



Air Crews Face Stomach and Intestinal Illness Risks at Many Layover Sites Around the World

Medications are available to help prevent and treat intestinal illnesses caused by bacteria and viruses. Pilots should consult an aviation medical examiner before taking antibacterial and antiviral medications, but avoiding certain foods and drinks may be the best strategy for prevention of illness.

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During layovers, air crews risk food poisoning, particularly in developing countries. Advance planning to avoid contracting food- and water-borne bacteria or viruses, which can cause “travelers’ diarrhea” and other gastrointestinal upsets including vomiting, will minimize the chances of becoming a victim.

A crew member might experience nausea, fever, headache, rapid heart rate, gastrointestinal colic, vomiting, diarrhea and other symptoms and clinical signs of acute gastrointestinal illness. Severity can range from barely noticeable to extreme.

When gastrointestinal illness attacks a crew member on duty or on a layover, the problems are to decide what to do about

the condition, and to determine the crew member’s flight fitness status. Notifying the other crew members, company flight operations personnel and any available medical personnel is the first step. The notification can be in person, by telephone or by radio (if in flight). Those notified should be apprised of the symptoms (what the victim feels, e.g., weakness, nausea, fever or headache) and signs (what can be seen by others, e.g., vomiting or diarrhea).

Most cases of travelers’ stomach and intestinal upset are ascribed to bacteria, viruses or both. In most cases, a specific cause is not sought because, following treatment, the condition usually goes away with no need for laboratory studies.

Bacteria and Viruses Are Common Causes of Gastrointestinal Illness

Common causes of gastrointestinal upset with diarrhea are the group of bacteria known as *E. coli*. In addition, *Shigella* and *Salmonella* bacteria are often culprits, and a group known as *Campylobacter* has also been found to cause these intestinal upsets and diarrhea. Various gastrointestinal viruses have been pronounced causes. A little one-celled protozoa, *Giardia*, may occasionally cause diarrhea that lingers for weeks. It is necessary to obtain stool tests to clearly establish the presence of this organism. Another agent, *Cryptosporidium*, has been found as a cause of diarrhea in Russia and, from time to time, in the drinking water in certain U.S. cities.

A traveler to an area where there is a probability of exposure to one or more of these organisms can obtain preventive medication from a physician to keep symptoms from occurring should some of these organisms be ingested.¹ Areas with the greatest risk are in developing countries.²

The side effects of these preventive medicines may prohibit operation of an aircraft because of physical or mental impairment. Each crew member must be considered individually for any treatment or preventive procedure. Pilots should always discuss with a flight surgeon medications that they intend to take before they fly.

The choice of medication depends on the suspected organism and the individual patient, and should be selected by a physician. Table 1 gives general guidelines.

Antibiotics known as Cipro (Ciprofloxacin) and Floxin (Ofloxacin) are sometimes prescribed as preventatives by

physicians.³ Noroxin (norfloxacin) may also be given. Another substance, Vibramycin (doxycycline), is also prescribed at times. These medications are prescription drugs.

Bismuth subsalicylate (available in nonprescription medications such as Pepto Bismol) has often been found to be effective for prevention and for symptom treatment, when symptoms begin.⁴ It is best to get some advance advice from a physician about such medication's characteristics and treatment regime.

Also available without a prescription is loperamide hydrochloride (available in nonprescription medications such as Imodium), a medicine that slows intestinal motility (movement). It is used almost exclusively for treatment following onset of diarrheal symptoms.⁴ It should not be used for more than two days except under supervision by a physician.

Precautions Can Minimize Layover Medical Risks

When flying to areas where travelers commonly experience gastrointestinal illnesses, other precautions can be taken that will minimize (but not completely eliminate) the risk of swallowing bacteria or viruses. Avoid drinking tap water or any water that likely came directly from a faucet. Instead, use bottled water and beverages that insofar as can be determined contain uncontaminated, sterile or pasteurized contents.

Faucet water, if used for brushing the teeth, can be a source of bacterial or virus ingestion. This danger is frequently overlooked by otherwise cautious individuals. Using uncontaminated bottled water when brushing avoids this source of infection.

Table 1
General Guidelines for Treatment of Stomach and Intestinal Illness

Occurrence	Probable Cause	Treatment
Watery diarrhea (No blood in stool) (No fever)	Bacteria	Antibacterial drug (plus loperamide hydrochloride)
Dysentery (Bloody stool) (Fever)	Invasive bacteria	Antibacterial drug
Vomiting (Minimal diarrhea)	Viruses (Re-formed toxin in food — food poisoning)	Bismuth subsalicylate

Source: DuPont and Ericsson¹

Raw fruits and vegetables can be contaminated in many locations because of the use of human waste as fertilizer in fields where fruits and vegetables are grown. In addition, workers picking these items may, through unhygienic conditions and practices, contaminate the produce. The same can occur in kitchens where these items are prepared as salads, fruit cups or juices. In such areas, it is better to rely on boxed cereals as a fiber and nutrition source.

Some hotels in developing countries have their own water processing systems and kitchens that meet sanitary standards equivalent to those in more developed countries. Thus, crew layovers should be in hotels selected for high quality health standards.

The irritative effects of alcohol on the esophagus, the esophageal stomach junction and the stomach lining are well established. Judicious travelers should avoid or limit alcoholic beverage consumption when in areas where the risk of gastrointestinal infections is high.

One strategy that can be used for brief periods in high-risk areas is to carry food bars that can be substituted for restaurant meals. Beware of street vendors in developing countries who offer finger-held foods ranging from sweets to grain and meat products. Numerous reports exist of gastrointestinal illnesses acquired from these foods. Unpasteurized cheese, ice cream made with unpasteurized milk, meringues (which are made with uncooked egg whites) and numerous other items carry a high risk. Also to be avoided is raw or barely cooked meat or fish. The risk of meat contamination is high in such areas.

It is important to avoid food that has been left outside for an hour or more following removal from a refrigerator or a chilled area, giving gastrointestinal disease-causing bacteria an opportunity to grow.

Inflight Meals May Also Pose Risks

Even inflight meals represent a possible risk for crew members. Through the years, numerous cases of multiple food poisoning have resulted from on-board airline food.⁵

During the past two decades, catering services have made progress in ensuring that the foods they deliver to aircraft are free of hazardous viral or bacterial contaminants. Nevertheless, departure delays can result in food warming from its refrigerated state while sitting on the tarmac before loading. Under these circumstances it is prudent to avoid

meats, especially fowl and seafood, omelettes and some high-risk desserts, including those with meringue.

Every airline should have an action plan that enables treatment for illnesses at layover sites. Preventive medications, with instructions approved by a company doctor or an aviation medical examiner, should be carried. Procedures to obtain therapeutic medications should be established at each layover site and the action plan should be coordinated and supervised by a competent medical authority. ♦

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