

## **MEDICAL NOTES FOR ALL PROJECTS**

**BASED ON CURRENT INFORMATION THESE NOTES ARE TO BE USED AS A GUIDELINE ONLY BY PROJECT LEADERS.**

Medical treatment should only be prescribed/administered by qualified persons. The Project Leader should only assume this responsibility and prescribe drugs from the medical kit in an emergency situation (i.e. suspected malaria) and if there are no qualified persons available.

Take advantage of professional knowledge within the group i.e. doctors and nurses, however the local knowledge and experiences of the Project Leader (perhaps having worked in that country/area for some time) should not be under-rated.

Still, the Project Leader is not expected to perform the role of a doctor and medical advice should be sought **at the earliest opportunity.**

Remember that very few conditions are fatal, but malaria can be - and rapidly. So suspected malaria should be attended to immediately.

Therefore: **HOSPITAL - DIAGNOSIS - IMMEDIATE TREATMENT**

or: **IMMEDIATE TREATMENT, FOLLOWED BY HOSPITAL/  
PROFESSIONAL MEDICAL ADVICE AT THE EARLIEST  
OPPORTUNITY.**

The following notes are intended purely as a **rough** guide as there is always the possibility of other side effects / problems other than those listed.

Read any literature accompanying the medicine carefully.

# DRUGS CARRIED, THEIR USES AND DOSAGES

## PAIN KILLERS AND ANTI-INFLAMMATORY

### PARACETAMOL

Use Mild pain, temperature  
Dose 500mg -1g. Every 4-6 hours as req. Maximum 4g. daily.

### SOLUBLE ASPIRIN

Use Mild pain, sore throat.  
Dose 300 - 600mg Every 4-6 hours as req. Maximum 4g. daily.  
Cautions/ Stomach upset, do not take if patient has a history of Peptic  
Side effects ulcers.

### VEGANIN

Use Moderate pain.  
Dose 500mg - 1g. Every 3-4 hours. Maximum 4g. in 24 hours.  
Cautions/ Possible nausea, vomiting, drowsiness. Constipation with  
Side effects long term use. Do not take with alcohol.

### IBUPROFEN (Common names :- NUROFEN / BRUFEN)

Use Joint inflammation and pain.  
Dose 200mg - 400mg 3 times a day (after food).  
Cautions/ Avoid with asthma, liver problems.  
Side effects Intestinal discomfort, nausea, dizziness, vertigo. Do not take if patient has a history of Peptic ulcers.

### TRAMADOL ( Common name :- ZYDOL )

Use Severe pain.  
Dose 50-100mg Every 4 hours. Maximum 400mg per day.  
Cautions/ Constipation, hallucination / confusion. Very rarely - severe  
Side effects allergic reaction (anaphylaxis). Do not take if patient has a history of epilepsy / fits.

## ANTIBIOTICS

### GENERAL POINTS TO NOTE.

1. It is difficult to choose the most suitable antibiotic for the condition in question, therefore seek medical advice whenever possible.
2. Try to use an antibiotic that the patient has had before.
3. Allergy is common. Stop treatment immediately if rash develops. Anaphylaxis (hypersensitivity, drop in blood pressure, breathing difficulty and DEATH within minutes) is the biggest risk.
4. Most antibiotics can cause nausea, vomiting and diarrhoea - but a variety of other side effects are possible.

### ERYTHROMYCIN (Common names :- ERYTHROMYCIN / ERYTHROCIN)

Use Chest and skin infections. For patients allergic to Penicillin.  
Dose 250mg - 500mg Four times a day, for five days.  
Cautions/ Nausea and vomiting common. Diarrhoea.  
Side effects

### CIPROFLOXACIN (Common name :- CIPROXIN)

Use Bacterial gut infections - NOT amoebic dysentery or giardia  
Urinary tract infections - (use Trimethoprim in preference).  
Dose 250mg - 500mg twice a day, five day course, except  
urinary tract infections - three days.  
Cautions/ Dizziness most usual.  
Side effects

### TRIMETHOPRIM (Common name :- TRIMETHOPRIM, )

Use Mainly urinary tract infections, (Bacterial gut - Ciproxin is better)  
Dose 200mg twice a day, for five days.  
Cautions/ Liver problems.  
Side effects Stomach upsets, nausea, vomiting.

METRONIDAZOLE (Common name :- FLAGYL)

Use Amoebic dysentary, giardia, dental infections.  
Dose Amoebic dysentary - 800mg three times a day, for five days.  
Giardia - 400mg three times a day, for five days.  
Dental infections - 200mg three times a day, for five days.  
Cautions/ Nausea common, metallic taste, DO NOT take alcohol.  
Side effects

AMOXYCILLIN (Common names :- AMOXYCILLIN / AMOXIL)

Use Chest infections  
Dose 250mg - 500mg three times a day for five days.  
Cautions/ DO NOT take if allergic to Penicillin.  
Side effects

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GENERAL MEDICAL ITEMS

GENTICIN DROPS (Chemical name :- GENTAMICIN)

Use External ear infections, conjunctivitis  
Dose Ear :- 2 - 4 drops three to four times daily, and at night.  
Eye :- 2 drops every two hours  
Cautions/ Ear :- DO NOT use if perforated ear drums.  
Side effects Eye :- Blurred vision (temporary)

FUCITHALMIC DROPS

Use Eye infections - bacterial (conjunctivitis)  
Dose 1 drop twice a day.  
Cautions/ Temporary irritation. Do not rub eyes.  
Side effects

## BUCCASTEM

(Chemical name :- PROCHLORPERAZINE)

<u>Use</u>	Nausea, vomiting
<u>Dose</u>	3mg 1 - 2 tablets twice daily. Place tablet high between upper lip and gum and leave to dissolve.
<u>Cautions/</u> <u>Side effects</u>	Drowsiness, low blood pressure/dizziness. Very rarely movement disorders. DO NOT take alcohol.

## IMODIUM

(Chemical name :- Loperamide Hydrochloride )

<u>Use</u>	Diarrhoea - if no toilet stops available.
<u>Dose</u>	4mg initially. 2mg after each loose stool. Max 5 days.
<u>Cautions/</u> <u>Side effects</u>	No long term use, avoid alcohol. Abdominal cramps, skin reactions.
<u>NB</u>	Allow at least 4 days for local acclimatisation before using. Use in conjunction with rehydration salts.

## PIRITON

(Chemical name :- Chlorpheniramine Maleate )

<u>Use</u>	Allergy relief - hayfever, insect bites, stings and sunburn.
<u>Dose</u>	4 mg. Every 4-6 hours. Maximum 24 mg daily.
<u>Cautions/</u> <u>Side effects</u>	Avoid with epilepsy, glaucoma, liver problems. Avoid alcohol, may cause drowsiness.

## FLAMAZINE CREAM

<u>Use</u>	Skin infections in 2nd and 3rd degree burns
<u>Dose</u>	Apply daily with sterile applicator. Ensure wound dressing does not exclude air. Discard cream seven days after opening.
<u>Caution</u>	With liver and kidney problems.

## CICATRIN POWDER

<u>Use</u>	Antibiotic powder for skin infections.
<u>Dose</u>	Apply 3 times daily to infected area. Avoid long term use.

## BETADINE LIQUID

<u>Use</u>	Antiseptic cleansing of minor cuts and abrasions
<u>Dose</u>	As required
<u>N.B.</u>	Avoid if allergic to Iodine (rare)

### BETADINE PAINT

Use Antiseptic alcoholic solution for small cuts, abrasions and infections.  
Dose Apply as necessary and allow to dry. (Stings on application)

### SAVLON DRY SPRAY

Use As for Betadine paint  
Dose As for Betadine paint (Does not sting)  
(Nozzle tends to clog up if not cleaned after use).

### CALAMINE LOTION

Use Soothing lotion for mild sunburn / prickley heat and other skin irritations.  
Dose As required.

### OPTREX AND EYE BATH

Use Eye wash.  
Dose As on bottle. Discard one month after opening.

### BONJELA GEL

Use Mouth ulcers.  
Dose Apply 1/2" inch of gel to sore area, once every three hours.

### DIORALYTE SALTS

Use Rehydration for diarrhoea  
Dose One sachet dissolved in 200ml water - after each loose stool.

### GRANUFLEX DRESSINGS

Use Chronic non-healing sores (tropical ulcers)  
Clean out wound well. Apply dressing and leave in place for up to five days. (See instructions on pack.

### BACTIGRAS DRESSINGS

Use As granuflex - but mainly for burns dressing.

## WATER PURIFICATION AND FOOD CLEANSING

### WATER PURIFICATION - CHLOROMINE T

CHLOROMINE T is an extremely concentrated form of chlorine- based water sterilisation. Consistent and correct application of this will minimise any danger of contaminated water.

Water treatment ~

There is no defined dosage as some water may be more contaminated than others (organic matter neutralises the chlorine - therefore add some more) but a normal amount would be approximately 3/8" on the end of a matchstick to treat 20 litres of water. (5mg per litre)

Purification takes 30 minutes at which point :

a) The Chloromine T is rendered inactive by the contamination, and so there will be no taste of chlorine, but maybe still some contamination. Therefore add some more.

OR

b) It has destroyed all contamination, in which case there will be a slight taste of chlorine but no contamination.

**IF YOU CANNOT TASTE CHLORINE, THE WATER IS NOT PURIFIED.**

NB

CHLOROMINE T IS INEFFECTIVE WHEN USED TO TREAT CLOUDY/MURKY WATER - IN WHICH CASE THE WATER MUST BE PRE-FILTERED BEFORE TREATMENT. i.e. STRAINED THROUGH A CLOTH OR T-SHIRT / MILLBANKS BAG.

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### FOOD CLEANSING - POTASSIUM PERMANGANATE

Fruit and vegetables that are eaten raw and unpeeled should be **SCRUBBED** in water/potassium permanganate and then left to soak for 20 minutes.

**SOAKING ALONE WILL NOT STERILISE CONTAMINATED ITEMS.**

Again there is no defined dosage, but a few crystals on the end of a matchstick, added to a bowl of clean water, should turn the water a deep pink colour (ensure all crystals are dissolved).

# MALARIA

Malaria is a parasitic infection of the blood transmitted by the female Anopheles mosquito. This mosquito bites only during the evening, night and early morning, therefore avoidance measures against malaria are essential during this period.

## **MALARIA CAN KILL IF NOT RAPIDLY AND EFFECTIVELY TREATED**

Malaria prevention involves :

1. Avoiding mosquito bites.
2. Correct use of preventative drugs.
3. Recognising and treating the disease as soon as it occurs.

## **MALARIA IS ON THE INCREASE AND, UNFORTUNATELY KILLING MORE AND MORE TRAVELLERS VISITING MALARIOUS AREAS.**

To provide optimal protection the following measures should be strictly followed :

1. Cover up as effectively as possible between dusk to dawn i.e. Long sleeves and long trousers (avoid dark colours) and suitably thick socks - ankles are particularly attractive.
2. Apply insect repellents (such as Deet) on exposed skin at frequent intervals.
3. Sleep under a permethrin impregnated net (see notes on permethrin) or in a tent.
4. Take prophylaxis regularly and correctly. Drugs to start 1 week before travel and continue for 4 weeks after leaving the malarious area. Missing doses of any drug will significantly reduce protection.



## **DIAGNOSIS**

Common symptoms : Flu symptoms, fever, chills, headaches, diarrhoea and joint pains. A person suffering from malaria may well feel as though they have the flu (symptoms very similar). After the first week of travel, and for up to a year (usually three months) after their return from a malarious area, malaria **MUST** be suspected and treated accordingly.

**IF THERE IS ANY DOUBT THEN YOU SHOULD SUSPECT MALARIA**

## **MALARIA TYPES AND TREATMENT**

### **Falciparum Malaria**

Falciparum Malaria (malignant malaria caused by *Plasmodium falciparum*) is the most dangerous form and is often resistant to chloroquine. It is the strain that leads to Cerebral Malaria and death.

QUININE SULPHATE followed by FANSIDAR are the drugs of choice for treatment.

### **Benign Malarias**

Benign Malarias (the others i.e. those caused by *Plasmodium Vivax*, *Plasmodium Ovale*, *Plasmodium Malariae*) are not so dangerous.

CHLOROQUINE is the drug of choice for treatment.

**HOWEVER IT IS IMPOSSIBLE TO TELL WHICH TYPE YOU HAVE THEREFORE ASSUME FALCIPARUM AND TREAT ACCORDINGLY.**

## **MALARIA PROPHYLAXIS (preventative drugs)**

No drug is 100% effective and Malaria may still develop while taking prophylactic drugs, however prophylaxis significantly reduces the chances and effects.

Prophylaxis should be taken ONE WEEK prior to entering the endemic area and for FOUR WEEKS after leaving.

### **MISSING DOSES OF DRUGS SIGNIFICANTLY REDUCES PROTECTION**

Medical guidelines are constantly changing. At present Encounter provide **PALUDRIN** and **NIVAQUINE** on all trips requiring prophylaxis, for those clients wishing to take them (old brochure - 1996 ).

More and more clients are now providing their own prophylaxis - and many Doctors are now recommending **MEFLOQUINE (LARIUM)** as the most suitable drug. Clients should not be dissuaded from taking Mefloquine.

### **PROPHYLAXIS SHOULD STILL BE TAKEN DURING TREATMENT**

#### **NIVAQUINE- (chemical name Chloroquine)**

Dose: 2 x 200mg tablets - once a week.

Cautions: For those with liver/kidney problems, psoriasis, epilepsy, G6PD deficiency, pregnancy.

Side effects: Gut upsets, headache, convulsion, visual disturbance, hair loss.

#### **PALUDRINE- (chemical name Proguanil Hydrochloride)**

Dose: 2 x 100mg tablets - every day

Cautions: Those with kidney problems, pregnancy.

Side effects: Gut upset, mouth ulcers, skin reaction, hair loss.

## LARIUM- (chemical name Mefloquine)

Cautions: For those with liver/kidney problems, heart problems, epilepsy, pregnancy.

Side effects: Gut upset, dizziness, sleep disorders, hallucinations, psychiatric problems, visual disturbance, rash, fatigue, loss of appetite.

Dose: 1 x 250mg tablet - once a week.

## WHEN TO START/STOP TAKING PROPHYLAXIS

### ASIA - LONGHAUL

Some significant risk is present along the Turkey/Syria border, i.e. Iskenderun onwards.

So start taking prophylaxis on arrival at Mediterranean coast - (Olu Deniz) EMs leaving from Cairo should be advised to continue for 1 week after projects end.

Those continuing to Kathmandu should take prophylaxis to the end of the project and then be advised to continue for a further 4 weeks.

For departures ex KTM, start on day 1 ( if not before) finish 4 weeks after reaching Turkish coast.

### ASIA - SHORTHAIL

Malaria risk throughout all projects, so start prophylaxis 1 week before project and continue for a further 4 weeks after project.

### AFRICA -LONGHAUL

High risk throughout most of sub-Saharan Africa. So start taking prophylaxis on leaving Nouakchott. EMs leaving in Nairobi should be advised to continue for a further 4 weeks.

Those continuing to Cairo should, on entering Egypt, (which is malaria free except for a low risk around the Al-Fayoum region, June to October only) take a 4 week finishing off course.

Those EMs travelling to Cape Town should be advised to take a 4 week finishing off course on leaving the Caprivi Strip in northern Namibia.

London bound projects should start prophylaxis 1 week prior to entering malarial areas and on entering Mauritania be advised to continue for a further 4 weeks.

### AFRICA - SHORThAUL

High risk of malaria on all sub-Saharan projects. So start prophylaxis 1 week prior to start of project and continue for a further 4 weeks after project finishes.

Morocco - considered very low risk. Prophylaxis not necessary.

Egypt - seasonal risk around Al-Fayoum area. Use your discretion.

### SOUTH AMERICA -LONGHAUL

Malaria risk throughout most areas, and those minimum risk areas are immediately prior to higher risk areas. Therefore with a 4 week finishing off course, and then a 1 week prior course, advice is to take malaria prophylaxis throughout all trips.

### SOUTH AMERICA - SHORThAUL

As for longhaul.

## **TREATMENT OF MALARIA**

At present, Encounter's policy for treating malaria is :-

600 mg Quinine Sulphate - 3 times a day for 3 days  
followed by  
3 tablets (x525g) Fansidar - once only

(seeking professional medical advice as soon as possible)

## **PROPHYLAXIS SHOULD BE TAKEN DURING TREATMENT**

**FANSIDAR:** Do not take if allergic to SULPHONAMIDE

**QUININE SULPHATE:** Side effects: tinnitus, headache, hot flushes,  
abdominal pain, rash, visual disturbance, low  
blood sugar.

## **UNDER NO CIRCUMSTANCES SHOULD HALFAN BE USED FOR TREATING MALARIA**

Recommended treatments for Malaria change from time to time as more is found out about the drugs and resistant strains. Malaria is still quite a mystery even to the specialists, and research is being constantly carried out.

### **REMEMBER:-**

**HOSPITAL - DIAGNOSIS - IMMEDIATE TREATMENT**

**OR**

**IMMEDIATE TREATMENT, FOLLOWED BY HOSPITAL /  
PROFESSIONAL MEDICAL ADVICE AT THE EARLIEST OPPORTUNITY.**

## **PERMETHRIN**

Permethrin is an insecticide used to impregnate mosquito nets and camp beds as an additional safeguard against being bitten.

Africa vehicles are provided with a 1 litre bottle of Permethrin which is sufficient for 2 treatments.

### **METHOD**

Mix 0.5litre of Permethrin with 25 litres of water. Erect all camp beds, dip all mosquito nets in the solution and allow them to dry flat on the beds, allowing the excess solution from the nets to soak into the beds.

Use the remaining solution to spray around tent doors and truck seats.

This treatment should be effective for 3-6 months, and nets/beds subjected to light dew should still be effective. However, heavy rain/washing will render the treatment considerably less effective.

## **DYETHYL TOLUAMIDE - DEET**

Deet is a very powerful and effective repellent. It is the base of most modern insect repellents and comes in various concentrations. It may be used neat if dabbed on wrist/ankle bands or clothing, but should not be used neat on skin. 50% formulas may be applied directly to the skin, but its effectiveness will be lost through sweating, so reapplication every two to three hours is necessary.

**NB** Deet is an excellent solvent of plastics and has ruined many a washbag, watch face and nice pair of sunglasses.

## GLOSSARY OF TERMS

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INDICATIONS	Condition to be treated
CAUTIONS	Be careful and pay attention to patients who have or are subject to conditions mentioned as cautions.
INTERACTIONS	Some drugs from time to time have adverse effects when patient is taking other substances.
CONTRA INDICATIONS	Do no prescribe if patient suffers from a condition mentioned or is taking drug mentioned as a contra indication.
SIDE EFFECTS	Nearly all drugs have side effects to some degree and effect different people in different ways. The list of side effects are not bound to occur but may happen, Just be aware.
DOSE	Regimen for treatment of indication.
G6PD	Glucose-6-phosphate dehydrogenase.(If a patient is G6PD deficient they will normally know)
CHEMOPROPHYLAXIS	Chemicals used as a prevention rather than a cure.
HEPATIC	To do with the liver.
RENAL	To do with the Kidney

APPENDIX 1 (DRUGS USED FOR TREATMENT OF CERTIAN CONDITIONS)

CONDITION	DRUG FOR TREATMENT
ALLERGY	PIRITON
AMOEBIC DYSENTRY	FLAGYL OR FASIGYN
ANXIETY (SEVERE)	VALIUM
BURNS	FLAMAZINE
COUGH (BAD OR PERSISTANT)	CEPOREX, SEPTRIN OR TETRACYCLINE
CYSTITIS	SEPTRIN
DEHYDRATION	DIORALYTE
DIARRHOEA	IMODIUM
EAR (ACUTE INFECTION)	CEPOREX
EAR (EXTERNAL INFECTION)	OTOSPORIN
ECZEMA	HAELAN
EYE (EXTERNAL INFECTION)	CHLOROMYCETIN
EYE (GRIT ETC)	OPTREX
FEVER (HIGH TEMP)	ASPIRIN OR PARACETAMOL
GONORRHEA	CEPOREX
GIARDIASIS	FLAGYL OR FASIGYN
GUM INFECTION	BONGELA GEL OR FLAGYL
INSECT BITES (SEVERE)	CALAMINE LOTION AND/OR PIRITON OR HAELAN/HYDROCORTIZONE
PAIN (MILD)	ASPIRIN OR PARACETAMOL
PAIN (MODERATE)	VEGANIN
PAIN (MODERATE WITH INFLAMATION)	IBUPROFEN
PAIN (SEVERE)	TEMGESIC OR FORTRAL
PRICKLY HEAT OR SEVERE RASH	CALAMINE LOTION AND/OR PIRITON OR HAELAN
SALMONELLA	SEPTRIN
SKIN IRRITATION	CALOMINE LOTION
SKIN INFECTION (OPEN WOUND) OR ULCER	CICATRIN AND/OR CEPOREX
SORE THROAT	GARGLE WITH SALT WATER
SORE THROAT(PERSISTANT INFECTION)	CEPOREX OR SEPTRIN



SUNBURN

CALAMINE LOTION AND/OR PIRITON

TROPICAL ULCERS (SEVERE)

CEPOREX BUT DRESSING IS OF MORE  
IMPORTANCE

TYPHOID

SEPTRIN

URETHRITIS

FLAGYL OR TETRACYCLINE

VAGINITIS

FLAGYL

VOMITING AND NAUSEA

STEMETIL

WOUND INFECTION

CLEANING AND DRESSING IS MOST  
IMPORTANT IF IT IS SEVERE YOU CAN  
USE CEPOREX

TRUCK MEDICAL KIT FOR S.AMERICA

ALL DRUGS USED FROM THIS KIT SHOULD BE REPLACED BY THE USER AT THE EARLIEST OPPORTUNITY. IT IS FOR EMERGENCY USE SO KEEP IT WELL STOCKED

ITEM NO DOSE FORM PRICE CHK  
U.S.D.

MALARIALS

ITEM	NO	DOSE	FORM	PRICE	CHK
NIVAQUINE (2/WEEK/PAX)	=	200mg	TABS IN PACKS OF 28	43.29	
PALUDRINE (2/ DAY/PAX)	=	100mg	TABS IN BOTTLES OF 100	382.20	
FANSIDAR	10	525mg	TABS IN PACKS OF 10	4.16	
QUININE SULPHATE	100	300mg	TABS	3.16	

PAIN KILLERS + ANTI-INFLAMATORY

PARACETAMOL	100	500mg	TABS	0.58	
SOLUBLE ASPRIN	100	300mg	TABS	0.53	
TEMGESIC	20	0.2mg	TABS IN SLABS OF 10	3.60	
VEGANIN	50	500mg	TABS IN PACKS OF 50	21.42	
IBUPROFEN	50	600mg	TABS	1.98	
FORTRAL	10	1ml	AMPS IN PACKS OF 10	15.54	

ANTIBIOTICS + ANTI-INFECTIONS + FUNGICIDE

TETRACYCLINE/OXYTET	100	250mg TABS		2.10	
CEPOREX	56	250mg TABS		13.41	
SEPTRIN/TRIMETHOPRIM	56	480mg TABS		12.71	
FASIGYN	20	500mg TABS	IN SLABS OF 4	17.25	
FLAGYL	63	200mg TABS	IN SLABS OF 21	9.63	
OTOSPORIN	2	5ml BOTT		13.74	
CHLOROMYCETIN	2	4g TUBE		2.10	
BETADINE CREAM	1	80g TUBE		4.38	
BETADINE LIQUID	1	100ml BOTT		1.59	
HYDROGEN PEROXIDE	1	150ml BOTT		4.80	
CICATRIN POWDER/CREAM	2	15g BOTT		7.31	
SAVLON LIQUID	2	250mg BOTT		2.21	

SKIN + RASHES

PIRITON	60	4mg TABS	IN SLABS OF 10	3.06	
HAELAN	1	60g TUBE		4.46	
FLAMAZINE	1	50g TUBE		6.45	
CALADRYL OINTMENT	2	42g TUBE		4.92	

GENERAL MEDICAL

IMODIUM	60	2mg TABS	IN SLABS OF 15	6.50	
DIORALYTE	20	200ml SACH		6.11	
VALIUM	10	5mg TABS	IN SLABS OF 10	0.30	
OPTREX + EYE BATH	1	300ml BOTT		3.82	
STEMETIL	21	5mg TABS		1.08	
BONJELA GEL	1	15g TUBE		1.81	
CHLOROMINE T	2	15g BOTT		0.50	
POTASSIUM PERMANGANATE	2	20g BOTT		0.10	

DRESSINGS

STERISTRIPS	12	R1540 PACK	IN STRIPS OF 3	0.90
COTTON WOOL	6	15g PACK		5.67
PLASTERS ASSORTED	50	ASSORTED		6.45
ELASTOPLAST	4	4.5m ROLL		8.16
FINGER BANDAGE	5	PACK		1.56
MELOLIN	5	LARGE PACK	(10cm x 10cm)	1.50
MELOLIN	15	SMALL PACK	(5cm x 5cm)	2.70
SOFRA-TULLE	5	LARGE PACK	(10cm x 10cm)	1.60
STRETCH BANDAGE(CREPE)	2	LARGE PACK	(7.5cm x 5m)	7.26
EMERG DRESSINGS PACK	1	LARGE PACK		16.13

STERILE EQUIPMENT

SCALPELS DISP (CURVED)	2			0.65
SCALPELS DISP(POINTED)	3			0.96
SUTURES WITH NEEDLES	3			3.90
SURGICAL SCISSORS	1			3.60
ARTERY FORCEPS	2			3.93
TWEEZERS FLAT	1			0.59
TWEEZERS POINTED	1			0.64
SYRINGES 2ml	5			0.33
SYRINGES 10ml	5			0.71
NEEDLES ORANGE	5			0.21
NEEDLES GREEN	5			0.21
I.V.GIVING SET+CANALAE	2			4.50
THERMOMETER	2			2.25
SURGICAL GLOVES	5			0.32

REFERENCE  
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MEDICAL NOTES	1		0.00	
TRAVELERS HEALTH ABROAD	1		11.99	
MEDICIN FOR MOUNTAINEERS	1			
FIRST AID MANUAL	1		7.43	

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## MEDICAL HEALTH TALK FOR STAFF OF OVERLAND COMPANIES

This lecture is to help overland companies and their staff initiate good health regimes to keep the amount of illness on trips down to a minimum. The lecture will also cover what staff should do if a client or staff member does fall ill.

The attached notes were taken at a workshop ran in April and will give you a good idea of the subject matter.

The lecture is free and is to be held on October 13th 1994 at 7.30pm at 3-4 Wellington Terrace, Turnpike Lane, London N8 0PX.

.....  
Medical lecture 13th October 1994.

7.30pm

I/we will/will not be able to attend the lecture. Our company is .....  
and we will be sending .....staff.

Any specific questions .....

.....  
.....  
.....

## FORMALISING HEALTH CODES FOR THE PASSENGERS AND DRIVERS OF OVERLAND TRIPS

Notes taken from talk and workshop given by Dr Larry Goodyer on 27th April 1994.

As the growth of overland trips increases, so it becomes more important to formalise health policies for the companies organising trips for their passengers and drivers. Companies attending the workshops and talks were encouraged to discuss their particular policies and the areas which had not been covered or needed to be clarified.

The main headings in these notes are:

1. Pre-departure notes - advice and suggestions to passengers
2. Truck and personal hygiene
3. Suggested medical kits for trucks and passengers
4. Driver policy when a passenger falls sick

### *PRE DEPARTURE NOTES - ADVICE AND SUGGESTIONS TO PASSENGERS*

Passengers' main pre-departure health worries are the diseases they have heard about such as sleeping sickness, river blindness, elephantitis, malaria and others. This can be put into perspective by passengers understanding the main ways of catching diseases and how to avoid them.

Diseases are transmitted in three ways:

1. Ingestion
2. Biting
3. Diseases of contact

This gives a clue on how to avoid most diseases -

1. Be careful of what you eat and drink
2. Don't get bitten
3. Be aware of what you are coming into contact with, particularly areas with an epidemic

For many tropical diseases, it would be necessary for a healthy person to live in an area where the disease was endemic for quite a long time before there was enough of one particular parasite in the body, for the disease to become apparent. As most passengers are away for a limited time only and move from one place to another, this again reduces their chances of suffering the long term consequences of many tropical diseases. Most tropical diseases can be diagnosed and treated in England on return. However, occasionally a traveller may have an acute reaction to a particular parasite and become ill quite quickly.

In addition, malaria should be treated as a serious medical emergency whenever suspected, as will be discussed later.

It is important that vaccination and malaria prophylaxis information and recommendations are given in pre-departure advice and keep this information up to date, particularly on specific advice. Please do not hesitate to telephone regularly to update your information.

Many passengers ask if it is safe to swim in water infected with bilharzia. In this situation there is a risk, particularly with many repeat swimminings in infested water. Certainly it is worth advising passengers of the risk, however, treatment in the UK is available.

The most common illnesses in travellers are gut infections. Gut infections are very uncomfortable but not usually life threatening in healthy adults - even salmonella or cholera. Rehydration is the key (see *Medical Kits*). Dysentery can affect the liver if it is left untreated or not treated adequately. However, occasionally travellers react badly to a particular parasite, and can become ill very quickly.

In general it is best to advise passengers to seek specialist medical advice on returning to the U.K. if they are ill in any way or have been treated overseas.

It is worth advising passengers with chronic illnesses to take medication with them, as treatments abroad can be in short supply, out of date or listed under a different name.

### **TRUCK & PERSONAL HYGIENE**

High standards of personal and truck hygiene will reduce the amount of illness significantly. The organisation and responsibility for this must lay with the field staff. Out of the discussions, some drivers delegated the different areas to passengers, other drivers took total responsibility themselves. Either way, the final responsibility is with the driver. (*Leaflet available for passengers or drivers - A Brief Guide to Healthy Travelling*).

The main areas of hygiene are:

1. Water and water purification
2. Food preparation
3. Prevention of malaria and other diseases transmitted by biting insects
4. Treatment of cuts and grazes
5. General tips

### **WATER & WATER PURIFICATION**

A water purification method should be selected and followed rigorously. The driver should be educated to exactly what standard to maintain and exactly how to maintain it. (*Please ask for information leaflet 'Understanding Water Purification and Choosing your Method'*). Drivers also need to ensure passengers take purified water with them when leaving the truck, or have a method of purifying water, or can ensure there is a supply of clean, in date bottled water available to buy.

Water out of ground wells may be clean, however, as there is no way of testing it, the simplest method is to instruct your field staff to treat it as suspect and purify it.

### **FOOD PREPARATION**

Very vigorous standards of hygiene need to be maintained around the preparation of food. Some simple rules for field staff to follow are:

1. Person(s) preparing food must not have diarrhoea
2. Person(s) preparing food must wash hands with soap and water thoroughly - it is worth keeping finger nails short as dirt can be caught underneath
3. Preparation surfaces must be scrubbed with bleach or detergent
4. Fruit and vegetables should be scrubbed and soaked in treated water.
5. Food should be well cooked and hot.

### **PREVENTION OF MALARIA AND OTHER DISEASES TRANSMITTED BY BITING INSECTS**

MALARIA - over 2,000 people returned to the UK with malaria in 1992 contracted whilst travelling abroad, of which 13 died on their return to this country. The following is a summary of how you can help your passengers avoid this and other diseases caught from biting insects.



Avoiding being bitten is the first form of defence. Your drivers are an important key with this. The same points are worth giving directly to passengers in pre-departure information.

1. Instruct your drivers to ensure everyone takes their anti-malarials at the same time each day or week
2. " " " " to encourage passengers to use insect repellents on themselves
3. " " " " make sure nets and tents are treated with a contact killer
4. " " " " encourage passengers to cover as much skin as possible immediately the sun goes down
4. " " " " watch out for early malaria symptoms

*Please see notes on 'Driver policy when a passenger falls sick'.*

#### TREATMENTS OF CUTS & GRAZES

Many trucks have a daily 'cuts and grazes' check. In tropical climates the smallest untreated cut or graze can rapidly lead to a tropical ulcer. Therefore, our recommendations are to check for cuts and grazes and treat immediately. Clean with soap and water, treat with iodine based antiseptic and cover. Passengers should have sufficient treatments in their personal medical kit to cover this. (See 'Suggested Medical Kits for Trucks and Passengers').

#### GENERAL TIPS

It is recommended that shoes are worn on beaches to avoid creeping eruptions and in the bush to avoid bites from chiggers.

Carry truck or personal eating implements when leaving the truck.

Wash hands regularly - particularly after using the toilet.

#### SUGGESTED MEDICAL KITS FOR TRUCKS AND PASSENGERS

There are certain items on a trip that are used most regularly. Other items are only used on occasions. Obviously, it would increase truck costs to provide every single plaster, paracetamol or rehydration sachet, so these items are best supplied by the passenger. The area of dilemma are antibiotics. A number of people are allergic to different types which raises the question of administering these drugs without professional help. Also, it would be very expensive to carry a large collection.

Some companies recommend passengers obtain their own antibiotics from their own doctor, although some doctors are very unwilling to do this. Other companies carry 'broad spectrum' antibiotics which are administered by field staff. The main side effect of antibiotics is a severe allergic reaction which can lead to death. It is always best to keep use to a minimum.

Should you choose to ask your passengers to provide their own antibiotics, ask at Nomad how these can be obtained through a private doctor if their own G.P. is unwilling to prescribe.

If the truck kit is responsible for antibiotics, it is worth asking passengers to provide a list of known allergies/reactions and other useful information from their doctor.

Most companies ask their passengers to provide their own anti-malarial treatments due to the high cost. However, it is important to carry treatment for malaria and as the most expensive drug Halfan is not used as much, it is not very expensive to have sufficient of the alternatives (e.g. Quinine and Fansidar or tetracycline).

Attached is a suggested truck kit list plus a list of items your passengers can carry to compliment the truck kit. Both these lists are a starting point - please do not hesitate to call the pharmacy should you need any help.

It is very important one person is responsible for keeping the truck kit neat, tidy and in the right packaging. Some trucks appoint a medical officer for this reason.

#### ESSENTIAL TREATMENTS FOR A TRUCK KIT

Rehydration	Antibiotics
First aid/dressing	Pain killers
Anti-nausea	Sterile equipment
Anti histamine	Fungal skin treatment
Indigestion	Laxative
Eye treatments	Antiseptics
Magnesium sulphate	Ear treatments
Malaria treatment	

Injectables - depends on whether you have a doctor on board as to how useful they would be

Other items to consider are:

- Insect repellents
- Thermometer
- Instruction book

Nomad Pharmacy truck kits covering a few treatments for each area would cost approximately £300 per kit with injectables and about £250 without.

#### SUGGESTED TREATMENTS FOR PASSENGERS TO CARRY

Painkillers	Fungal infection powder
Rehydration sachets/effervescent tabs	Stick on stitches
Wound dressing	Diarrhoea blocker
Non stick dressings	Assorted plasters
Tape (for holding dressings)	Hydrocortisone cream (itchy rashes)
Bandage	Antiseptic
Alcohol wipes	Colton wool
Fungal infection cream	

#### DRIVER POLICY WHEN A PASSENGER FALLS SICK

This is a very difficult area. What happens if a driver mis-diagnoses and mis-treats a passenger - who is responsible? The company or the driver? Drivers are not covered by medical insurance (unless they are doctors). As already discussed, the consequences of giving out the wrong treatment, or having an allergic reaction to drugs is a serious worry.

Ultimately if anything went wrong the passenger would hold the company responsible and not the driver. However, if you have documentation that the driver has read and signed and the driver goes outside the guidelines, than at least in court you would have some fall back.

Our recommendations would be to avoid diagnosis and treatment unless there is a qualified person, as mis diagnosis and treatment is potentially very dangerous in it's own right, unless malaria is suspected. Any symptoms which could be malarial, should be treated as malaria immediately. The risk of death

from malaria is higher than the risk of an allergic reaction to the drugs. However, you may wish to cover yourselves by stating in pre-departure notes, that treatment will take place of malaria or suspected malaria and passengers must inform you of any known allergic reaction to the relevant drugs.

So, it is necessary to state exactly what areas you expect your drivers to deal with and which areas will have to wait until arrival at a medical centre, or professional help becomes available.

## FIRST AID

We strongly recommend field staff undertake a recognised first aid course - at a minimum the subjects covered by a basic St John's first aid course, which must include cardio pulmonary resuscitation (CPR).

## DISEASES

Tropical diseases are very difficult to diagnose. Many need blood or stool samples to make positive identification and often, symptoms are similar for very different diseases. The potential killer is malaria. Death can occur within 24 hours of the first symptom. Therefore, the treatment of this disease needs to be immediate and cannot wait for professional help. Symptoms occur from two weeks upto one year after contracting the disease.

Drivers should question whether any illness is potentially malaria.

You can ask passengers to carry their own malaria treatment kit, or, as with most companies, treatment is kept in the truck kit.

Early malaria symptoms may include one or more of the following:

Diarrhoea  
chills  
sweating

Treatment should commence immediately - please ask pharmacy for upto date drug regimes.

### DIARRHOEA (*Leaflet available - 'Travellers Diarrhoea'*)

The most important treatment for any diarrhoea is rehydration. This is easy to undertake by either using ready prepared sachets of Dioralyte or Rehydral, or making up your own solution of salt and sugar. Prepared sachets have added minerals. If a passenger has diarrhoea with blood in stools persistently over one or two weeks, it is possible that it is dysentery requiring antibiotics for treatment. Unfortunately, without testing a stool sample it is difficult to know exactly which antibiotic to give, but treatment could be indicated according to symptoms.

### TROPICAL ULCERS - *Leaflet available.*

This is a very brief summary of illnesses your field staff may encounter. Should you require specific advice on a particular illness, please contact the pharmacy.

## LEAFLETS AVAILABLE

1. Brief Guide to Healthy Travelling
2. Understanding Water Purification
3. Traveller's Diarrhoea
4. Tropical Ulcers

### RECOMMENDED BOOKS

1. Where There is No Doctor
2. Traveller's Health - How To Stay Healthy Abroad by  
Dr Richard Dawood
3. First Aid Guide

### CHECK LIST OF POINTS FOR POLICY MAKING

#### PRE DEPARTURE NOTES

- Three ways of transmitting disease.....
- Disease in perspective.....
- Vaccination requirements.....
- Malaria prophylaxis requirements.....
- Swimming in Bilharzia infested water.....
- Medication for chronic illness.....
- Bite avoidance.....

#### TRUCK & PERSONAL HYGEINE

- Delegation of responsibilities.....
- Water and water purification.....
- Food preparation.....
- Prevention of disease by biting insects.....
- Treatment of cuts and grazes.....
- General tips.....

#### SUGGESTED MEDICAL KITS FOR TRUCKS AND PASSENGERS

- Carrying anti biotics.....
- Making a truck kit.....
- Passenger personal medical kit.....

#### DRIVER POLICY WHEN A PASSENGER FALLS SICK

- Policy for diagnosis and treatment.....
- First aid courses.....
- Wound management.....
- Treatment of malaria.....

*Please do not hesitate to contact the Nomad Pharmacy if you have any queries or need any medical advice.*

*Nomad cannot be held responsible for any omissions in this report.*

## 5.4 Antiprotozoal drugs

- 5.4.1 Antimalarials  
 5.4.2 Amoebicides  
 5.4.3 Trichomonocides  
 5.4.4 Antigiardial drugs  
 5.4.5 Leshmaniacides  
 5.4.6 Trypanocides  
 5.4.7 Drugs for toxoplasmosis  
 5.4.8 Drugs for pneumocystis pneumonia

Advice on specific problems available from:

Recorded advice	0891 600350 (travel prophylaxis)
Birmingham	021-766 6611
Glasgow	041-946 7120
Liverpool	051-708 9393
London	071-387 4411 (treatment) 071-657 9899 (travel prophylaxis) 071-636 8636 (travel prophylaxis) (0865) 23214
Oxford	

### 5.4.1 Antimalarials

Recommendations on the prophylaxis and treatment of malaria reflect guidelines agreed by UK malaria specialists.

The centres listed above should be consulted for advice on special problems.

### TREATMENT OF MALARIA

If the infective species is not known or if the infection is mixed initial treatment should be with quinine, mefloquine, or halofantrine as for *falciparum malaria*.

### FALCIPARUM MALARIA (TREATMENT)

Falciparum malaria (malignant malaria) is caused by *Plasmodium falciparum*. In most parts of the world *P. falciparum* is now resistant to chloroquine which should not therefore be given for treatment.

Quinine, mefloquine, or halofantrine can be given by mouth if the patient can swallow tablets and there are no serious manifestations (e.g. impaired consciousness); quinine should be given by intravenous infusion (see below) if the patient is seriously ill or unable to take tablets.

The adult dosage regimen for quinine by mouth is:  
 600 mg (of quinine salt) every 8 hours for 7 days and (if quinine resistance known or suspected) either followed by Fansidar® 3 tablets as a single dose or (if Fansidar®-resistant) followed by tetracycline 250 mg every 6 hours for 7 days when renal function has returned to normal.

Alternatively mefloquine or halofantrine may be given instead of quinine.

The adult dosage regimen for mefloquine by mouth is:  
 20 mg/kg (of mefloquine base) as a single dose (up to maximum 1.5 g) or preferably as 2 divided doses 6-8 hours apart.

The adult dosage regimen for halofantrine by mouth is:

1.5 g of halofantrine hydrochloride divided into three doses of 500 mg given at intervals of 6 hours; this course should be repeated after an interval of 1 week.

It is not necessary to give Fansidar® or tetracycline after mefloquine or halofantrine treatment.

If the patient is seriously ill, quinine should be given by intravenous infusion. The adult dosage regimen for quinine by infusion is:

loading dose of 20 mg/kg\* (up to maximum 1.4 g) of quinine salt\* infused over 4 hours then after 8-12 hours maintenance dose of 10 mg/kg\* (up to maximum 700 mg) of quinine salt\* infused over 4 hours every 8-12 hours (until patient can swallow tablets to complete the 7-day course) either followed by Fansidar® or (when renal function has returned to normal) tetracycline as above.

### CHILDREN

Oral Quinine is well tolerated by children although the salts are bitter. The dosage regimen for quinine by mouth for children is:

10 mg/kg (of quinine salt) every 8 hours for 7 days then (if quinine resistance known or suspected) Fansidar® as a single dose: up to 4 years 1 tablet, 5-6 years 1 tablet, 7-9 years 1½ tablets, 10-14 years 2 tablets.

Alternatively mefloquine or halofantrine may be given instead of quinine; it is not necessary to give Fansidar® after mefloquine or halofantrine treatment. The dosage regimen for mefloquine by mouth for children is calculated on a mg/kg basis as for adults (see above). The dosage regimen for halofantrine by mouth for children over 37 kg is

1. For chloroquine-sensitive strains of falciparum malaria chloroquine is effective by mouth in the dosage schedule outlined under benign malaria but it should not be used unless there is an unambiguous exposure history in one of the few remaining areas of chloroquine sensitivity.

If the patient with a chloroquine-sensitive infection is seriously ill, chloroquine is given by continuous intravenous infusion. The dosage (for adults and children) is chloroquine 10 mg/kg (of base) infused over 8 hours, followed by three 8-hour infusions of 5 mg/kg (of base) each. Oral therapy is started as soon as possible to complete the course; the total cumulative dose for the course should be 25 mg/kg of base.

2. Valid for quinine hydrochloride, dihydrochloride, and sulphate, not valid for quinine bisulphate which contains a correspondingly smaller amount of quinine.

3. In intensive care units the loading dose can alternatively be given as quinine salt 7 mg/kg infused over 30 minutes followed immediately by 10 mg/kg over 4 hours then (after 8 hours) maintenance dose as described.

4. Important: the loading dose of 20 mg/kg should not be used if the patient has received quinine (or quinine) or mefloquine or possibly halofantrine during the previous 24 hours

5. Maintenance dose should be reduced to 5-7 mg/kg of salt if parenteral treatment is required for more than 48 hours.

the same as for adults (see above); the dosage regimen for halofantrine for smaller children is reduced as follows:

weight under 23 kg, no suitable dose form;  
 weight 23-31 kg, 3 doses of 250 mg at intervals of 6 hours;  
 weight 32-37 kg, 3 doses of 375 mg at intervals of 6 hours.

This course of halofantrine should be repeated after an interval of 1 week.

Parenteral. The dosage regimen for quinine by intravenous infusion for children is calculated on a mg/kg basis as for adults (see above).

PREGNANCY. Falciparum malaria is particularly dangerous in pregnancy, especially in the last trimester. The adult treatment doses of oral and intravenous quinine given above (including the loading dose) are safe in pregnant women. Halofantrine is contra-indicated in pregnancy and tetracycline should be avoided (causes dental discoloration); Fansidar® and mefloquine are also best avoided until more information is available.

### BENIGN MALARIAS (TREATMENT)

Benign malaria is usually caused by *Plasmodium vivax* and less commonly by *P. ovale* and *P. malariae*. Chloroquine\* is the drug of choice for the treatment of benign malaria.

The adult dosage regimen for chloroquine by mouth is:  
 initial dose of 600 mg (of base) then a single dose of 300 mg after 6 to 8 hours then a single dose of 300 mg daily for 2 days (approximate total cumulative dose of 25 mg/kg of base)

Chloroquine alone is adequate for *P. malariae* infections but in the case of *P. vivax* and *P. ovale*, a radical cure (to destroy parasites in the liver and thus prevent relapses) is required. This is achieved with primaquine\* in an adult dosage of 15 mg daily for 14 to 21 days given after the chloroquine; a Chesson-type strain of *P. vivax* from south-east Asia and western Pacific.

Children. The dosage regimen of chloroquine for benign malaria in children is:

initial dose of 10 mg/kg (of base) then a single dose of 5 mg/kg after 6-8 hours then a single dose of 5 mg/kg daily for 2 days. For a radical cure children are then given primaquine\* in a dose of 250 micrograms/kg daily.

Halofantrine and mefloquine are also active in benign malaria but are not required since chloroquine is usually effective.

7. Before starting primaquine the blood should be tested for glucose-6-phosphate dehydrogenase (G6PD) activity as the drug can cause haemolysis in patients who are deficient in the enzyme. If the patient is G6PD deficient primaquine, in a dose for adults of 30 mg once a week (children 500-750 micrograms/kg once a week) for 8 weeks, has been found useful and without undue harmful effects.

### PROPHYLAXIS AGAINST MALARIA

The recommendations on prophylaxis reflect guidelines agreed by UK malaria specialists; the advice is aimed at residents of the UK who travel to endemic areas for short stays. The choice of drug takes account of:

- risk of exposure to malaria;
- extent of drug resistance;
- efficacy of the recommended drugs;
- side-effects of the drugs;
- patient-related criteria (e.g. age, pregnancy, renal or hepatic impairment).

NETS AND REPELLENTS. The most important point to remember is that prophylaxis is relative and not absolute, and that breakthrough can occur with any of the drugs recommended anywhere in the world. Travellers should be warned that personal protection against being bitten (e.g. keep well covered, use mosquito nets, repellents etc.) is very important.

LENGTH OF PROPHYLAXIS. Prophylaxis should be started one week before travel into an endemic area (or if not possible at earliest opportunity up to 1 or 2 days before travel); it should be continued for at least 4 weeks after leaving. Administration of mefloquine should be restricted to a period of 3 months (including the dose 1 week beforehand and 4 weeks after).

RETURN FROM MALARIAL REGION. It is important to be aware that any illness that occurs within 1 year and especially within 3 months of return might be malaria. Travellers should be warned of this and told that if they develop any illness particularly within 3 months of their return they should go immediately to a doctor and specifically mention their exposure to malaria.

Children. The following prophylactic doses are based on guidelines agreed by UK malaria experts and may differ from advice in data sheets. If in doubt telephone centres listed on p. 244.

Age	Fraction of adult dose	
	Chloroquine (kg)	Proguanil Maloprim®
0-5 weeks	1	—
6 weeks-11 months	1	—
1-5 years	1/4	1/4
6-11 years	1/2	1/2
12 years	40	adult dose

Note. Weight is a better guide than age for children over 6 months old. Specialist advice should be obtained for use of Maloprim® in children under 1 year of age. Prophylaxis is restricted in breast-fed infants; although antimalarials are excreted in milk, the amounts are too variable to give reliable protection.

**PREVANCY.** Chloroquine and proguanil may be given in usual doses in areas where *P. falciparum* strains are sensitive; in the case of proguanil, folate supplements should be given. Malaria prophylaxis is contra-indicated in the first trimester; folate supplements should be given if Maloprim® is prescribed in the second and third trimester. Methoquine should also be avoided (see p. 247). The centres listed on p. 244 should be consulted for advice on prophylaxis in resistant areas.

#### SPECIFIC RECOMMENDATIONS

**North Africa and the Middle East**  
(risk: generally low; transmission confined to rural areas and may be seasonal)

chloroquine 300 mg (as base) once weekly

or

proguanil hydrochloride 200 mg once daily

Above recommendations apply to some areas of Turkey (southern coast and border with Syria) and also to Mauritius. No chemoprophylaxis needed for Algeria, Libya, Morocco, Tunisia, or tourist areas of Egypt; both chloroquine and proguanil needed for Afghanistan, Iran, and Oman.

**Sub-Saharan Africa** (includes East, Central and West Africa, north-east corner of South Africa (including Kruger National Park) and also Madagascar) (risk: very high)

chloroquine 300 mg (as base) once weekly  
and  
proguanil hydrochloride 200 mg once daily

Methoquine alone is an option for short-term travellers to Cameroon, Kenya, Malawi, Tanzania, Uganda, Zaire, and Zambia; see Methoquine p. 247 for details of regimen.

**South Asia** (Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka) (risk: variable)

chloroquine 300 mg (as base) once weekly  
and  
proguanil hydrochloride 200 mg once daily

**South-East Asia**  
(risk: varies from very low to substantial)

chloroquine 300 mg (as base) once weekly  
and  
proguanil hydrochloride 200 mg once daily

Methoquine alone is an option for short-term travellers; see Methoquine p. 247 for details of regimen.

No chemoprophylaxis needed for tourist areas and sites

Abbreviations and symbols: see inside front cover

of Brunei, China, Hong Kong, peninsular west Malaysia, Philippines, Sarawak, Singapore, and Thailand (all very low risk).

**Oceania** (Papua New Guinea, Solomon Islands, Vanuatu) (risk: very high)

Maloprim® 1 tablet once weekly  
and  
chloroquine 300 mg (as base) once weekly

Methoquine alone is an option for short-term travellers; see Methoquine p. 247 for details of regimen.

**Latin America**  
(risk: variable to high)

chloroquine 300 mg (as base) once weekly

or

proguanil hydrochloride 200 mg once daily

Used for variable risk areas which include Argentina (a few areas), Belize, rural Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, rural Mexico, Nicaragua, rural Paraguay, and Peru (below 1500 m)

Variable to high risk areas:

chloroquine 300 mg (as base) once weekly  
and  
proguanil hydrochloride 200 mg once daily

Used for variable to high risk areas which include Bolivia (below 2500 m), rural Brazil, Colombia, Ecuador, French Guiana, Guyana, Panama, Suriname, and rural Venezuela.

Methoquine alone is an option for short-term travellers to the Amazonas region of Brazil; see Methoquine (p. 247) for details of regimen.

**TREATMENT COURSES.** Adults travelling to areas of chloroquine-resistance who are unlikely to have easy access to medical care should carry a treatment course. Self-medication should be avoided if medical help is accessible; prophylaxis should be continued during and after the attack. In view of the continuing emergence of resistant strains and of the different regimens required for different areas expert advice should be sought on the best treatment course for an individual patient.

Prices are net, see p. 1

## CHLOROQUINE

**Indications:** chemoprophylaxis and treatment of malaria; rheumatoid arthritis and lupus erythematosus—see section 10.1.3

**Cautions:** hepatic and renal impairment, pregnancy (but for malaria benefit outweighs risk; see Appendix 4, Antimalarials), may exacerbate psoriasis, neurological disorders (especially history of epilepsy), severe gastrointestinal disorders, G6PD deficiency (see section 9.1.5); elderly; ophthalmic examination and long-term therapy; see p. 377; avoid concurrent therapy with hepatotoxic drugs—other interactions: Appendix 1 (chloroquine)

**Side-effects:** gastro-intestinal disturbances, headache, visual disturbances, irreversible retinal damage, corneal opacities, depigmentation or loss of hair, skin reactions; rarely blood disorders (thrombocytopenia, agranulocytosis, and aplastic anaemia), psychosis

**Dose:** see notes above  
**Counselling:** Warn travellers about importance of avoiding mosquito bites, importance of taking prophylaxis regularly, and importance of immediate visit to doctor if ill within 3 months of return. For details, see notes above.

**PM\* Atvicleor® (ICI)**  
**Tablets:** scored, chloroquine phosphate 250 mg (=chloroquine base 153 mg). Net price 20-tablet pack = £70p. Label: 5; counselling, prophylaxis, see above

\* Can be sold to the public provided it is licensed and labelled for the prophylaxis of malaria

**Nvaquine® (Rhône-Poulenc Rorer)**  
**PM\* Tablets:** 1c, yellow, chloroquine sulphate 200 mg (=chloroquine base 150 mg). Net price 28-tablet pack = £1.04. Label: 5; counselling, prophylaxis, see above

\* Can be sold to the public provided it is licensed and labelled for the prophylaxis of malaria

**PM\* Symp.** golden, chloroquine sulphate 68 mg/5 mL (=chloroquine base 50 mg/5 mL). Net price 100 mL = £2.18. Label: 5; counselling, prophylaxis, see above

\* Can be sold to the public provided it is licensed and labelled for the prophylaxis of malaria

**PM Injection,** chloroquine sulphate 54.5 mg/mL (=chloroquine base 40 mg/mL). Net price 5-mL amp = 52p

**PM\* Symp.** golden, chloroquine sulphate 68 mg/5 mL (=chloroquine base 50 mg/5 mL). Net price 100 mL = £2.18. Label: 5; counselling, prophylaxis, see above

**PM\* Injection,** chloroquine sulphate 54.5 mg/mL (=chloroquine base 40 mg/mL). Net price 5-mL amp = 52p

## MEFLOQUINE

**Indications:** chemoprophylaxis and treatment of chloroquine-resistant falciparum malaria, see notes above

**Cautions:** exclude pregnancy before starting chemoprophylaxis (important teratogenic risk) and in renal impairment; avoid frequent or prolonged administration (accumulation occurs due to long half-life); not recommended in young children (under 15 kg); interactions: Appendix 1 (mefloquine)

**Counselling:** May affect performance of skilled tasks

**Contra-indications:** chemoprophylaxis in pregnancy (teratogenic in animals, avoid pregnancy during and for 3 months after), breast-feeding, and history of psychiatric disturbances or convulsions

**Side-effects:** nausea, vomiting, diarrhoea, abdominal pain, anorexia; dizziness and loss of balance; rarely bradycardia, headache, neuro-psychiatric disturbances (discontinue treatment), weakness, paraesthesia, rash, pruritus, and disturbances in liver function tests; crythema multiforme (and Stevens-Johnson syndrome) reported

**Dose:** short-term chemoprophylaxis (up to 3 months), 250 mg each week, starting 1 week before departure and continued for 4 weeks after leaving malarious area; Child 15–19 kg (2–5 years) quarter adult dose, 20–30 kg (6–8 years) half adult dose, 31–45 kg (9–11 years) three-quarters adult dose

Longer chemoprophylaxis (more than 3 months), consult specialist centres  
**Treatment:** see notes above  
**Counselling:** Warn travellers about importance of avoiding mosquito bites, importance of taking prophylaxis regularly, and importance of immediate visit to doctor if ill within 3 months of return. For details, see notes above

**PM Lariam® (Roche)**  
**Tablets:** scored, mefloquine 250 mg (as hydrochloride). Net price 8-tablet pack = £14.53. Label: 21, 25, 27; counselling, prophylaxis, see above

## PRIMAQUINE

**Indications:** eradication of *Plasmodium vivax* and *P. ovale* malaria

**Cautions:** G6PD deficiency (see notes above); systemic diseases associated with granulocytopenia (e.g. rheumatoid arthritis, lupus erythematosus); pregnancy and breast-feeding; interactions: Appendix 1 (primaquine)

**Side-effects:** nausea, vomiting, abdominal pain; less commonly methemoglobinemia, haemolytic anaemia especially in G6PD deficiency

**Dose:** see notes above

**Primaquine**  
**Tablets:** primaquine 7.5 mg (as phosphate) available from Durbin (special order)

Cautions: see notes above

Prices are net, see p. 1

**PROGUANIL HYDROCHLORIDE**

**Indications:** chemoprophylaxis of malaria  
**Cautions:** severe renal impairment; pregnancy (foliate supplements needed); **interactions:** Appendix 1 (proguanil)

**Side-effects:** mild gastric intolerance; occasionally mouth ulcers and stomatitis; skin reaction and hair loss reported

**Dose:** see notes above  
**Counselling:** Warn travellers about importance of avoiding mosquito bites, importance of taking prophylaxis regularly, and importance of immediate visit to doctor if ill within 3 months of return. For details, see notes above.

**Paludrine® (ICI)**

**Tablets:** scored, proguanil hydrochloride 100 mg. Net price 20 = 87p. Label: 21, counselling, prophylaxis, see above

**PYRIMETHAMINE**

**Indications:** malaria (but used only in combination with dapsone or sulphadoxine); toxoplasmosis (section 5.4.7)

**Cautions:** hepatic or renal impairment, foliate supplements in pregnancy, blood counts required with prolonged treatment;  
**Interactions:** Appendix 1 (pyrimethamine)  
**Side-effects:** depression of haematopoiesis with high doses, rashes, insomnia

**Deraprim® (Wellcome)**

**Tablets:** scored, pyrimethamine 25 mg. Net price 30-tablet pack = £2.22  
**Dose:** not recommended alone

**With sulfadoxime**

**ADDITIONAL CAUTIONS:** Severe adverse reactions on long-term use therefore not for prophylaxis; pregnancy (see also Appendix 4) and breast-feeding (see also Appendix 5); **Interactions:** Appendix 1

**PfM Fansidar® (Roche)**

**Tablets:** scored, pyrimethamine 25 mg, sulfadoxime 500 mg. Net price 10-tablet pack = £2.52  
**Dose:** treatment, see notes above  
 Chemoprophylaxis, not recommended by UK experts.

**With dapsone**

**ADDITIONAL CAUTIONS:** G6PD deficiency (see section 9.1.5); pregnancy (see also Appendix 4) and breast-feeding (see also Appendix 5); **Interactions:** Appendix 1

**PfM Maloprim® (Wellcome)**

**Tablets:** scored, pyrimethamine 12.5 mg, dapsone 100 mg. Net price 30-tablet pack = £2.76.  
**Counselling, prophylaxis,** see above

**Dose:** limited use, see Chemoprophylaxis  
**Counselling:** Warn travellers about importance of avoiding mosquito bites, importance of taking prophylaxis regularly, and importance of immediate visit to doctor if ill within 3 months of return. For details, see notes above.

**QUININE**

**Indications:** falciparum malaria; nocturnal leg cramps, see section 10.2.2

**Cautions:** atrial fibrillation, conduction defects, heart block, pregnancy; G6PD deficiency (see section 9.1.5); **interactions:** Appendix 1 (quinine)

**Contra-indications:** haemoglobinuria, optic neuritis

**Side-effects:** cinchonism, including tinnitus, headache, nausea, abdominal pain, rashes, visual disturbances (including temporary blindness), confusion; hypersensitivity reactions including angioedema, blood disorders (including thrombocytopenia and intravascular coagulation), and acute renal failure; hypoglycaemia (especially after parenteral administration); cardiovascular effects (see Cautions)

**Dose:** see notes above  
 Note: Quinine (anhydrous base) 100 mg = quinine bisulphate 169 mg = quinine dihydrochloride 122 mg = quinine hydrochloride 122 mg = quinine sulphate 121 mg. Quinine bisulphate 300-mg tablets are available but provide smaller amounts of quinine than the dihydrochloride, hydrochloride, or sulphate

**PfM Quinine Dihydrochloride Tablets,** quinine dihydrochloride 300 mg. Net price 20 = £2.34

**PfM Quinine Hydrochloride Tablets,** quinine hydrochloride 300 mg. Net price 20 = £1.84

**PfM Quinine Sulphate Tablets,** coated, quinine sulphate 200 mg, net price 20 = 74p; 300 mg, 20 = 65p

**PfM Quinine Dihydrochloride Injection,** quinine dihydrochloride 300 mg/mL. For dilution and use as an infusion, 1- and 2-mL amps  
**Injection** available from Martridale and Fem (both special order) or from specialist centres (see p. 244)  
 Note: Intravenous injection of quinine is so hazardous that it has been superseded by infusion

**5.4.2 Amoebicides**

**Metronidazole** is the drug of choice for acute invasive amoebic dysentery, for it is very effective against vegetative amoebae in ulcers at a dosage of 800 mg three times daily for 5 days; it is also effective against amoebae which may have migrated to the liver. It is given either for 10 days, or for 5 days followed by a 10-day course of diloxanide furate. **Tindazole** is also effective.

**Diloxanide furate** is the drug of choice in chronic intestinal amoebiasis in which only cysts and not vegetative forms of *Entamoeba histolytica* are present in the faeces; metronidazole and tindazole are relatively ineffective. Diloxanide furate is relatively free from toxic effects and the usual course is of 10 days, given alone for chronic infections or following 5 days of metronidazole in acute dysenteric infections.

For amoebic abscesses of the liver metronidazole is effective in doses of 400 mg 3 times daily for 5–10 days; the course may be repeated after 2 weeks if necessary. Aspiration of the abscess is indicated where it is suspected that it may rupture or where there is no improvement after 72 hours of metronidazole; the aspiration may need to be repeated. Aspiration aids penetration of metronidazole and, for abscesses with more than 100 mL of pus, if carried out in conjunction with drug therapy, may reduce the period of disability.

If metronidazole or tindazole are not available emetine may be used but its side-effects are much more marked. Diloxanide is not effective against hepatic amoebiasis, but a 10-day course should be given at the completion of metronidazole or tindazole treatment to destroy any amoebae in the gut.

**DILOXANIDE FURATE**

**Indications:** chronic amoebiasis—see notes

**Side-effects:** flatulence, vomiting, urticaria, pruritus  
**Dose:** 500 mg every 8 hours for 10 days; CHILD 20 mg/kg daily in 3 divided doses.  
 See also notes above

**PfM Furamide® (Boots)**

**Tablets:** scored, diloxanide furate 500 mg. Label: 9

Available only on direct order from Boots

**PfM Entamizole® (Boots)**

**Tablets:** off-white, diloxanide furate 250 mg, metronidazole 200 mg. Label: 4, 9, 21, 25

Available only on direct order from Boots

**Dose:** amoebiasis, 2 tablets 3 times daily for 5 days; CHILD 5–12 years 1-tablet, according to age; for 5 days Treatment may be extended to 10 days in refractory cases; not suitable for prolonged (e.g. prophylactic) use

**METRONIDAZOLE**

**Indications:** see under Dose below; anaerobic infections, section 5.1.11

**Cautions:** **Side-effects:** section 5.1.11  
**Dose:** by mouth, invasive intestinal amoebiasis, 800 mg every 8 hours for 5 days; CHILD 1–3 years 200 mg every 8 hours; 3–7 years 200 mg every 6 hours; 7–10 years 400 mg every 8 hours

Extra-intestinal amoebiasis (including liver abscess) and symptomless amoebic cyst passers, 400–800 mg every 8 hours for 5–10 days; CHILD 100–200 mg every 8 hours; 3–7 years 100–200 mg every 6 hours; 7–10 years 200–400 mg every 8 hours

Urgebral trichomoniasis, 200 mg every 8 hours for 7 days or 400 mg every 12 hours for 7 days, or 800 mg in the morning and 1.2 g at night for 2 days, or 2 g as a single dose; CHILD 1–3 years 50 mg every 8 hours for 7 days; 3–7 years 100 mg every 12 hours; 7–10 years 100 mg every 8 hours

Giardiasis, 2 g daily for 3 days; CHILD 1–3 years 500 mg daily; 3–7 years 600–800 mg daily; 7–10 years 1 g daily

**Preparations**

Sodium metronidazole (Kaia-azar), Section 5.1.11

**TINDAZOLE**

**Indications:** see under Dose below; anaerobic infections, section 5.1.11

**Cautions:** **Side-effects:** section 5.1.11

**Dose:** intestinal amoebiasis, 2 g daily for 2–3 days; CHILD 50–60 mg/kg daily for 3 days  
 Amoebic involvement of liver, 1.5–2 g daily for 3–5 days; CHILD 50–60 mg/kg daily for 5 days  
 Urgebral trichomoniasis and giardiasis, single 2-g dose (repeated once if necessary); CHILD single dose of 50–75 mg/kg

**Preparations**

Section 5.1.11

**5.4.3 Trichomonocides**

**Metronidazole** (section 5.4.2) is the treatment of choice for *Trichomonas vaginalis* infection.

If metronidazole is ineffective, tindazole may be tried; it is usually given as a single 2-g dose, with food. A further 2-g dose may be given if there is no clinical improvement.

Alcohol should be avoided during treatment with both metronidazole and tindazole.

**5.4.4 Antigiardial drugs**

**Metronidazole** (section 5.4.2) is the treatment of choice for *Giardia lamblia* infections, given by mouth in a dosage of 2 g daily for 3 days or 400 mg every 8 hours for 5 days.

Alternative treatments are **tindazole** (section 5.4.2) 2 g as a single dose or **mepacrine hydrochloride** 100 mg every 8 hours for 5–7 days.

**MEPACRINE HYDROCHLORIDE**

**Indications:** giardiasis

**Cautions:** hepatic impairment, elderly, history of psychosis; avoid in psoriasis; **interactions:** Appendix 1 (mepacrine)

**Side-effects:** gastro-intestinal disturbances; dizziness, headache; with large doses nausea, vomiting and occasionally transient acute toxic psychosis and CNS stimulation; on prolonged treatment yellow discoloration of skin and urine, chronic dermatoses (including severe exfoliative dermatitis), hepatitis, aplastic anaemia; also reported blue/black discoloration of palate and nails and corneal deposits with visual disturbances

**Dose:** 100 mg every 8 hours for 5–7 days; CHILD 2 mg/kg every 8 hours

**Mepacrine Hydrochloride**

**Tablets,** mepacrine hydrochloride 100 mg. Label: 4, 9, 14, 21  
 Available from Boots (special order)

**5.4.5 Leishmaniacides**

Cutaneous leishmaniasis frequently heals spontaneously but if skin lesions are extensive or unsightly, treatment is indicated, as it is in visceral leishmaniasis (Kaia-azar).

**Sodium stibogluconate**, an organic pentavalent antimony compound, is the treatment of choice for visceral leishmaniasis. The dose is 20 mg/kg daily (max. 850 mg) for at least 20 days by intramuscular or intravenous injection; the dosage varies with different geographical regions and expert advice should be obtained. Skin lesions are treated for 10 days.

**Pentamidine isethionate** (section 5.4.8) has been used in antimony-resistant visceral leishmaniasis, but although the initial response is often good, the relapse rate is high; it is associated with serious side-effects.