

ABC of Healthy Travel

ERIC WALKER
GLYN WILLIAMS

FIRST AID WHILE ABROAD



The traveller has more episodes of illness than when at home. This increase is due to exposure to organisms not prevalent at home, adjustment to different climates and cultures, and increased trauma of accidental, biting, and stinging varieties. Most of these illnesses are mild and will not require medical consultation, but some will be severe or become chronic.

Travellers often do not know how to seek medical advice while abroad and may be reluctant to do this because of language difficulties, costs, doubts about the quality of service, or remoteness. English speaking doctors are, however, available in most cities (lists are available, see final article), and hotel receptions, tour company couriers, British embassies, and consulates will know where to obtain medical advice. Although an illness may be minor or self limiting it can still cause distressing symptoms amenable to simple treatment. For this reason most travellers carry some drugs and first aid equipment. The extent of any such first aid box will vary both with the worries and the intent of the traveller. We will consider only basic essentials and not discuss the specialist requirements of groups such as those making expeditions to remote areas. We have assumed that severe symptoms would lead to self referral to a doctor.

Illnesses of infective origin

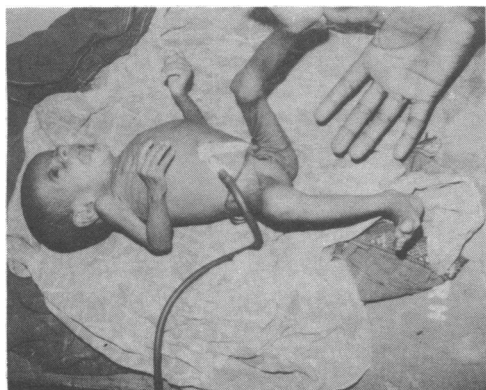
Travellers' diarrhoea

Drugs for prophylaxis

Streptotriad 1-2 tablets twice daily
Doxycycline 1 tablet daily (100 mg)
Co-trimoxazole 2 tablets twice daily

Drugs for treatment

Diphenoxylate with atropine (Lomotil)
Co-trimoxazole

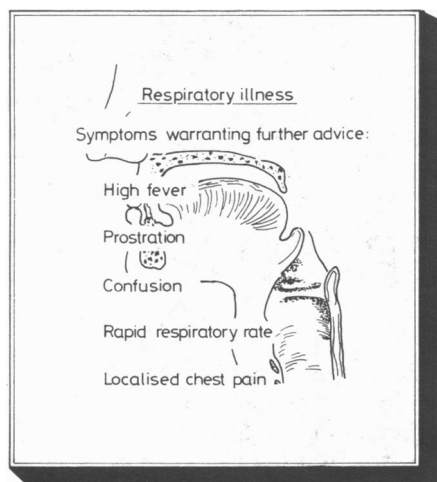


Gastrointestinal illnesses

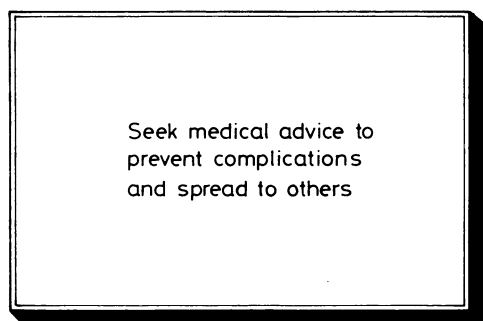
Diarrhoea affects many people travelling from areas with high standards of public hygiene to areas with lower ones. The incidence of travellers' diarrhoea among British travellers is higher in those going to Africa or the Indian subcontinent, for example, than in those going to Mediterranean countries. It occurs within a few weeks of arrival and the commonest cause is enterotoxinogenic *Escherichia coli*. *Shigella*, *Salmonella*, *Campylobacter*, and rotavirus are isolated from a smaller percentage of cases, and a few cases are caused by *Giardia lamblia* and *Entamoeba histolytica*. Some places have their special hazards such as *Vibrio parahaemolyticus* in Japan.

Prophylaxis—Some broad spectrum antibiotics and bismuth subsalicylate are effective in reducing the incidence of travellers' diarrhoea. Antibiotics are not routinely recommended because of their potential for selecting antibiotic resistant bacteria. But antibiotics would benefit those who need to be fit for a short specified period, such as businessmen, entertainers, and athletes, and should be considered for the elderly or infirm. Bismuth subsalicylate is thought to reduce the intestinal secretion induced by toxins and hence is also effective symptomatic treatment. It has become available in Britain (Pepto-bismol) but is bulky to carry in the dose at which it was tested—60 ml four times daily.

Treatment—Patients whose diarrhoea is associated with any of the following symptoms should seek prompt medical advice: prostration, persistent vomiting, high fever, the passage of blood and mucus per rectum, and frequent copious watery stools in the young child. Although there may be some vomiting associated with the onset of diarrhoea in milder illness, this does not usually persist. Essential treatment is the replacement of fluid loss, particularly in the young and elderly. Over a short period even water is satisfactory though a solution containing electrolytes, such as fruit juice, weak soups, or diluted milk, is preferable. A homemade electrolyte preparation can be made from one level teaspoonful of salt and



Sexually transmitted diseases



Illnesses of climatic origin



Sudanina: sweating under sunburn about to peel.

four heaped teaspoonfuls of sugar, dissolved in 1 litre of water. This should not taste salty.

Reduction of stool frequency and associated abdominal discomfort has occurred in adult patients given Lomotil (diphenoxylate with atropine) but this drug should not be given to infants or used routinely in children. It has occasionally increased symptoms in severe shigella dysentery. Both co-trimoxazole and trimethoprim have recently been shown to reduce symptoms considerably when given early in the course of travellers' diarrhoea.

The illness lasts on average three to four days. Chronic symptoms require further evaluation. Immunity to enterotoxinogenic *Escherichia coli* is thought to last about six months, but as the syndrome of travellers' diarrhoea may be caused by many organisms further diarrhoeal episodes are to be expected when staying in high risk areas.

Respiratory illnesses

Respiratory infections are common, particularly in the cooler months. They are usually viral in origin, and mainly affect the upper respiratory tract. They should not be routinely treated with antibiotics. Ephedrine nasal drops will help prevent disturbed sleep in the younger child. Symptoms warranting further advice are high fever, prostration, confusion, rapid respiratory rate, or localised chest pain. If a cough persists tuberculosis should be excluded.

Febrile illnesses

Although there are many serious causes of fever requiring accurate diagnosis and appropriate treatment, brief febrile episodes with mild systemic complaints of headache, anorexia, and malaise occur commonly within the tropics. Most are presumed to be of viral origin, mainly transmitted by biting arthropods. Symptomatic treatment with aspirin is appropriate unless fever is accompanied by severe symptoms or persists for more than two to three days.

Simple precautions like using a barrier contraceptive, washing or douching, and urination after intercourse are firmly recommended but often fail to prevent the spread of sexually transmitted diseases. Whereas sexually transmitted diseases usually present in men with obvious skin lesions, enlarged lymph nodes, or urethral discharges, in women they are usually subclinical or associated with mild symptoms such as vaginal discharge. Medical referral is always recommended in those with symptoms because infections may be multiple or resistant to common treatment regimens. In most tropical countries sexually transmitted diseases are not handled in separate clinics.

Those diagnosed and treated abroad, and women who have had casual sexual affairs should visit their local department of genitourinary medicine on return.

Sunburn—The local skin damage caused by overexposure to the sun's radiation will vary from shortlived local erythema and tenderness to oedema and blistering accompanied by pronounced systemic upset. Further exposure should be avoided until symptoms have settled, remembering that radiation can penetrate thin clothes. Cool showers and calamine ointment provide local relief. Bursting of blisters encourages secondary infection.

Prickly heat (miliaria rubra)—This intensely irritating rash occurs after sweat ducts have been blocked by keratin plugs. Subsequent sweating leads to small vesicles being formed in the sweat ducts which, with further sweat output, rupture into the epidermis, inducing a local inflammatory response. The rash appears as areas of erythema within which are small papules, later becoming vesicles. The initial duct blockage is mainly due to maceration from continuous moistness of the skin and occurs in flexures or where clothes fit closely to the skin, as around the waist. In infants it also occurs on the scalp. Both indigenous and expatriate children are commonly affected in hot, moist climates and secondary staphylococcal sepsis is common.



Prickly heat.

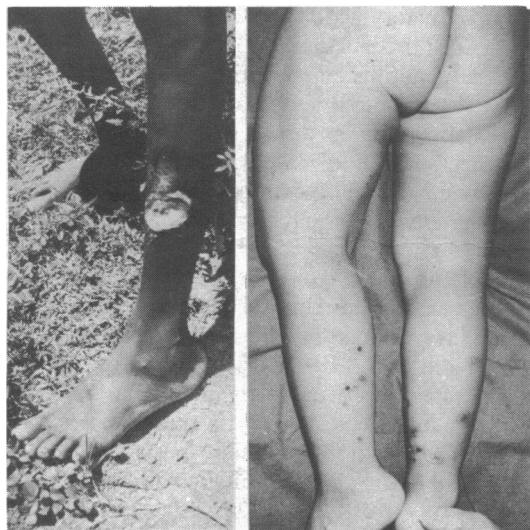


Treatment is aimed at preventing copious sweating by reducing exertion, taking cool showers, dusting with talc and wearing light, loose cotton clothing. Calamine lotion and oral antihistamines help relieve the pruritus. Excessive use of soap is thought to encourage further attacks. Severe attacks may warrant removal to a cooler climate.

Heat exhaustion results from heavy sweating and either inadequate or inappropriate fluid replacement. It is normally a problem for those performing unaccustomed exercise during acclimatisation. There are body deficits of salt and water and the symptoms vary according to which deficit predominates. Both have a relatively slow onset, with increasing malaise, headache, light headedness, and tiredness. Those mainly water deficient complain of thirst if heat exhaustion is mild, but increasing severity leads to clouding of consciousness. Sweating still occurs and there may be slight fever. Signs of dehydration and poor circulating blood volume are present. Rehydration (with water and fruit juice by mouth if the patient is conscious) and cooling lead to rapid recovery. Those mainly salt deficient feel less thirst and remain rational, though suffering more intense lethargy, vomiting, and muscle cramps. Oral rehydration should initially be with salted fluids; one level teaspoonful of salt to 500 ml water is adequate but moderately salty soup or Bovril is more palatable and better tolerated. Salt in fresh lime juice is remarkably refreshing and widely drunk in south east Asia. Further attacks of heat exhaustion will be prevented by less exertion during acclimatisation, adequate fluids, and added salt in meals. Travellers particularly should take plentiful fluids on their journeys. Muscle cramps due to salt deficiency can occur on their own and should be treated and subsequently prevented by adequately salting drinks.

Heatstroke—Should the sweating mechanism fail to cool because the sweat glands are fatigued or damaged, as in those with chronic miliaria, extensive skin disorders, or severe water deficiency, then a rise in body temperature is inevitable, leading eventually to heatstroke. The word stroke implies the suddenness of the collapse although there may have been a short period of irrational and perhaps hyperactive behaviour before. The body temperature is above 40°C, the skin dry, and the patient usually unconscious. Cooling is urgently required, preferably by spraying with cold water and fanning. Excessive cooling is prevented by stopping when the temperature falls to 39°C. Other causes of fever and unconsciousness have to be considered.

Illnesses of traumatic origin



Chronic ulceration (left) should be specifically diagnosed. Right: papular urticaria from bites.

Minor trauma to the skin can be a considerable hazard, especially where hot, moist climates encourage secondary infection and delay healing. All such wounds should be promptly cleaned, painted with a solution such as iodine or mercurochrome, and covered with a dry, aerated dressing or adhesive plaster. Infected wounds should likewise be cleaned and painted unless there is evidence of spreading infection such as a widening area of erythema, enlargement of draining lymph nodes, or systemic complaints. Pus should be allowed to drain freely. *Staphylococcus aureus* and *Streptococcus pyogenes* are the common secondary infecting agents and appropriate antibiotics (see later) should be used if infection is spreading. Chronic ulceration should be specifically diagnosed.

The physical nature of trauma from bites and stings is complicated by the effects of various injected substances leading to an initial local inflammatory or cytotoxic reaction, perhaps with systemic features if severe.

Mosquito and other insect bites commonly cause a pruritic papule when these insects are first encountered. Lesions in women are often more severe with central vesiculation and a wide surrounding zone of erythema. Gradual desensitisation occurs over the first few weeks as further bites occur. Some symptomatic relief may be obtained from oral antihistamines and local calamine ointment if lesions are severe. Although antihistamines are more allergenic when applied topically many find them effective when rubbed immediately on the bite.

Snake bites

- Wipe off excess venom
- Reassure strongly, give alcohol or sedative and adequate analgesia
- If bite on limb put broad bandage, preferably crepe, firmly to whole limb. Do not occlude arterial supply. Do not release.
- Keep patient still while removing him to hospital
- Take snake if already killed, but do not chase
- Observe patient closely for 12 hours

Animal bites and licks

- Wash lesions copiously and thoroughly with soap and water. Apply 40% alcohol (most spirits) or stronger, or iodine. Do not suture immediately
- If owner of domestic animal available, ask whether animal vaccinated and ask to see last vaccination certificate. Exchange addresses and telephone numbers for contacting should animal become unwell in next two weeks
- Seek local medical advice
- Inform local police
- Inform own doctor on return

Bee and wasp stings are best eased by the local use of an icepack once any remnant of the sting of the bee has been removed.

Ticks should also be removed completely with a firm pull and this is made easier after suffocating them for 10-20 minutes by smearing with some grease, such as margarine or vegetable oil, and thus blocking their respiratory spiracles.

Leeches can be pulled off or removed by putting salt, alcohol, or strong vinegar around their mouth or by heating their bodies with a burning cigarette.

Spiders and scorpions—Most bites or stings cause only local irritation but occasionally intense local pain occurs. Analgesics and icepacks give symptomatic relief. Rarely systemic symptoms occur, particularly in the younger patient and further advice should be sought. In some areas some antivenoms are available.

Snakes—Many, if not most bites by venomous snakes cause little or no envenoming but bites by all snake varieties will cause severe fright. Systemic absorption of toxin is usually along the lymphatics and this is slowed by compression with a firmly applied bandage. In vipers severe envenoming is characterised by marked spread of local swelling within one to two hours, accompanied by shock and a haemorrhagic tendency. In elapids, the other main venomous group, severe illness can be expected if shock and neurological signs develop within one hour of the bite. Specific antivenom is usually reserved for those developing systemic symptoms or severe local symptoms.

Sea creatures—If spines are present they should be removed, and relief from the often severe local pain can be achieved by soaking in water as hot as is bearable. Any undischarged nematocysts of jelly fish are neutralised with vinegar or removed with dry sand.

Cats, dogs, and wild animals—In an area endemic for rabies all unprovoked bites or licks should be considered suspect. Immediate cleansing of the wound is important and should be thorough. Vaccination should be given and may be accompanied by antirabies immunoglobulin (preferably human) to the wound site and parenterally, depending on the nature of the lesion, its location and severity, and whether the animal is available for postmortem studies or observation.

First aid box

First aid box

Aspirin	Calamine lotion
Diphenoxylate with atropine (Lomotil)	Tincture of iodine
Promethazine	Oil of cloves
Antibiotic (see text)	Adhesive plasters
Antifungal skin cream	Adhesive tape
Ephedrine nasal drops (for children)	Dry gauze

Prophylactic (if appropriate)

Antimalarials
 Acetazolamide (for altitude sickness)
 Sunscreen, for body and for lips
 Insect repellent
 Water sterilising tablets

Many will have their own opinions on what medications they would carry with them. Considerations will clearly vary with circumstances. Our choice for a trip during which at least some time is spent in remote areas is shown opposite. *Aspirin* can be used for its analgesic, antipyretic, or anti-inflammatory actions. *Promethazine* is antiemetic and particularly used to prevent travel sickness. Its antihistamine action can ease severe irritation or urticarial lesions resulting from bites and it is also useful as a mild sedative. The self-administration of *antibiotics* without medical advice is not to be routinely recommended but it is not difficult to envisage situations where advice is not available for some days and where it would be reasonable to start a course of an antibiotic. We would take either co-trimoxazole or clavulanate-amoxycillin (Augmentin). Both have a similar range of action and would be expected to improve most bacterial tonsillitis, acute otitis media, lower respiratory infections, severe traveller's diarrhoea, urinary tract infections, and skin sepsis. *Oil of cloves* is useful for pain of dental origin when rubbed locally over the area of tenderness.

Dr Eric Walker, MRCP, MRCPGP, and Dr Glyn Williams, MRCP, DMT&H, are lecturers in the university department of infectious diseases, Ruchill Hospital, Glasgow.