ABC of Healthy Travel

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DURING TRAVEL AND ACCLIMATISATION

Motion sickness

Hyoscine
Cyclizine
Promethazine

Some problems, such as motion sickness, may occur during use of most forms of transport but others are specific to the pressurised cabins of passenger aircraft or to the speed of these aircraft in crossing time zones.

Many factors contribute to the onset of the nausea, dry mouth, and apathy that precede the vomiting of motion sickness. The effect of unpredicted motion on the labyrinth is the main one aided by other sensory stimuli such as smells, reading, seeing others vomit, and alcohol intake.

In those prone to motion sickness the anticholinergic drug hyoscine (Kwells) is a more effective prophylactic than the anti-cholinergic action of antihistamines, although hyoscine is associated with more side effects, particularly dry mouth, drowsiness, and blurred vision. Because of this it is best reserved for short trips, when a single prophylactic dose will suffice. It is contraindicated in those suffering from glaucoma. There is little difference in effect among the many preparations of antihistamines, although their side effects and duration of action vary. Cyclizine (Marzine) is a short-acting variety with less sedating effect and can readily be repeated. Promethazine (Avomine, Phenergan) is longer acting, has a low incidence of side effects, and is given as a single daily dose. Alcohol potentiates the sedating effect of all these drugs, and all impair driving ability. These preparations are no use once symptoms are established.

Comfort during travelling is increased for all by choosing the most stable part of the vehicle—between the wings of an aeroplane, in the middle of a boat, or in the front seat of a car; by limiting food and alcohol intake; by adequate fresh air; and by lying down when practicable.

Susceptibility to motion sickness tends to decrease with continued or repeated travel.

Pressurised aircraft

Contraindications

Severe anaemia
Severe otitis media and sinusitis
Acute contagious or communicable disease
Recent myocardial infarction
Uncontrolled cardiac failure
Recent cerebral infarction
Peptic ulceration with haemorrhage within 3 weeks
Simple abdominal operation within 10 days
Major chest surgery within 21 days
Contagious or repulsive skin diseases
Wired fractures of mandible
Mental illness without escort and sedation
Pregnancies after 35th week (long journeys)
or 36th week (short journeys)
Introduction of air into body cavities within 7 days

Modern passenger aircraft are not pressurised to the equivalent of atmospheric pressure at sea level because fuselages would have to be much stronger (and hence heavier and more costly) to withstand the pressure difference when flying at a normal cruising altitude of 30 000 feet. A compromise is reached when the cabin pressure approximates to atmospheric pressure at an altitude of 5000-7000 feet. This has two effects: (a) reduction of partial pressure of atmospheric oxygen; (b) expansion of gases within enclosed cavities.

Reduced partial pressure—Pressure within the fuselage is maintained at about 80 kPa (600 mm Hg), resulting in an alveolar P_{O_2} of 10 kPa (75 mm Hg). This reduces the haemoglobin oxygen saturation by only about 4%, so has little effect on the average person. Those with severe respiratory or cardiovascular disease, severe anaemia or sickle-cell disease, or recent episodes of myocardial ischaemia and cerebral infarction are, however, at risk and should travel only if it is essential. Smoking (active or passive) during the flight will reduce haemoglobin oxygen saturation even further. Pregnant women over 35 weeks' gestation are not usually allowed

Part 2		MEDIF Medical information sheet		CONFIDENTIAL	
To be completed by attending physician				(for official use only)	
Return this form to:		This form is intended to provide confidential information to enable the airlines' medical departments to assess the fitness of the passenger to travel as indicated in Part 1 overall: if the passenger is acceptable, this information will permit the issuance of the necessary directives designed to provide for the passenger's welfare and comfort. The physician attending the incapacitated passenger is requested to answer all questions. (Enter a cross 'X' in the appropriate 'yes' or 'no' boxes, and/or give precise concise answers.) Completion of the form in block letters or by typewriter will be appreciated.		British Airways Medical Service 0900-1700 Mon-Fri London (01) 750 5616 Other times London (01) 759 5511 Extn 2301 Airline message address LHRKHA	
Carrier's designated office					
Airlines ref code MEDA01	Patient's name, initial(s), sex, age				
MEDA02	Attending physician Name and address				
	Telephone contact Business: Home:				
MEDA03	Medical data: Diagnosis in detail (including vital signs)				
	Day/month/year of first symptoms: Date of diagnosis:				
MEDA04	Prognosis for the trip:				
MEDA05	Contagious and communicable disease? No ☐ Yes ☐ Specify				
MEDA06	Is patient in any way offensive to other passengers? (smell, appearance, conduct) No ☐ Yes ☐ Specify				
MEDA07	Can patient use normal aircraft seat with seatback placed in the upright position when so required? Yes ☐ No ☐				
MEDA08	Can patient take care of his own needs on board unassisted* (including meals, visit to toilet, etc)? Yes ☐ No ☐ If not, type of help needed				
MEDA09	If to be escorted, is the arrangement proposed in Part 1/E overall satisfactory for you? Yes ☐ No ☐ If not, type of escort proposed by you				
MEDA10	Does patient need oxygen** equipment in flight? (If yes, state rate of flow) No ☐ Yes ☐ Litres per minute Continuous? Yes ☐ No ☐				
MEDA11	Does patient need any medication*, other than self-administered, and/or the use of special apparatus such as respirator, incubator etc. ** (a) on the ground while at the airport(s) No ☐ Yes ☐ Specify				
MEDA12	(b) on board the aircraft No ☐ Yes ☐ Specify				
MEDA13	Does patient need hospitalisation? (If yes, indicate arrangements made or, if none were made indicate 'No action taken') (a) during long layover or nightstop at connecting points en route No ☐ Yes ☐ Action				
MEDA14	(b) upon arrival at destination No ☐ Yes ☐ Action				
MEDA15	Other remarks or information in the interest of your patient's smooth and comfortable transportation: None ☐ Specify if any**				
MEDA16	Other arrangements made by the attending physician.				
Note (*): Cabin attendants are not authorized to give special assistance to particular passengers, to the detriment of their service to other passengers. Additionally, they are trained only in First Aid and are not permitted to administer any injection, or to give medication.		Important: Fees if any, relevant to the provision of the above information and for carrier—provided special equipment (**) are to be paid by the passenger concerned			
Date:	Place:	Attending Physician's signature			

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Jetlag

on long flights because of the possibility of the onset of labour, and there is a risk of fetal hypoxia. Puffy feet are common, due to both the reduced pressure and the continual sitting. Shoes are best removed and occasional walks up the aisle recommended.

Specific advice about the fitness to travel of individual patients and the facilities available can be obtained from the medical departments of the airlines concerned. A standard form is used by most airlines with parts to be filled in by the ticket agent and the attending physician. Wheelchairs are the most commonly used facility but stretchers and supplementary oxygen are often required.

Acute contagious and communicable disease, as listed in the contraindications to air travel, is not strictly defined but is not meant, in practice, to include mild upper respiratory infections like the common cold. Cases brought to the attention of the medical departments are decided on their individual merits.

Expansion of gases—The volume of enclosed gases will increase by about one-third. In its most innocent form this may lead just to "popping" of the ears and abdominal distension, but it may put at risk recent gastrointestinal surgical wounds. Carbonated drinks will exacerbate this. Clearly those with blocked sinuses or middle ears will suffer, and recent middle ear operations may be stressed. Any unabsorbed pneumothoraces will expand. Finally, the dry atmosphere in the cabin causes much inapparent fluid loss, and intake of drinks other than tea, coffee, and alcohol, all of which dehydrate, should be increased.

Air travel has enabled passengers for the first time to cross time zones more rapidly than the body's innate circadian rhythms take to adjust. Many rhythms exist but those most demonstrably upset relate to sleep and wakefulness, performance, hunger, and defecation. These rhythms need to be realigned whenever movement in an east-west axis occurs, and it has been estimated that crossing five time zones (five hours' time difference) is necessary for the effects of jetlag to be appreciable. Adjustment takes longer—some estimate up to 50% longer—if the flight is eastwards rather than westwards—that is, when the day of travel is shortened rather than lengthened. This may relate to most circadian rhythms having a natural cycle slightly longer than 24 hours if external time stimuli are removed. Adjustment takes longer with increasing age and is exacerbated by lack of sleep during the actual travelling, the stress of travelling, and alcohol intake.

The practical implications of this are to recognise that performance will be substandard and sleep patterns disturbed for two to three days, with full adjustment taking over a week. Once this is recognised allowances should be made. Sleep on the

Sun and heat

Altitude

plane is recommended, aided if necessary by a short-acting hypnotic such as triazolam; no heavy commitments should be booked for the first 24 hours, especially if a sharp intellect is required; alcohol intake should be limited; and sleep should be of normal duration.

The metabolism of drugs within the body varies through the day but a change in time zones will probably be of consequence only to diabetics. They should be recommended to keep on home time for medication and meals, when practicable, until they can adjust on arrival at their new destination.

Acclimatisation after travelling is related not only to time-zone differences but also to climate, geographical features such as altitude, and culture. This last is a potent source of psychological stress.

To prevent sunburn exposure should be limited at first and can be roughly doubled each day thereafter. The initial limit depends on the individual and his setting but, as an example, 15 minutes of Mediterranean summer sunshine would be enough for the average British person. Those with red hair and pale, freckled skin are particularly at risk. Exposure times can be increased by using sunscreen lotions (higher filter factors give greater protection).

Increased sweating is inevitable in warmer climates and initially this is inefficient, leading to excessive loss of water and salt. Unless severe exertion is undertaken, the loss of salt is adequately countered by the addition of extra table salt to meals. Increased fluid intake is necessary but should not be solely of tea, coffee, or alcohol. The colour of urine is a rough and ready guide and should be kept pale. Considerable adjustment of the sweating mechanisms, leading to lower sweat volume and lower sweat sodium concentration, occurs within five days and is complete within two weeks. Normal salt intake can then be resumed. The elderly, very young, obese, and those with extensive skin disorders take longer to adjust. Light, loose clothes, particularly cotton ones, encourage the evaporation of sweat and hence more efficient cooling.

Acute mountain sickness affects most people who live at low altitude and ascend to 10 000 feet and above. About 5% are severely affected. The severity is related to the altitude reached, speed of ascent, and concurrent exertion. Susceptibility varies greatly between individuals, and those who do suffer may well develop similar symptoms on future trips to high altitudes. In its mild form the common symptoms are headache, weakness, anorexia, nausea, vomiting, and vertigo. With increasing severity these symptoms merge into those indicative of cerebral or pulmonary oedema—namely severe constant headache, gross lassitude, confusion, inappropriate shortness of breath, cough, and cyanosis.

A slow ascent is the best prophylactic measure to modify symptoms. This can be aided by sustained-release acetazolamide 500 mg nightly. The acetazolamide is thought to counter the respiratory alkalosis induced by hypoxia and thus allow increased ventilation. Peripheral paraesthesia is a common side effect.

Should mild symptoms develop rest at that altitude is recommended. The onset of the severe symptoms mentioned above is often insidious but rapid recognition and prompt descent are essential to avoid unnecessary rescues and deaths.

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