealth currently recommend Doxycycline if you can't afford Malarone.
An exception is made if you have previously taken Mefloquine without adverse effects, or if you wish to use it. If you want to try Mefloquine you should start 2½

weeks before travelling as side effects will often, but not always, show up with the first 3 doses, giving time to change to alternatives before departure. Maloprim is certainly worth considering during the dry season (May-October) when the risk is far lower, since it has no side effects.

Special situations:

1. Pregnancy. Chloroquine and Proguanil (Paludrine) are safe and should be taken in pregnancy if a malarious area is being visited. Other antimalarials should be avoided.
2. Children. Special dosages apply:

Age Dose	Chloroquine	Maloprim	Mefloquine	Paludrine
0 - 5 Weeks	1/8 Adult Dose	Not Used	Not Used	
6 Wks - 11 Mths	1/4 Adult Dose	1/8 Adult Dose	Not Used	(Up to 10 Kg)
1 - 5 Years	1/2 Adult Dose	1/4 Adult Dose	Not used in under 2's,	(11 - 19 Kg) 2 - 5 years, 1/4 adult dose
6 - 11 Years	3/4 Adult Dose	1/2 Adult Dose	6 - 8 years, 1/2 adult dose	(20 - 39 Kg)
			9 - 11 years, 3/4 adult dose	
12 Upwards	Adult Dose			

3. Those over 100 Kg. They should take 3 chloroquine tablets instead of 2. Dosages of other tablets are the same.

3. Airport stop-overs. Take antimalarials if you plan to leave the plane in a malarious city.
4. Longer term
   Up to 1 year - C & P
   More than one year - Maloprim

HOW DO YOU TREAT MALARIA?

Any suspected case of malaria has first to be RECOGNISED and then TREATED.

The best way to recognise malaria is to have a blood smear, but it is not very reliable. The parasites can hide in the body and not show on the sample. ***Absence of a positive blood test should not stop treatment if other symptoms are present.*** If this is not possible and you are living in or have recently come from a malarious area, assume that any fever or malaria-like illness is malaria until proved otherwise. It is safer to treat than to risk not treating.

MALARIA, SUSPECTED OR CONFIRMED MUST BE APPROPRIATELY TREATED WITHOUT DELAY. If possible, see a doctor or other trustworthy health worker. If not possible, self-treat as follows:

Situation 1. Person very ill, AND/OR much chloroquine resistance locally.

Quinine tablets 300 mg: 2 every 8 hours for 5 days, followed on completion of the course of Quinine by Fansidar 3 together. In less severe illness 3 Fansidar can be taken instead of Quinine.

Situation 2. Person not seriously ill AND living in area where little chloroquine resistance is present.

Chloroquine (150 mg base) 4 at once, then 2 after 6 hours, followed by 2 daily for 2 further days. Total 10 tablets. Then Fansidar, 3 together.

Artimether (Artenam, Arinate or similar names)

A newly developed treatment that is available in many developing countries that is not yet registered in the U.K. and is very ***effective if the patient is treated early.*** This cannot be stressed too much. The great advantage of this treatment is that it has no observable side effects, its cheap and can be purchased over the counter.
Always keep a supply with you.
It is usually a 5 day treatment. On the evening of the first day, take 3 Fansidar also, just before going to bed. You will immediately feel much better, but you must rest while taking it, even if you feel that you don't want to.

Treatment Tips

- **Take the first tablets with orange or lemon juice- the citric acid will break it down and get the medicine into the bloodstream more quickly.**

♦ Anyone who does not start to improve after 8 hours of starting treatment must immediately seek a more effective treatment from a doctor or hospital if possible.

♦ If in doubt about whether or not the illness is malaria take the treatment as a safety precaution.

MALARIA AND PREGNANCY

An attack of malaria, in particular malignant (P falciparum malaria) can cause severe symptoms in pregnancy, including miscarriages and still-births. Ideally those who are pregnant should avoid areas where malignant malaria is common. If this is not possible they should take as PROPHYLACTICS, Chloroquine and Proguanil (Paludrine) without missing tablets and should take FULL PRECAUTIONS to avoid mosquito bites.

Maloprim should not be taken during the first 3 months of pregnancy and if used later in pregnancy, should be taken with folic acid. Mefloquine should be avoided altogether and contraception used for 3 months following any course of Mefloquine.

For TREATMENT, Chloroquine is the best treatment in Chloroquine sensitive areas, Quinine in Chloroquine resistant areas. Other drugs, including Fansidar, Halofantrine and Mefloquine should be avoided.

MALARIA AND BREAST FEEDING

Maloprim and Fansidar (or their equivalents) are harmful to new born babies. They are also secreted in breast milk and breast feeding mothers should avoid both until at least 6 weeks after birth. Mefloquine and Halofantrine should not be used at all during lactation. Other drugs listed under treatment are not thought to harm the baby.

MALARIA AND CHILDREN

Babies and young children can quickly become seriously ill with malaria. Moreover their symptoms may not be typical so the diagnosis can easily be missed.

Ideally children under 6 months should avoid areas where malignant malaria is common. If this is not possible they should start antimalarials from birth (ideal) or from 6 weeks (essential) and sleep under a bed net impregnated with permethrin. Babies under 6 weeks, regardless of the area being visited, should take Proguanil only.

Chloroquine is available in the UK as a syrup (Nivaquine syrup).

Some children prefer this to a crushed tablet, others are deeply suspicious. Maloprim (Deltaprim) is available as a syrup in Zimbabwe.

Other antimalarial drugs are only available as tablets. They should be crushed and given on a spoon with jam, honey or something sweet. Alternatively, they can be dissolved with sugar in a little milk, or rolled in butter, peanut butter or a favourite salty savoury and placed near the back of the tongue. As a LAST RESORT a tablet can be crushed, added to sugary milk, drawn up in a clean syringe from which the needle has been removed and introduced slowly down the side of the tongue. Giving antimalarials to children is an acquired art.

For dosages of prophylactics, see previous pages. The dosages for treatment are as follows:
Fansidar: 6 wks - 4 yrs 1/2 tablet ie 1/6 adult dose
5 - 6 yrs 1 tablet
7 - 9 yrs 1 1/2 tablets
10 - 14 yrs 2 tablets
14 upwards 3 tablets
Quinine: 10 mg/kg 8 hourly for 7 days
Chloroquine: 0 - 5 wks 1/8 adult treatment dose
6 wks - 11 mths 1/4 adult treatment dose
1 - 5 yrs 1/2 adult treatment dose
6 - 11 yrs 3/4 adult treatment dose
12 upwards adult dose

MALARIA AFTER RETURNING HOME

Report any suspicious symptoms without delay, especially in children

- Either report to a GP
- Or go to the accident and emergency department of a main hospital, explain you have come from a malarious area and insist you have a blood smear.

If this is negative and the fever persists or worsens, you should have a repeat test carried out, preferably at a Tropical Diseases centre.

If you have had recurrent attacks of malaria and are now home for good or for a long leave, it is sensible to take a course of Primaquine to eradicate the persistent forms of benign malaria which may otherwise plague you for months or years. You should discuss this at your tropical health check.

OTHER DRUGS and combinations sometimes used:

- DARACLOR is pyrimethanmine and chloroquine.
- DOXYCYCLINE (Vibramycin) is occasionally used as a prophylactic for short periods at a dose of one (100 mg) tablet per day. Precautions as for tetracycline (below), and may increase the risk of sunburn.

• FANSIMEF is sulfadoxide, pyrimethamine and mefloquine and is used for treatment under medical supervision as an alternative to Fansidar.
• LAPOQUIN is chlorproguanil plus chloroquine.
• METAKELFIN is sulfalene and pyrimethamine and is used as an alternative to Fansidar.
• TETRACYCLINE (Achromycin, Cyclomycin, Panmycin, Tetracyn etc) is occasionally used in areas where there is chloroquine and Fansidar resistance. In these cases a course of quinine is followed by tetracycline 250 mg qid for 7 days. It should not be used in those sensitive to tetracyclines and in children under 10.

SUMMARY

• Malaria is a serious nuisance at best and a fatal illness at worst.

• If going to a malarious area take your tablets without missing them and sleep under a bed-net impregnated with permethrin.

• When travelling, always carry a full course of treatment with you

• Make sure you get prompt treatment for any fever or serious illness both while abroad, or if symptoms develop after returning home.

• If in doubt about whether or not the illness is malaria take the treatment as a safety precaution. Always carry a complete treatment course wherever you go.

11 AIDS - WHAT YOU NEED TO KNOW

THE DIFFERENCE BETWEEN AIDS AND HIV

AIDS stands for the Acquired Immune Deficiency Syndrome. It is caused by the Human Immunodeficiency Virus (HIV) which attacks the immune system. Usually within three months of being infected with the AIDS virus, antibodies develop to HIV and the blood test becomes HIV positive.

Infection with HIV eventually leads to AIDS though the average length of time between becoming infected and developing AIDS averages about 10 years. During this "latent period" the person infected with HIV is largely free of symptoms but is infectious to others. Once AIDS has developed death usually occurs within two years.

THE EXTENT OF THE PROBLEM

There are approximately 2 million reported cases of AIDS worldwide but several times that number are thought to exist. In many developing countries up to 30% of the adult urban population is HIV positive.

162 countries have now reported AIDS and the number of cases from Asia and parts of Latin America, as well as from Africa, is increasing rapidly. Sub-Saharan Africa is the most affected area.

HOW AIDS IS SPREAD

SEXUAL INTERCOURSE with an infected partner.

- Through INFECTED BLOOD, blood-derived products and body fluids.
- Through DIRTY NEEDLES, syringes, lancets, scalpels and dental instruments.
- Occasionally through SURFACE spread where infected blood and other body fluids are in contact with mucous membranes and injured skin (cuts, abrasions, chapping).
- Razor blades, shared toothbrushes, and instruments used for ear-piercing and tattooing, may cause occasional cases.
- Through spread FROM MOTHER TO CHILD at, or during birth. It is possible that HIV infection may very be spread through breast milk.

AIDS IS NOT SPREAD through normal social contact, even if close and prolonged. There is no evidence that insects including mosquitoes can spread AIDS, nor do toilet seats, swimming pools, or shared communion cups.

By living in a country where AIDS is common, you face a potentially greater risk of becoming infected than you would in your home country, BUT by following a few common-sense rules your risk of infection can become almost negligible.

A small number of people while overseas develop an AIDS anxiety which can seriously mar their quality of life. If having calmly faced up to the risks and appropriate precautions, you remain seriously worried, it would be worth discussing this with your sending organisation.

WHAT YOU NEED TO DO

BEFORE YOU GO:

- Complete IMMUNISATIONS
- Have a DENTAL check
- Find our your BLOOD GROUP, and always keep a note on you
- Take a supply of recommended ANTI-MALARIALS and other antimalarial equipment, if going to a malarious area
- Take a NEEDLE AND SYRINGE kit
- Consider taking an AIDS PROTECTION KIT containing an intravenous giving set, and bottles of plasma substitute
- Plan ahead if PREGNANCY is possible
- DECIDE TO ABSTAIN from casual sexual encounters

WHILE ABROAD

PRECAUTIONS YOU SHOULD TAKE:

1. AVOID SEXUAL INTERCOURSE with any resident of the country or casual acquaintance. Avoidance is the only way of being certain to avoid getting AIDS. Most HIV infection in developing countries is spread through the heterosexual route. "Safe sex" means only safer sex, and it is still possible to get AIDS if using a condom. In many cities in Africa, South America and increasingly in Asia the majority are HIV positive.

2. AVOID ROAD TRAFFIC ACCIDENTS

These are a major risk because they often necessitate medical treatment and blood transfusions.

- Fit and wear seat belts to both front and rear seats, and ensure that these are used by all, including children. Quite apart from the AIDS risk, road accidents are the commonest cause of death in expatriates and wearing seat belts is probably the single most important health precaution you can take.
- Keep your vehicle in good condition by regular servicing and make sure tyres are adequate, and brakes and lights are working properly.
- Try to avoid driving when tired, or for prolonged periods, or overnight, or without a co-driver. Never drink and drive when taking medicines which make you drowsy.

♦ Choose drivers, taxis and rickshaws with care, making sure that lights, tyres and brakes work before setting out and that your driver is alert and not under the influence of drugs or alcohol.
♦ Motor cyclists should wear a crash helmet.
♦ When crossing the road, remember the direction of traffic flow. Take special care of children if visiting a city after living in a rural area.

12 RABIES

NOTE: Even if you have had a course of 3 rabies injections before going abroad, you will still need further injections if you are bitten, licked or scratched by an animal which may have rabies (see below).

WHAT IS RABIES?

Rabies is a virus infection of man and other mammals, caused by a bite or lick from an infected mammal. Certain mammals are well known as "reservoirs" of infection. Examples are the dog almost worldwide, fox in Europe, and vampire bats in South America and the Caribbean. However, any mammal may be infected, and can in turn pass on the infection.

Rabies is found is over 150 countries, though the following are free: the United Kingdom, Australia and New Zealand, Norway and Sweden, Japan, Papua New Guinea and most Pacific Islands. Rabies is especially common in the Indian subcontinent, Thailand and parts of tropical Latin America, Africa and Asia.

RISK TO TRAVELLERS

As a traveller or expatriate you have two risks which both need preventing: the small but important one of being infected with rabies, and the more common experience of sickening worry following an encounter with a suspicious animal which you did nothing about. By being well informed and appropriately vaccinated you can be well protected against both these risks.

THE SYMPTOMS OF RABIES

These are well known. In animals there is often a change of behaviour, a dog being more aggressive or more docile than usual. There may be an aversion to water. Unprovoked attacks by dogs or by any animal which behaves aggressively should raise alarm bells especially if rabies is common in the area. Some infected (and infectious) animals behave quite normally.

Humans can develop symptoms any time from 4 days to 2 years after being bitten (usually 30 to 60 days). The symptoms progress rapidly from fever and headache to paralysis, bouts of terror and aggression to coma and death. There is no cure once symptoms have started.

PERSONAL PROTECTION FROM RABIES

This is through a series of 3 injections with Human Diploid Cell vaccine (HDCV) before travelling abroad. More details are given in the section on Rabies vaccine. HDCV is a simple, and safe vaccine, given into the upper arm, with minimal side effects. All those spending 6 months or more in an area where rabies exists should have this as should those on shorter journeys, if travelling off the beaten path, or in rural areas where rabies is present. Remember however, that these injections will NOT give full protection.

When first taking up residence in a developing country identify a reliable source of HDCV (and HRIG - see below) by asking your embassy or another reliable source of information.

Keep anti-rabies injections up to date on domestic pets, especially dogs.

ACTION AFTER BEING BITTEN, LICKED OR SCRATCHED BY A SUSPICIOUS ANIMAL

1. Wash the wound carefully with soap and water, if possible under a running tap to remove infected saliva and dirt. Apply either tincture of iodine or alcohol (gin or whisky will do). It is better not to scrub. The wound should not be sutured within the first 48 hours.

2. Consider any animal as potentially rabid which is either behaving strangely, or is unknown, or which disappears. Try to identify and observe the animal for 10 days. Any animal alive after this time can be considered safe.

3. Start rabies injections as follows, using one of the regimes below:

i. EITHER: The SHORT regime - If you have definitely had a course of 3 primary injections in the past, with subsequent boosters EVERY 2 to 3 years. You should now have: 3 doses of 1ml HDCV at days 0, 3 and 7 by the intramuscular route into the deltoid muscle (upper arm).

ii. OR: The FULL regime - If you have NOT had a recent, full course of preventative injections as recommended above. You should now have: 1ml of HDCV on days 0, 3, 7, 14, 30, 90, by intramuscular route, the exact timing of the latter two not being critical.

In addition, you will need to have an injection of either Human Rabies Immune Globulin (HRIG) 20 units per KG body weight, OR Equine Anti-Rabies Serum (EARS) 40 units per Kg body weight, given AFTER HDCV.

In either case half is infiltrated around the bite and half given by IM injections. Because EARS may cause an allergic reaction a doctor should be present with a supply of adrenaline, and ideally a skin test should be done first. If the is alive after 10 days, rabies injections can be discontinued.

4. In many developing countries post mortem tests on the brain of an infected animal cannot be relied upon. However, where good facilities exist a brain fluorescent antibody test can be arranged.

5. Ensure that your tetanus cover is up to date and also that any infection is treated promptly with antibiotics.

SPECIAL SITUATIONS

1. Delays. If EITHER there is a delay in starting HDCV of more that 48 hours, OR if HRIG or EARS have been given BEFORE HDCV, OR the person at risk is either elderly, malnourished or with lowered immunity, the first HDCV should be trebled and given at 3 different sites of the body.

Even with longer delays of days or weeks it is still worth starting a course of HDCV injections if you come to recognise that you have had a suspicious encounter.

2. Rabies and children. Children and toddlers with their love for furry beasts have a higher risk of being exposed to rabies. Actively discourage them from touching unknown animals. Preventative injections are only recommended from the age of one year upwards, but post-exposure treatment is given regardless of age.

3. Rabies and pregnancy. Pregnant women are not normally given prophylactic injections, but post-exposure treatment is essential and no serious reactions have been reported.
4. If a local doctor suggests that the precautions and injections given above are not necessary, or that a single injection or tablets alone are sufficient,
DO NOT ACCEPT HIS ADVICE.

13 On the wild side

If you visit a game reserve, stay in your vehicle unless accompanied by a game warden. Don't be tempted out to get a better photo etc.

Snakes

Stay on paths, don't walk through grass if you can help it. There might be a snake in the grass. If you are bitten by a snake- - **STAY CALM**. Avoid movement if you can. Panic and movement spread the poison quickly around your body. The vast majority of snakebites are not fatal. Take antihistamines if you have them, apply and ice pack to the bite and **get to a hospital immediately**. Depending where you are bitten, a tourniquet can by applied above the bite – but not too tight.

Elephants

Female elephants with calves or lone males can be dangerous – keep your distance, even if in a vehicle. They give warnings before they charge you. They turn towards you and flap their ears. They then stamp their front feet. At this stage be ready to move quickly if they come towards you. They will then often make a short warning charge – **do not wait for this stage, just in case they have forgotten the rules and *mean it!***

Buffaloes

Buffaloes are the most dangerous animals in Africa because they will charge you and kill you for no apparent reason and without warning. Stay well away and in a vehicle. They may look harmless to us because they faintly resemble domestic cattle. In many third world countries they have been domesticated - but in the wild they are very dangerous indeed and they can move with surprising speed.

Hippo's

Most deaths from animals in Africa are from hippo's. On boats you may not know if you are approaching female hippo's with calves – they stay under water. If they feel you are coming too near their calves they will attack you and such an attack is often fatal. Most of their victims are African fishermen. River canoeing as a tourist activity should be classified as a dangerous sport!

Monkeys and Baboons

Baboons usually run away, but if they feel cornered or their young are threatened, they can be dangerous. They are powerful animals and they have long teeth giving a serious bite. Many monkeys will bite – they are unpredictable – stay away from them. Don't feed them – they will take that as an invitation to join your party.

Never frighten, pursue , corner, stroke or touch any animal.

A good general rule to remember with African wildlife is: Don't bother them, and they won't bother you – (except buffaloes!).

NIGHT DRIVING

Be very careful driving at night. Some animals will run out suddenly in front of your headlights. Something like a Kudu (as big as a horse) can cause you serious damage. Slow down. The danger is much greater in less populated areas. Botswana is particularly dangerous at night.

Approaching vehicle headlights tend to blind you to what is on your (unmarked) side of the road. It is easy to hit a pedestrian or a cart. **Slow down to a crawl** in this situation rather than risk hitting someone.

Try everything to avoid driving at night.

Insects

Remember, the second most dangerous creature on the planet is the mosquito. (mankind is the most dangerous!)

Some insects like to lay their eggs on wet washing hung out to dry. Their larvae hatch out and then burrow under your skin when next you wear that item. This then looks like a small boil. You should cover the spot with Vaseline, and watch to see if it moves. If it does, it is because you have cut off the air supply to the larvae. You then have to sterilize a pin, and dig it out. If it is in a place that you can't reach – it is then that you find out who your *real friends* are!! The problem can be avoided if your clothes are well ironed. The heat kills the larvae. Try to dry your washing indoors if your locality has this problem. Local people will soon tell you if it is.

The common fly spreads a lot of disease. Keep your food covered up from them. If you are suffering a lot of flies, investigate your immediate area to see where they are breeding and try to eliminate the source. The common pit latrine is a frequent cause. Find out how to make a V.I.P – a Ventilated Improved Pit latrine (sometimes known as a 'Blaire toilet'.) They are simple and effective in preventing flies.

Spiders and Scorpions

Spiders are almost all harmless but can give you a fright. Scorpions will sting you and this is extremely painful for several days. Be careful when moving things that have not been moved for several days, such as rocks or items stored outdoors. Scorpions will live behind such things. Both creatures have a favourite place to sleep the night, and that is in your shoes! Your shoes are warm and smell delicious (to creepy crawlies). At night, stuff your socks in your shoes **and hang them up.** If you forget and leave your shoes on the floor or outside, carefully examine them (not with your fingers) in the morning before putting them on. Banging your shoes together might bring out a spider but not a scorpion – they hang on and just get angry. Never leave your clothes on the floor for the same reason.