

Heart Disease Cardiovascular events are the main cause of deaths among travelers and of in-flight emergencies on commercial aircraft. Extra supplies of all medications should be kept in carry-on luggage, along with a copy of a recent electrocardiogram and the name and telephone number of the traveler's physician at home. Pacemakers are not affected by airport security devices, although electronic telephone checks of pacemaker function cannot be transmitted by international satellites. Travelers with electronic defibrillators should carry a note to that effect and ask for hand screening. A traveler may benefit from supplemental oxygen; since oxygen delivery systems are not standard, supplementary oxygen should be ordered by the traveler's physician well before flight time. Travelers may benefit from aisle seating and should walk, perform stretching and flexing exercises, consider wearing support hose, and remain hydrated during the flight to prevent venous thrombosis and pulmonary embolism.

Chronic Lung Disease Chronic obstructive pulmonary disease is one of the most common diagnoses in patients who require emergency-department evaluation for symptoms occurring during airline flights. The best predictor of the development of in-flight problems is the sea-level PaO_2 . A PaO_2 of at least 72 mmHg corresponds to an in-flight arterial PaO_2 of ~55 mmHg when the cabin is pressurized to 2500 m (8000 ft). If the traveler's baseline PaO_2 is <72 mmHg, the provision of supplemental oxygen should be considered. Contraindications to flight include active bronchospasm, lower respiratory infection, lower-limb deep-vein phlebitis, pulmonary hypertension, and recent thoracic surgery (within the preceding 3 weeks) or pneumothorax. Decreased outdoor activity at the destination should be considered if air pollution is excessive.

Diabetes Mellitus Alterations in glucose control and changes in insulin requirements are common problems among patients with diabetes who travel. Changes in time zone, in the amount and timing of food intake, and in physical activity demand vigilant assessment of metabolic control. Because of the risk of foot ulcers, travelers should wear closed footwear that has been proven to be comfortable. The traveler with diabetes should pack medication (including a bottle of regular insulin for emergencies), insulin syringes and needles, equipment and supplies for glucose monitoring, and snacks in carry-on luggage. Insulin is stable for ~3 months at room temperature but should be kept as cool as possible. The name and telephone number of the home physician and a card and bracelet listing the patient's medical problems and the type and dose of insulin used should accompany the traveler. In order to facilitate international border crossings, travelers should carry a physician's letter authorizing the carriage of needles and syringes. In traveling eastward (e.g., from the United States to Europe), the morning insulin dose on arrival may need to be decreased. The blood glucose can then be checked during the day to determine whether additional insulin is required. For flights westward, with lengthening of the day, an additional dose of regular insulin may be required.

Other Special Groups Other groups for whom special travel measures are encouraged include patients undergoing dialysis, those with transplants, and those with other disabilities. Up to 13% of travelers have some disability, but few advocacy groups and tour companies dedicate themselves to this growing population. Medication interactions are a source of serious concern for these travelers, and appropriate medical information should be carried, along with the home physician's name and telephone number. Some travelers taking glucocorticoids carry stress doses in case they become ill. Immunization of these immunocompromised travelers may result in less than adequate protection. Thus the traveler and the physician must carefully consider which destinations are appropriate.

TRAVEL HEALTH INSURANCE

Today, more elderly or chronically ill individuals travel and more of these individuals journey to remote locations and enjoy adventurous activities. Illness or injury abroad is not uncommon and is best considered before the journey. Persons who develop health problems abroad may incur enormous out-of-pocket expenses. Thus prospective travelers

should consider purchasing additional travel health insurance and should check with their health insurance company regarding whether they have coverage for illness or injury overseas. Unfortunately, many insurance companies will not cover pre-existing illness if it is the reason for trip cancellation or illness abroad. Most countries do not accept routine health insurance from other countries unless there is a special traveler supplement. In most circumstances, travelers are asked to pay in cash for services rendered on an emergency basis, whether in a physician's office, in an emergency or urgent care center, or even in a hospital. There are several types of travel insurance. It is wise to purchase *trip cancellation insurance*, especially, for example, if the traveler has an underlying chronic illness and may need to cancel a trip due to an exacerbation of disease. *Travel health insurance* will cover expenses in the event that medical care abroad is needed. *Evacuation insurance* will cover medical evacuation, usually to a medical center in another location where it is deemed that the care is similar to that available in the traveler's home country. The cost of medical evacuation can easily exceed \$100,000 US. There are a number of travel insurance providers, and it is very important to read the fine print carefully and to determine exactly what each company provides, thereby ensuring an appropriate fit for the individual's particular circumstances. The U.S. Department of State website lists travel health insurance companies (http://travel.state.gov/travel/tips/emergencies/emergencies_5981.html).

MEDICAL TOURISM

Travel for the purpose of obtaining health care abroad has received a great deal of attention in the medical literature and the media. According to the annual U.S. Department of Commerce In-Flight Survey, there were ~500,000 overseas trips during 2006 in which health treatment was at least one purpose of travel. Lower cost is usually cited as the motivation for this type of tourism, and an entire industry has flourished as a result of this phenomenon. However, the quality of facilities, assistance services, and care is neither uniform nor regulated; thus, in most instances, responsibility for assessing the suitability of an individual program or facility lies solely with the traveler. Persons considering this option must recognize that they are almost always at a disadvantage when being treated in a foreign country, particularly if there are complications. Concerns to be addressed include the quality of the health care facility and its staff; language and cultural differences that may impede accurate interpretation of both verbal and nonverbal communication; religious and ethical differences that may be encountered over issues such as efforts to preserve life and limb or the provision of care for the terminally ill; lack of familiarity with the local medical system; limited access of the care provider to the patient's medical history; the use of unfamiliar drugs and medicines; the relative difficulty of arranging follow-up care back in the United States; and the possibility that such follow-up care may be fraught with problems should there be complications. If serious issues arise, legal recourse may be difficult or impossible. Patients planning to travel abroad to obtain health care, particularly when surgery is involved, should be immunized for hepatitis B and should consider having baseline hepatitis B and C and HIV tests preoperatively. Prevalence rates of hepatitis B and C and HIV infection vary considerably around the world and are generally higher in developing regions than in the United States and Western Europe. The latest information available on the safety of the blood supply outside the United States is the World Health Organization's Global Database on Blood Safety based on data from 2011 (www.who.int/bloodsafety/global_database/en). Persons researching the accreditation status of overseas facilities should note that, although these facilities may be part of a chain, they are surveyed and accredited individually. Accreditation resources include (1) the Joint Commission International (www.jointcommissioninternational.org), (2) the Australian Council for Healthcare Standards International (www.achs.org.au/achs-international/), and (3) the Canadian Council on Health Services (www.cchsa.ca). The American Medical Association also offers guidelines for medical tourism (www.ama-assn.org/ama/pub/upload/mm/31/medicaltourism.pdf).