THE TRAVELLING ATHLETE

Produced by the
Olympic Medical Institute

in association with
the Exercise Physiology and Nutrition Steering Groups of the British Olympic Association
and Staff from Northwick Park Hospital

The British Olympic Association in 1993 published an advisory document entitled 'The Travelling Athlete' for national governing bodies. A substantial amount of expert knowledge has been acquired since and it is now timely to update the booklet for athletes intending to train and compete abroad.

The booklet is arranged in sections. These suggest how you can cope with climates more extreme than our own. They also give advice on preparation for travel and on general health precautions. Individuals can 'dip' into the booklet and make use of the sections that are relevant to their trip.

The staff at the British Olympic Medical Centre will be happy to give you any further advice or explanations. Their address and fax and telephone numbers are at the end of the booklet.

We hope that this booklet helps you to perform at your best. Have a safe and enjoyable trip.

Further advice is also available in a Department of Health booklet "*Health Advice for Travellers*" available by telephoning 0800 555 777 and on pages 460-464 of CEEFAX (BBC2).

Contents **Page**

BE PREPARED !

PREPARATION FOR TRAVEL

Travelling for competition requires a lot of preparation. If you are travelling as a group make sure that you know which parts of the trip your manager or coach is dealing with and which you should organise. For example, you will be responsible for obtaining a passport if you require one, whereas someone else may be organising the tickets.

Check-list before you go

- Ensure that your passport is up to date. Apply for a new one in good time. You can no longer travel on a visitor's passport. You will need to obtain a full EU Passport.
- Check whether you need a visa. Apply for one in good time. Ask your travel agent for details.
- Check with your doctor if you need any immunisations or anti-malarial tablets.
- Get insurance for both luggage and medical cover. Costs of medical treatment, especially in North America, are very high.
- Have a dental check-up. Toothache will interfere with training, eating and getting sleep; all of which will affect performance. Getting treatment will waste time and can be costly.
- Buy travellers' cheques and some local currency.
- A good back-up is an international debit card, which can be used in international cash-point machines in most countries. Ask at your bank for details of these.
- Make a separate note of the numbers of your passport, travellers' cheques and credit/debit cards, as well as the telephone numbers that you should contact in case of loss. Leave another copy of these at home with someone that you can contact whilst you are away.
- A cheap and convenient way to call home is by using a telephone charge card. The card is free. Calls made from abroad using one will be charged to your next home phone bill.

IF YOU ARE VEGETARIAN
or have other special dietary requirements
remember to tell the airline in advance so that they can provide you with appropriate food.
Telling them at the check-in desk at the airport
IS TOO LATE !

Group travel

- Check travel arrangements, meeting points and times.
- Have a back-up plan if any of you are delayed.
- Try to keep together. Looking for people causes delays and frustration.
- Travelling in uniform can be a great help. Officials are often more willing to help you and smooth the way if there are problems.
- Take something comfortable to change into on a long flight and something warm in case the in-flight temperature drops.

What to take with you

- Equipment and clothing that you compete in.
- Official clothing for opening ceremonies etc. (if applicable).
- Any necessary training equipment.
- Items needed to maintain and clean your equipment.
- Prescribed medications with a note from your doctor.
- Passport.
- Money, travellers' cheques, credit/debit cards and telephone charge cards.
- Contact numbers for lost cards and cheques.
- Name, address and telephone numbers of the place where you are staying or of the people who are meeting you.
- Driving licence (if you are going to have use of a car or hire one). Some countries require an International Driving Licence with your photograph on it. These can be obtained from the AA. Take a passport-sized photograph and your UK driving licence with you. It will cost a few pounds.
- Food, drinks and any nutritional supplements you normally use. Check customs if you are unsure as to what you can take through.
- Water bottles.
- Sunscreen, sunglasses (goggles) and a hat.
- The correct clothing for the climate and the time of year that you are going.

Travelling with equipment

- Make sure that the airline or train company knows that you are bringing large equipment with you.
- Make sure that you have sufficient baggage allowance on all of the aeroplanes you are travelling on to cover your equipment.
- Allow enough time between connections to be able to collect and transport your equipment and deal with customs.
- Pack equipment so that it cannot be damaged. Baggage handlers may throw baggage around.
- Check what the customs regulations are. You do not want to have to pay tax on your equipment even if it is refunded on your return.

TRAVELLING

When travelling carry extra food and drinks with you. If you are travelling by road or rail, food may not be available or may be costly. Aeroplane meals may not be sufficient. Also, a long period in an aeroplane causes you to become dehydrated if you do not drink enough fluid.

Flying

- Allow plenty of time for travel to the airport and for checking in.
- Telephone before to check that the departure is as scheduled. This may save hours of hanging around at airports waiting for flights.
- If a problem arises e.g. flight delay, be positive, and accept the situation. Be prepared to entertain yourself. Take books or magazines in your hand luggage. Travel games and cards can relieve boredom. Hand held computer games are surprisingly time-consuming.
- Do not drink alcohol at the airport or during the flight. This will increase the risk of becoming dehydrated during the flight and afterwards.
- Eat and drink sensibly, taking into account the dehydrating effect of air travel.
- Avoid drinking too much tea, coffee and cola; all of these may increase dehydration as they contain caffeine which is a diuretic.
- Take at least one litre bottle of fluid for drinking during the flight. Ask the cabin staff for extra drinks.
- Eat regularly. Carry some snacks to eat on the plane. Athletes eat more than the average passenger! Try to stick as closely as possible to your normal diet on the plane.
- Have all essential items of medication with you in your hand luggage.
- Take as much as possible of your competition kit (especially shoes) with you in your hand-luggage in case your bags are lost or delayed.
- Carry some comfortable clothing to wear during the flight.
- Ear plugs (available at most high street chemists) can be a great help if you plan on sleeping during your flight.
- If you wear contact lenses, remember to take your lens case/solutions on board in case you wish to sleep. Eyes may become sore on long flights if lenses are not removed.

AIR TRAVEL

Drink water, diluted juices or squash regularly

Get up and stretch occasionally to avoid stiffness and swelling of your legs and feet. Wear shoes that will be comfortable if your feet swell.

JET LAG

Travelling in itself can be very tiring and often sleep is lost. Even if you have not travelled across a large number of time zones, you may be tired the next day. Be prepared to have a few days of low training intensity. Use this time to find your way around the accommodation and the training or competition venues.

Jet lag, which occurs when you have crossed a large number of time zones, is a result of your body's natural rhythms having to adapt to a new cycle of day and night. It may last for some days, depending on the number of time zones crossed. Most people find that it is more severe when travelling towards the east as opposed to westwards. As well as a general feeling of tiredness, the symptoms may include; loss of concentration, loss of appetite, headache, dizziness, nausea and constipation.

If possible arrive in the new time zone well before competition.
To adjust fully, most people should allow up to 1 day for each time zone shift. Readjustment is slightly quicker after westward travel.

MELATONIN STATEMENT

The British Olympic Association Medical Committee advises great caution in the use of drugs such as hypnotics (sleeping pills) or melatonin to help overcome jet lag. Melatonin is not licensed or available in the United Kingdom and sleeping pills are only available on prescription. These drugs have unpredictable effects, including prolonged drowsiness in some individuals and they may even slow adjustment to new time zones.

Only consider using sleeping pills or melatonin if you have used them before and know the effect on you. It is essential that your team doctor and other sports science and medicine support staff, such as team psychologist, are closely involved with your strategy to overcome jet lag as quickly as possible.

How to cope with jet lag

- Adapt to the local time as soon as possible. Alter your watch to the local time on the plane and try not to keep converting it back to "Home" time.
- Prolonged daytime napping (more than 1 hour) in the new location should be avoided for a few days, as this may act to keep you with your old rhythms.
- Adopt local sleep/wake patterns as soon as practical after arrival.
- When crossing a small number of time zones (3-5 hours) train at mid-day or early in the evening after a westward flight. This will help you body to resynchronise.
- to keep you awake. Train in the early evening after an eastward flight: This will help your body clock to adjust in the right direction.
- Take meals at an appropriate time for your new time zone.
- Avoid large meals and caffeine containing beverages late at night as this may disturb your sleep.

YOUR BODY NEEDS ALTERNATING PERIODS OF LIGHT AND DARK TO ADAPT TO THE NEW CYCLE

Stay in daylight or bright artificial light during the day.

Sleep at night.

Avoid prolonged daytime naps

HOT CLIMATES

Your performance may be reduced if you are not used to exercising in the heat. It will be further reduced if you become dehydrated. Exposure to hot conditions will help your body to adapt or acclimatise. **U**ndertake light training for 60 to 100 minutes for the first few days that you are in the heat (or heat chamber). It is important to remember that as you adapt you will sweat more, which will mean that you need to monitor your fluid intake carefully. Humidity levels in indoor sports halls can lead to dehydration even when air conditioned.

Coping with heat

- A minimum of 7 to 10 days heat acclimatisation is advisable before competition.
- If possible try to get access to a heat chamber before going to a hot climate, together with good advice on its use.
- During competition and training be aware of symptoms such as headache, nausea, dizziness and lack of co-ordination. These may be an indication of dehydration or heat stress.
- You may need to modify your warm-up so that you do not overheat. Warm-up in an air-conditioned environment if possible.
- Stay in the shade if possible until immediately before your event.
- Reduce your body temperature after exercise by finding shade or an air-conditioned room.
- Your heart rates for equivalent exercise will be increased until you acclimatise to the heat. You may need to adapt your training to account for this.
- Consult a doctor if you have an illness that could be dehydrating such as a fever, upper respiratory tract infection or diarrhoea and sickness. It may be necessary to reduce or stop training.
- Room temperatures should not be set too low as frequent changes from high to low temperatures may cause upper respiratory problems such as sore throat, cough and runny nose.
- Keep cool at night time so that you sleep well. Do not turn off the air-conditioning. Doing so will not help you to acclimatise.

CARRY DRINKS WITH YOU AT ALL TIMES
You can quickly become dehydrated
if you get stuck somewhere
and cannot get a drink

Protecting yourself from the sun

Remember that you can burn even when it is cloudy. Also be aware that when it is sunny, but also windy, you will feel cooler and not notice that you are burning. Shade provided by hats, trees and awnings provides only partial protection from sunburn so make sure that you continue to use a high protection suncream even in these situations.

- Wearing a sunscreen with a Sun Protection Factor (SPF) of 10 allows you to stay out in the sun ten times longer without burning.
- A sunscreen with a high SPF should be used. Use SPF 15 - 20 if you are fair-skinned, SPF 10-15 if you have normal skin.
- Choose a sunscreen which is not oily, so that sweat does not run into your eyes or make your hands slip if you hold equipment.
- In the southern hemisphere the risk of burning is increased. Use a SPF of 20 and avoid sunbathing. Even with a high SPF, burning can occur 3 times faster than in other hot, sunny areas of the world.
- Sunscreen should be applied 30 minutes before exposure to the sun. This will allow the skin to absorb some of the lotion.
- Sunscreen should be reapplied regularly.
- When not training or competing, cover exposed skin with light clothes and wear a hat.
- Black and dark skin can burn so care should be taken.
- Remember to protect your eyes too, by wearing eye protection with a UV filter.

Care while swimming in intense sun

- Sun reflects off water and will increase your chances of burning. Take care while in, on or beside water.
- Reapply sunscreen after a swim, even if the manufacturers claim that their product is waterproof.
- Have a T-shirt ready at the side to put on as soon as you get out of the water.
- When you are beside water, wear sunscreen and sunglasses to counteract the reflection of the sun from the water. Wear a hat.
- Swimmers: when training or competing outside wear reflector goggles

AVOID SUNBURN

Even a mild reddening of the skin can be uncomfortable and reduce acclimatisation and may impair temperature regulation for several days

DEHYDRATION

The likelihood of dehydration increases when heat is combined with high humidity. The major way that the body cools itself is by the evaporation of sweat. When the humidity is high, less sweat will evaporate so the body temperature rises. In an effort to cool, the body will sweat more which can quickly lead to dehydration. Dehydration may reduce your performance. If you are thirsty you are already dehydrated.

As water is lost from your body you lose weight

1 kg weight loss = 1 litre of water loss

This should be replaced with about 1½ times the quantity of fluid lost (to allow for kidney function).

3 SIMPLE CHECKS
TO SEE IF YOU ARE BECOMING DEHYDRATED

CHECK 1 Look at your urine colour compared to at home. It should be the same colour	**ACTION** If you are dehydrated it will be darker and you will pass less urine. If this is the case increase your volume of fluid and/or drink more often.
CHECK 2 Weigh yourself each morning.	Check that you are not progressively losing weight. This could be dehydration. If it is due to dehydration drink more.
CHECK 3 Check during training and competition how much water you are losing as sweat. Weigh yourself immediately before and after exercise. Do this without clothes both times, or change into dry kit. Do not weigh yourself wearing sweat-drenched clothes. This will not show your water loss.	A decrease in weight indicates how much water you have lost from your body as sweat. Replace this loss with about 1½ litres of fluid for every 1 kg of weight lost. Drink this amount after competition.

Avoiding Dehydration

- Begin all training and competition hydrated. Drink throughout, if your activity allows.
- In conditions of high heat and humidity make an effort to drink enough fluid. This may mean drinking more than double your normal amount.
- Replace any weight loss that you note in the morning or after exercise by drinking more.
- Assess how much weight you generally lose during exercise and drink this amount of fluid several hours beforehand.
- Make sure you drink half to one litre of fluid 30-60 minutes before you exercise to help avoid dehydration.
- Extra drinks should be taken with every meal. Regardless of whether you feel thirsty or not, it is a good idea to drink at least half a litre of water, diluted fruit juice or squash at the end of each meal.
- Before going to bed place at least one drinks bottle beside your bed to drink from at night. However, it is best to drink regularly through the day. Drinking too much before bed may result in interrupted sleep.
- Using drinks designed to replace fluids and electrolytes can help you to remain hydrated, especially as water loss through sweat increases.
- Before competition in the heat, determine during training how much you need to drink before, during and after exercise in order to prevent dehydration.
- When consuming extra fluid to avoid dehydration be aware of the number of calories in your drink. It may need to be diluted when you are using it for rehydration rather than carbohydrate replacement so that you do not take in excessive calories.

If you are unsure on

HOW MUCH TO DRINK

or

WHICH DRINKS OR STRENGTH OF DRINKS TO USE

consult your coach

and ~~a~~ seek advice from a

SPORTS DIETITIAN OR SPORTS NUTRITIONIST

ALTITUDE

The oxygen composition of the air is the same all over the world, but at altitude the pressure is lowered. This reduction in pressure has little effect on someone who is resting, but greatly affects people when they start to exercise. This applies especially above altitudes of 2000 metres (about 6000 feet), although you may notice a difference above 1800 metres and your performance and/or ability to train can even be affected at 1500 metres.

The reduction in performance at altitude is greater in endurance sports which require more oxygen, than in events that require power e.g. weight-lifting. The maximum rate at which the body can use oxygen (the VO_2 max) decreases with altitude and endurance is impaired. Both will improve with acclimatisation over a period of 2 to 3 weeks. At first you may suffer from tiredness as you exercise, headaches and occasionally a feeling of nausea and difficulty in sleeping. These will pass as you acclimatise to the higher altitude.

On subsequent visits to altitude you may acclimatise faster. However, adaptation varies between individuals and whilst some athletes will adapt quickly others may not.

At altitude

You will easily become tired if you attempt your normal training programme.

Coping with altitude

- You should be fit and healthy prior to visiting altitude.
- Training intensity should be reduced.
- Have longer rests and recovery periods.
- Too great a volume or intensity of training will result in symptoms of overtraining; such as headache, loss of appetite, inability to sleep, general fatigue, and aching muscles and joints.
- Try to get plenty of sleep.
- Activity at altitude uses more muscle glycogen than the same activity at sea level. Make sure that you are eating plenty of carbohydrate-rich foods.
- Protect yourself from the sun which will be more intense than at sea level. (See section on 'Protecting yourself from the sun' for advice).
- You may become more dehydrated at altitude so ensure an adequate fluid intake. (See section on 'Dehydration' for advice).
- Eat more iron-rich foods before going to altitude. Iron supplements can cause constipation, so do not take iron tablets unless advised by your GP, sports dietitian or nutritionist
- A blood sample is recommended 2 months before the trip to check iron stores. If these are low, your doctor may advise taking iron

supplements, and a further sample is then recommended 2 weeks before departure. If iron stores are still low, it would be best not to go.

COLD CLIMATES

Exercise performance is reduced when the body is cold. The maximum rate at which the body can use oxygen (VO_2max) is reduced. Also lactic acid will appear in the blood at lower levels of activity. Both of these will reduce performance.

Improving performance in the cold

- Several layers of thin clothing are better than one thick one. This will insulate you better from the cold and layers can be removed as you get warm.
- Choose your clothing relative to the intensity of exercise. It is better at the beginning to feel slightly cold as you will quickly overheat if overdressed.
- Try to select the correct clothing to avoid sweating. Damp clothing will increase the rate at which heat is lost from the body.
- Avoid alcohol as this dilates the blood vessels which will increase the rate of heat loss.
- You will use more energy exercising in the cold than normal. Plan a snack every 2 hours when training or competing in the cold.

Exercising in the snow

- The hands and feet should be well protected to prevent chilblains or in extreme cases, frostbite.
- Hypothermia is an extreme condition, but signs of vagueness and lethargy should be watched for in fellow athletes if they are very cold.
- Protect eyes from the wind. Cold wind can freeze the surface cells of the eye.
- Appropriate eye protection should be worn to safeguard the eyes against light reflected from the snow. Use good sunglasses or goggles.
- Sun at altitude and sun reflected off snow will burn the skin quickly. Follow the precautions listed in the section on 'Protecting Yourself from the Sun'.

Read the sections on
ALTITUDE, DEHYDRATION AND
PROTECTING YOURSELF FROM THE SUN

ILLNESS

Immunisation

- When travelling abroad always check with a travel clinic if you need specific vaccinations.
- All athletes travelling abroad should have a Hepatitis A vaccine. You can now have one vaccination of Havrix monodose which will protect you for 10 years if you have a booster 6 months later. Check with a travel clinic or doctor about this.
- Have vaccinations as long as possible before competing, as some vaccinations can have adverse side effects.
- Find out if you need anti-malarial tablets. Check well in advance as the course has to be started before you go. Remember to continue to take them for 4 weeks after you get back home. You may develop malaria after your return if you do not.

General health precautions

- Athletes with a fever, higher than normal heart rate at rest, severe muscle aches and pains or a chest infection should not compete.
- If you have an illness which is chronic (e.g. asthma) or prolonged (e.g. glandular fever) make sure that your training is appropriate, you are clear about the treatment and follow your doctor's advice.
- Be careful that you do not become dehydrated if you have diarrhoea or have been vomiting.
- Athlete's foot should be dealt with quickly. It can lead to severe infections if left untreated.
- To help prevent catching infectious diseases never share toothbrushes or razors.
- To reduce the risk of catching HIV or other sexually transmitted diseases, always practice 'safe sex'.

DO YOU NEED
VACCINATIONS OR ANTI-MALARIAL TABLETS?
Check well in advance

Some vaccines require a course of injections over a number of weeks. Anti-malarial tablets have to be taken in advance of entering the country where they are needed and continued for 4 weeks on leaving it.

Avoiding food poisoning

Some countries do not have very good sanitation or clean water supplies. If you suspect this is the case then follow the guidelines below.

- Do not eat food from stalls on the street or in markets. The hygiene may not be good. Also the food may not be properly cooked and may make you ill.
- Eat in places well-known or recommended by reliable people.
- Where possible choose food that has been well cooked. It should be hot too.
- Avoid re-heated food.
- Do not eat ice-cream in hot countries where the refrigeration may be suspect.
- Do not drink the tap water. Stick to bottled water. Check that the seal on the cap is intact, as some places refill the bottles with tap water.
- Remember to use bottled water to clean your teeth.
- Keep water out of your mouth when showering, washing your face and shaving.
- Be wary of salads and raw vegetables they may have been washed with contaminated water.
- Peel fruits.
- Do not have ice in drinks. This may be made from contaminated water.
- Avoid spicy foods unless you are used to them.
- Avoid seafood as it may have lived in contaminated water.
- Avoid unpasteurised foods.
- Avoid foods you do not normally eat.

WHEN IN DOUBT

DON'T TAKE RISKS !

GUIDANCE FOR SUPPORT STAFF

Remember that your health and recovery are vital to the success of your team, so it is just as important for you to follow the advice in *The Travelling Athlete* on travel and speeding adjustment to new time zones as it is for competing athletes. You should consider travelling out before the main team departs in order to adjust and recover before the arrival of your athletes.

- Get fit and as near to your ideal weight as possible. If in doubt how to do this, refer to the BOMC or to the position statement of the American College of Sports Medicine* for advice. If you have any medical condition that could be dangerous or might interfere with your performance, such as heart or lung disease or are on any regular medication, you must discuss this with your team doctor or the BOA's Chief Medical Officer.

- The physiological challenge of travel, including adjustment to heat, altitude and general travel fatigue as well as jet lag and crossing time zones, is greater in those who are older and less fit.

- Read and use the *Well-Being in the Air* programme on British Airways. This gives sensible advice on light eating, rehydration, relaxation, stretching and gentle exercise. Heed the advice in The Travelling Athlete on sleeping pills, melatonin and alcohol.

- There may be an increased risk of deep vein thrombosis (DVT) and subsequent pulmonary embolus after long haul flights. If you are on hormonal treatment, such as the oral contraceptive pill or HRT, there is an increased risk of DVT. Regular stretching and exercise will reduce this risk. Follow the advice in the *Well-Being in the Air*, particularly exercising your calves by moving your feet up and down. A paediatric aspirin (75mg) may also reduce the risk but should not be taken if you have a history of stomach ulcers and medical advice should be sought if you have a history of asthma.

* Position statement of the American College of Sports Medicine in Med Sci Sports Exerc 1998 30:975-991 "The recommended quantity and quality of exercise for developing and maintaining cardio-respiratory and muscular fitness and flexibility in healthy adults".

ACKNOWLEDGEMENTS

We acknowledge the substantial contribution made by the following individuals:-

Olympic Medical Institute

Dr Richard Budgett, Richard Godfrey, Paul Davies, Rachel Ramsay and Steve Ingham.

Northwick Park Hospital

Professor Geoffrey Pasvol, Department of Infection and Tropical Diseases.

Members of the BOA Acclimatisation Working Party

Dr Richard Budgett, BOMC; Lynn Booth, Chairman of the BOA Physiotherapy Committee; Professor Ron Maughan, University of Aberdeen; Professor Tom Reilly, Liverpool John Moores University; Mr Brian Miller, BOA Consultant Psychologist, Mr Nick Fellows, BOMC; Mr Richard Godfrey, BOMC; Mr Malcolm Arnold, British Athletics Coach; Mr Kevin Hickey, BOA; Mr Richard Simmons, BOA; Mr David Flower, British Airways.

Members of the BOA Exercise Physiology Steering Group

Professor Tom Reilly, Liverpool John Moores University; Greg Whyte, University of Wolverhampton; Professor Neil Spurway, University of Glasgow; Professor Tudor Hale, University of West Sussex; Professor Colin Boreham, University of Ulster; Dr Richard Budgett, BOMC; Mr Nick Fellows, BOMC; Mr Richard Godfrey, BOMC; Mr Kevin Hickey, BOA.

Members of the BOA Nutrition Steering Group

Professor Ron Maughan, University of Aberdeen; Dr Paul Greenhaff, University of Nottingham; Dr Richard Budgett, BOMC; Jane Griffin, BOA Consultant Nutritionist; Peggy Wellington, Consultant Nutritionist; Gill Regan, Consultant Nutritionist; Mr Nick Fellows, BOMC; Mr Kevin Hickey, BOA.

ADDRESSES

OLYMPIC MEDICAL INSTITUTE

Northwick Park Hospital
Watford Road
Harrow
Middlesex HA1 3UJ
Tel: 020 8423 7200
Fax: 020 8423 7201

BRITISH OLYMPIC ASSOCIATION

1 Wandsworth Plain
Wandsworth
London SW18 1EH

Tel: 0181 871 2677
Fax: 0181 871 9104
E-mail: <firstname.surname>@boa.org.uk