

What's happening in the air?

By Robb Leigh MD

With so many people flying in the world today, inflight medical emergencies are bound to occur, especially among passengers with declining health.

However, even healthy passengers must consider the effects of flying. The aircraft cabin is pressurised to a standard 8,000 feet above sea level, thus less oxygen is available. And although most healthy people without heart or lung disease cope perfectly well at this atmospheric pressure, those passengers with less physiologic reserve can decompensate and manifest symptoms of an underlying illness.

Another consideration for all passengers is the partially re-circulated air inside the cabin. Even though high-efficiency filters are used, not all particulate matter is always trapped – including some bacteria and viruses – which can result in disease transmission. Close proximity among passengers and prolonged time of exposure also result in direct contact and exposure to air droplets that can transmit an infection.

Many passengers also avoid drinking enough fluids in an attempt to reduce visits to the restroom, yet they drink alcohol, which can result in dehydration and vasodilatation – dilatation of blood vessels – potentially leading to fainting episodes.

The impact of altitude

MedAire's research, based on data covering 20 years, indicates that inflight medical cases are increasing. For example, among MedAire's 30 regional carrier clients in 2006, 816 inflight cases were handled. Just one year earlier, in 2005, only 618 cases occurred. The most common medical incidents occurring in flight include:

- syncope – commonly known as fainting or passing out, this condition is usually benign but can be serious in people with heart disease or diabetes;
- shortness of breath – this condition should always be taken seriously,



Chest pain is always of serious concern and can be a sign of an impending cardiac event, especially in passengers with heart disease, diabetes or high blood pressure.

- especially in passengers with underlying lung or heart disease, or suffering an asthma attack;
- nausea – the main symptom of motion sickness, nausea is made worse by alcohol and lack of sleep;
- chest pain – discomfort around the chest area is always of serious concern and, when associated with shortness of breath, sweating, dizziness or nausea, can be a sign of an impending cardiac event, especially in passengers with heart disease, diabetes or high blood pressure. Younger passengers with these symptoms usually have benign conditions;
- abdominal pain – this condition can originate from several different intra-abdominal organs or the abdominal wall. The abdomen is like a black box and a methodical approach is necessary to rule out life-threatening conditions. The difficulty lies in the fact that several benign and serious conditions present themselves in a similar fashion. However, any pain that is severe or persistent should prompt an evaluation as soon as possible;
- anxiety attack – air travel often causes anxiety and passengers prone to having anxiety attacks may experience severe symptoms including shortness of breath, chest pain and tingling or numbness on lips or upper extremities. Claustrophobia is made worse by the large number of people in very close proximity and contributes to heightened levels of anxiety;

- seizures – inflight episodes are common. Seizures can happen for many different reasons such as low blood sugar, underlying seizure disorder, head injury, medication or drug use, and;
- hypoglycaemia – because eating regular meals might not be possible as a result of the time constraints imposed by air travel, blood sugar levels can drop in both healthy and diabetic patients, precipitating a hypoglycaemic episode presenting itself as light-headedness, syncope or seizure. Such episodes can easily be treated with sugar or fruit juice.

Well-trained flight crew, who recognise the signs and symptoms of common inflight ailments, should not be expected to manage emergencies alone but can play a vital role in helping both onboard medical volunteers and telemedicine physicians. Quick thinking can mean the difference between life and death. ■

As a practising emergency physician in metropolitan Phoenix, Arizona, and a medical advisor for MedAire, Robb Leigh is involved in handling medical emergencies daily in an urban emergency room as well as remotely via MedAire's venues.

The **Regional** International Medical Advisory is provided courtesy of ERA member MedAire Ltd.