

Health Tips for Travelers

On the Move

Effects of motion, air pressure, & time zone changes

Land, air, or sea – your mode of travel can affect motion, air pressure, and time zones. Whether in the air, abreast the ocean, or on road or rail, once you're on the move, you will want to:

- maintain healthy blood circulation,
- reduce unwanted effects of motion (motion sickness) and air pressure (sinus and ear pressure), and
- be prepared for travel into a new time zone ("jet lag" – sleep disturbances).



Maintaining Healthy Blood Circulation

Avoiding DVT and PE

Blood clots can occur when people sit for long periods of time during air, rail, bus, or car travel.¹ "Leg and foot swelling during air travel is common and typically harmless."² Prolonged immobility – particularly sitting with your feet on the floor for a long period – causes blood to pool in your leg veins, which in turn makes swelling, causing fluid to leave the blood and move into the soft tissues. Stiffness and discomfort may also result.^{2,3} "If you get up and walk around, your leg muscles contract and compress the veins, forcing blood back to your heart."² Thus, contraction of muscles is an important factor in helping to keep the blood flowing through the veins. Of particular concern are blood clots that form in the leg or pelvic veins, known as deep vein thrombosis (DVT).¹ If such a blood clot dislodges and travels to the lung, it is a pulmonary embolism (PE), which can result in sudden death.¹

Though some blood clots do not cause symptoms, some symptoms that may result include cramping, swelling, and color changes of the calves and feet.¹ PE may first

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develop as a sensation of not feeling well, followed by shortness of breath, chest pain, and fainting.¹

To maintain healthy blood circulation:

- Wear loose fitting clothes.
- Change positions frequently.
- Straighten and move legs and arms often.
- Contract and release (stretch) you calf muscles every half hour.
- Get up/out and walk every 1–2 hours.
- Drink plenty of fluids.
- Don't drink caffeine, which may contribute to dehydration.
- Avoid alcohol and sedatives, which may contribute to immobility.
- Don't smoke.

- Don't cross your legs.
- Don't wear constrictive socks or hosiery.
- Do consult your doctor about wearing elastic support stockings, which improve circulation.
- Keep luggage from restricting leg/foot space to allow room to move.^{1, 2, 3}

If swelling occurs, you can try following:

- Elevate your feet and legs.
- Get up and walk.
- Rotate your ankles while seated.²

Seek medical help if you are not feeling well or you have worsening symptoms or concerns.

Reducing Motion Sickness

Reserve your seat & ready your stomach

Sometimes motion can contribute to negative consequences. "Motion sickness during air, sea, rail, bus, or car travel occurs when the brain receives conflicting signals about movement. Motion sickness is often triggered by turbulence and vibration and made worse by warmth, anxiety, hunger, or overeating. The main symptoms are stomach upset, nausea, vomiting, sweating, and dizziness."¹ Most people will have some motion sickness when traveling on the ocean. Other modes of travel can result in motion sickness as well, depending



on the conditions and the individual.

By planning ahead, you may be able to reduce or avoid motion sickness. Reserve seating where motion is felt least:

- By ship – Request a cabin in the front or middle of the ship, or on the upper deck.
- By plane – Request a seat over the front edge of the wing. Once aboard, direct the air flow vent to your face.
- By train – Sit near the front and next to a window. Face forward.
- By automobile – Drive, or sit in the front passenger seat.⁴

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Other tips for preventing or reducing motion sickness:

- Focus on the horizon or a distant stationary object.
- Keep your head still and rested against a seat rest.
- Don't read.
- Eat in moderation.
- Avoid spicy and greasy food.
- Lie down, and close your eyes.
- Consider taking an over-the-counter antihistamine (30–60 minutes before travel, expect drowsiness as a side effect), or talk with your doctor about other medications for motion sickness.
- Eat dry crackers.



- For some individuals, ginger or a wrist band that puts pressure on a particular acupuncture point may provide some relief.
- Don't smoke or sit near smokers.
- Avoid alcohol consumption 24 hours before travel and during transportation.^{1, 2, 3, 5}

Sinus & Ear Pressure

Understanding how gases expand and contract

Motion as you ascend and descend in flight can cause discomfort in the ears and/or sinuses. "Ear and sinus pressure while flying is the result of changes in air pressure (cabin pressure)."¹ Decreasing cabin air pressure as a plane ascends causes gases to expand, while increasing cabin pressure as a plane descends causes gases to contract. These changes can have effects on where gas is trapped in the body. Small pockets of air trapped in the middle ear and sinuses expand, leading to ear pressure or sometimes a "popping" sensation and mild sinus pressure or discomfort. As the plane descends, similar symptoms occur; however, air must flow back into the middle ear and allow the sinuses to equalize pressure differences. If this does not happen, the ears and sinuses may feel as if they are blocked. If the pressure is not relieved, pain may result.^{1, 3}

To relieve ear and sinus pressure:

- Swallow or yawn intentionally during takeoff and descent.
- Blow hard against a closed mouth and pinched nostrils.
- Children (as well as adults) can try chewing gum, sucking hard candy to encourage swallowing, or drink something.
- Infants can be breast or bottle fed, or given a pacifier.^{1,3}
- People with severe nasal, ear, and sinus congestion or infection should consider postponing travel. If travel cannot be avoided, the use of decongestant nasal drops before the flight and during descent may be helpful.^{1,3}



Time Zone Changes Readjusting your body's internal clock

If you move across three time zones during your travels, you may experience what is often called “jet lag” – a disruption of the body’s internal clock that results in sleep disturbance. Lack of sleep can cause a breakdown of your immune system, leading to illness.

Though jet lag cannot be avoided, its effects can be reduced:

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- Be as well rested as possible before your trip.
- Adjust your sleep to coincide with that of your destination 1–2 days before your travel.
- Drink plenty of fluids.
- Eat light meals.
- Avoid alcohol, which impairs the *quality* of sleep and may increase urine output, which may disrupt your sleep.
- Avoid caffeine.
- Avoid smoking.
- Use eye shades and ear plugs to create more regular sleep conditions.
- Avoid long-acting sedatives.
- Minimize napping.
- Maximize sunlight exposure.
- Remain physically active until evening, but don’t over exert with strenuous exercise immediately before bedtime.
- Try to sleep at least four hours during the regular nighttime hours at your destination.
- Talk with your doctor about medications that can help, as well as how to adjust any prescription medication dosages you are currently taking to fit the new time zone.^{1,3}

Proactive Travel Plans Avoiding adverse effects on the move

Whatever your mode of travel, be proactive in taking steps to avoid

the adverse effects sometimes present with travel:

- Keep your blood circulating healthfully with movement, hydration, and appropriate clothing.
- Plan ahead with reserved seating, or arrive early to allow for comfortable seating with the least motion effects.
- Take steps to avoid in-flight sinus and ear pressure at take off and descent.
- Get appropriate rest; adjust your sleep cycle ahead of travel, and arrange for medicine dosage changes for the new time zones.

Being proactive with these steps can help you enjoy your travels both on the move and once you reach your destination.



To view the references used in this newsletter, go to:
<http://fcs.tamu.edu/health/healthhints/2008/jun/ref.php>