

# OPTIMAL HEALTH UNIVERSITY

Presented by Dr Peter and Dr Yaron



## **Jet Lag Drag**

You're tired, you're cranky and, to top it off, you have insomnia.

Welcome to the world of jet lag drag.

Jet lag is the body's way of letting you know it doesn't appreciate zipping through multiple time zones – particularly when its forced to do so in a cramped seat with no legroom. Breathing air of dubious quality and having your stomach roll with each pocket of turbulence doesn't help either.

One way to beat jet lag is to avoid flying. A more practical solution, however, is to let Dr Peter and Dr Yaron help you weather the ups and downs of air travel with sound advice and common sense remedies.

Dr Peter and Dr Yaron can also teach you how to sidestep many of jet lag's causes, in addition to coping with those that you can't avoid.

## ***Spine Attack***

If you're a frequent flyer, you know that airplane travel is a spine's worst nightmare. The human spine was not meant to be twisted into a pretzel, crammed into a too-small seat and rendered immobile for hours on end.

Quite often, flying results in areas of the spine becoming misaligned or restricted. This condition, known as a vertebral subluxation, is associated with an increased risk of headache, back pain and nerve-related disorders. Ongoing research also suggests that vertebral subluxations affect the immune system. Using a series of gentle movements, known as chiropractic adjustments, Dr Peter and Dr Yaron corrects vertebral subluxations and prevents their recurrence.

Dr Peter and Dr Yaron may also suggest a variety of exercises that may be performed in your seat during the flight, to minimise damage to your spine.

So, before you call your ticket agent to schedule your next flight, schedule an appointment for a chiropractic check-up.

## **A Drag, by Any Other Name, is Still a Drag**

In scientific circles, it is termed circadian stischronism. Most people, however, know it by its common handle: jet lag.

Jet lag is characterised by fatigue, headache, weakness, irritability, memory difficulties, loss of concentration and gastronomical disturbances.

But what causes this phenomenon? According to scientists, the collection of maladies known as jet lag is due to “transient disassociation between the environmental (local time in the new time zone) and internal (body time due to the internal body clock) times. The body clock is slow to adjust to a change in habits.” (*The Lancel 1997; 350:1611*)

“Eastward travel is associated with worse disturbances than westward, perhaps because getting to sleep at bedtime at the destination is more difficult than premature wakening. Several days may be needed for full recovery.” (*The Lancel 1998; 352:626*)

Why does eastward travel up the risk of jet lag?

According to an article in the Los Angeles Business Journal, “Our bodies are telling us they would really rather wake up an hour later – one time zone to the west – everyday. Flying westward, then, we can take advantage of this tendency to automatically offset the lag by the space of about one time zone. Flying east, on the other hand, your system inevitably adds that daily out-of-synch hour to the damage done.”

## **Brain Drain**

A late-breaking study suggests that chronic jet lag may actually shrink your brain.

Kwangwook Cho, of the University of Bristol Medical School in England, found that flight attendants with chronic jet lag have higher stress hormone concentrations in their saliva and small temporal lobes than more rested attendants do. The temporal lobes are critical brain areas for processing short-term memory.

Cho took saliva samples and brain scans of healthy women in their twenties who had been employed by international airlines for five years. Their schedules had included flights crossing at least seven time zones, interspersed with short or long periods of flying within a single time zone.

“Half the women had fewer than five days between multi-zone flights and half had at least two week sessions of the shorter flights. The first group had higher saliva concentrations of the stress hormone cortisol, smaller temporal lobes and more difficulty in tests of short-term memory. Many studies have shown that high cortisol concentrations damage brain cells. If this is the case in jet lag, the shrinkage is permanent, says Cho.” (*Science News 2001; 159:392*)

Other studies link jet lag with elevated levels of the stress hormone cortisol. For instance, salivary cortisol concentrations were significantly higher among airline flight attendants who had more than eight hours of jet lag per week, compared to that of airport check-in staff. (*The Lancel 2000;355:1078*)

Bolstered cortisol levels may trigger various mental and physical conditions, such as heart disease, diabetes and clinical anxiety.

## **Melatonin? Maybe**

In the search for the ultimate jet lag remedy, countless travellers have turned to the hormone melatonin. Both supporters and detractors, however, have hotly debated its benefits.

Melatonin is the chief hormone secreted by the pineal gland of the brain. Although many frequent flyers and flight attendants swear by this remedy, research has yet to support its effectiveness.

For example, in a Columbia University study, 257 Norwegian physicians who were visiting New York for five days were randomly assigned to one of four regimens:

1. 0.5 milligrams of melatonin at bedtime;
2. 0.5 milligrams of melatonin on a shifting schedule;
3. 5 milligrams of melatonin at bedtime; or
4. a placebo (“dummy” pills).

“On their first day home, two-thirds of the physicians showed a marked increase in jet lag symptoms, with gradual improvement over the next five days. But none of the melatonin treatments eased symptoms better than a placebo.” (*Environmental Nutrition 1999; 22:7*)

As with all supplementations, talk with your health-care provider before adding melatonin or any other substance to your wellness regime.

### **Beat jet lag with the following tips:**

- Plan to arrive at your location several days early, if possible, to allow yourself to fully recover before business or sporting events.
- Drink plenty of water on board. Avoid alcohol (a diuretic) and coffee (a diuretic and source of caffeine).
- Avoid napping unless it coincides with the flight cycle of your destination (unless, of course, you have been deprived of sleep for a long period of time during transit).
- Pack earplugs, a CD player and eye mask (to black out light). Ask your chiropractor to recommend a neck-friendly inflatable pillow. If you do decide to nap, these accessories will allow you to do so in relative peace.
- Wear comfortable clothing and shoes that can easily be removed.
- Set your watch to the time zone of your destination, to help you start making the mental transition.
- Get plenty of sunshine once you have reached your final destination, to set your circadian clock to the new time.
- Snooze only when its bedtime and not because you are tired, and adjust your eating times as well.

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## Health Tips for Air Travellers

Achy back, sore neck, sniffing nose, pounding head and relentless fatigue: the hallmarks of a just-debarked airplane passenger. Whether you're a frequent flyer or planning your first air excursion, you're susceptible to the physical stress of air travel. As a prevention specialist, Dr Peter and Dr Yaron helps patients prepare their bodies for air travel, and fend off flight related ailments.

### Avert Ache with Adjustments

Visiting a chiropractor prior to your flight is key to a pain-free vacation or business trip. Sitting for hours in a cramped plane seat – and sleeping in a lumpy hotel bed – shift the spine's natural posture. This shift may aggravate a condition called vertebral subluxation – areas in the spine where movement is restricted or bones are out of alignment. This dysfunction is linked with a myriad of ailments, including neck pain, backache and carpal tunnel syndrome.

Dr Peter and Dr Yaron works to correct vertebral subluxations before the onset of symptoms. So, schedule a chiropractic check-up before taking off to keep your spine in top form while travelling. Regular chiropractic care supports optimal spinal health, preventing travel-related pain and fatigue.

The result: more productive and enjoyable journeys.

### Pack Perfect Pillows

Stroll down the aisle of a plane after dark and you'll notice a wide variety of contoured sleep positions – postures that wreak havoc on a traveller's neck and back. But an in-air catnap doesn't have to leave you stiff and sore. To keep your spine aligned while you snooze, invest in a traveller's pillow. These U-shaped pillows cradle the spine, preventing the neck from slouching forward or to the side. (Ask your chiropractor to order a traveller's pillow for you or to recommend a reputable supplier.)

Speaking of pillows, Dr Peter and Dr Yaron also suggests bringing your pillow from home along when you travel. Hotel pillows are often rigid and bulky, and they don't allow for proper neck positioning.

### Schedule Stretch Sessions

Frequent stretch breaks are a vital component of a healthy flight. Stretching wards off two flying related ailments: blood clots and muscle soreness.

Approximately one in every two million flyers suffer travel-induced blood clots (thrombosis) which are triggered by prolonged sitting. This number may seem low, but the incidences of this disorder is rocketing. Flight related blood clots are so widespread that in 1995 an international conference was held to discuss the problem, which is also known as “economy class syndrome”, “coach class thrombosis” and “traveller’s thrombosis”.

No matter what you call it, traveller’s thrombosis may have serious implications, including stroke and death. Blood clots usually form during long trips, with 76.5% of cases occurring after a flight lasting at least 12 hours (*Bull Acad Nat Med 1999; 183:985-97*). Traveller’s thrombosis is also more common in passengers with a history of cardiovascular disease.

Research indicates that stretching boosts circulation, which may inhibit the formation of blood clots. Stretching also wards off muscular soreness, another condition provoked by prolonged sitting. According to scientific research, stretching prevents the chemical reactions that create muscle ache.

Remind yourself to stretch by setting a watch alarm for 30 minute intervals. Every half-hour, promenade the aircraft’s aisles, and perform three to five minutes of stretching. (Ask Dr Peter and Dr Yaron to outline an on-board stretch routine.)

### **Launch an Antioxidant Attack**

Air travel exposes flyers to cosmic radiation, which may create disease-causing free radicals and spur cellular changes associated with cancer. In one study, investigators poured over the medical records of 3,877 pilots and cockpit engineers. Cockpit crew members who flew more than 5,000 hours showed an elevated risk of myeloid leukaemia and skin cancer (*Lancet 1999: 354:2029-31*). Researchers also speculate that frequent flying may up the risk of prostate cancer.

In addition to radiation, recirculated airplane air – often teaming with fungus, viruses and bacteria – may also incite disease.

To ward off the hazards of cosmic radiation and recirculated air, fortify your body with natural immune boosters – antioxidants. Take extra antioxidant supplements (such as grape seed extract and vitamins A, C and E) during the two weeks prior to travel, and throughout your journey. (Ask your chiropractor about what doses are right for you.)

While in the air, suck on one of the new antioxidant lozenges available at most health food stores, or spritz your mouth with antioxidant oral spray once every three hours. One especially potent variety of lozenges and oral sprays, which is scheduled to hit the market soon, contains the antioxidant glutathione. A study presented at the Experimental Biology 2000 conference in Atlanta, Georgia, revealed that oral sprays containing glutathione inhibit the flu virus. Specifically, glutathione triggers a chemical reaction that deactivates the enzymes that allow the virus to invade cells in the mouth and throat.

“This could be very helpful, for example, if you were sitting next to someone with the flu on an airplane you could effectively block the infection for a period of several hours,” said Dr. Dean Jones, the study’s lead author.

Garlic is also a potent antioxidant and infection-blocker – but beware that fellow passengers may not appreciate the odiferous quality of your garlic feast!

### **Ditch Unnecessary Drugs**

Alcohol and other drugs provoke jet lag, so skip the in-flight cocktail and avoid air-sickness medication or sleeping pills whenever possible. Instead, consider all-natural nausea remedies, such as ginger capsules and acupressure bracelets. For travel-related insomnia, try melatonin supplements, which help shift your “body clock” so its inline with your destination’s time zone. (As always, check with your chiropractor before initiating any supplement therapy.)

### **Bring Bottled Water**

Adequate hydration deters jet lag, fatigue and illness. Pack a few bottles of spring water in your carry-on, and make sure to guzzle them down during your flight.

### **Be Finicky About Flight Fare**

A prodigious number of scientific studies have verified the medicinal properties of wholesome foods, such as fruits, vegetables, soy, nuts, olive oil, whole grains and fish. In contrast, meals high in sugar, “white” grains, saturated fat and meats aggravate illness. So, request a special health-conscious meal when you book your excursion. Most airlines offer an array of healthy entrees, including vegetarian, low-fat and Mediterranean options. Or, carry a mini-cooler stocked with home cooked cuisine.

### **Take Some Tea**

Tossing several bags of herbal tea into your attaché before boarding can provide many in-air health benefits. First, brews such as ginger, lemon and mint are renowned for their anti-air sickness properties. In addition, the heat of tea obliterates some viruses and bacteria on contact. Varieties such as green, ginger, rose hip and ginseng also contain immune-boosting antioxidants.

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## Are You and Your Car a Perfect Fit?

Do you strain and stretch your right leg to reach the gas and brake pedals of your car? Are you scrunching down in your seat every time you need to look out of your vehicle's side mirrors? Does your back go into spasm every time you exit the driver's seat?

If you answered "yes" to any of these questions, it's a safe bet that you aren't driving an ergonomically correct car.

The more time you spend behind the wheel, the more important it is to make sure you and your car are a perfect fit. Dr Peter and Dr Yaron can help you make this determination and work to correct postural imbalances caused by years of over-stretching, scrunching and twisting behind the wheel.

Consumers today are becoming increasingly aware of the benefits associated with ergonomic design. Consequently, automobile makers are responding with a variety of options, such as multi-position driver's seats that move horizontally and vertically. For instance, the new Lincoln Navigator has a power-adjustable pedal system that allows the accelerator and brake pedals to be moved forward or backward to suit the driver's dimensions.

During the design phase of an automobile, details mock-ups of the interior are built to study the design and evaluate ergonomic issues. Several designers have recently started using virtual-reality technology to gather needed data.

## Ergo .... What?

How many times have you tried on a clothing item labelled "one size fits all" and actually had it fit? If you are like most people, not very often. That's because, as Dr Peter and Dr Yaron know from years of studying human physiology, no two people are exactly alike.

Ergonomics takes height, weight and various body proportions into account when considering the design of everything from office chairs to the placement of the accelerator pedal in a car. The primary objective of ergonomics is to make the machine serve the user – as opposed to the user serving the machine.

## In the Driver's Seat

Poor car seat design can be hazardous to your spine by forcing you into improper postures. The spine is comprised of individual bones called vertebrae, each supported by an array of muscles and ligaments. Vertebral subluxation occurs when spinal movement is restricted or when vertebrae become misaligned. Vertebral subluxations are associated with a variety of health ailments including ear infection, headache, neck pain, back pain and carpal tunnel syndrome.

Doctors of chiropractic correct these “hot spots” with gentle and safe manoeuvres called “chiropractic adjustments”.

If your car seat is not ergonomically correct, there are a number of products on the market to remedy the situation. Ask Dr Peter and Dr Yaron to recommend the right product for your specific needs.

Often, simply attaching a quality back support to the driver’s seat can put you on the fast track to ergonomic excellence. These supports prevent and alleviate back pain and reduce fatigue, associated with sitting for long periods. Back support is particularly critical for people who spend the bulk of their workday behind the steering wheel.

In extreme cases, you may want to consider replacing the seat itself. This is actually much easier than it sounds – and definitely worth the effort.

### **Steering Clear**

An ergonomic steering wheel? Absolutely!

Steering wheels were initially made out of metal or equally unyielding dense materials. They were also larger than they are today. The advent of power steering led to smaller, softer and more ergonomic steering wheels.

The original purpose of the steering wheel hasn’t changed since the days of Henry Ford. Today, however, the steering wheel usually houses an airbag and a horn. Many ergonomically-correct models also incorporate radio and cruise control elements.

### **Maybe It Should Be Called a “Neckrest”**

If you think your car’s headrest was designed for your head, you are partially right. You are also partially wrong. The headrest, properly placed is actually intended to protect your neck.

Unfortunately, headrests are not always spine or posture friendly. This lack of spinal support, resulting from the gap between the headrest and driver’s neck, may actually contribute to whiplash.

One American company is manufacturing an ergonomically-correct cushion that attaches to a car’s existing headrest. Following the natural curve of the cervical spine, it provides full support and encourages a relaxed, neutral posture that reduces back and lower-back pain – and may avert whiplash.

Headrests are equally necessary in the back seat to protect the neck from extension-related injuries; when the head lurches forward and backward in a rapid motion. “The headrest, whether in the front or back seat, should be high enough to prevent the head from falling backwards,” explains Dr. James Casper, a chiropractor based in Utica, New York, who has extensively studied car ergonomics. “If the headrest isn’t in the proper place, it becomes a fulcrum for the head to snap back over – as opposed to stopping the head’s backward momentum”.

### **Mirror, Mirror, on the Windshield ....**

To prevent poor driving posture, Dr. Casper suggests tilting your rear-view mirror upward. “This will cause you to sit up straight to look into the mirror, thereby improving the proper alignment of your spinal column and strengthening those posture muscles.”



“Most people spend several hours of their day in the car. You can do things to hurt yourself while driving (such as slouching and turning yourself into a human pretzel), or you can actually improve your health in the car by doing some subtle exercises that won't cause you to become distracted.”

Simply flexing the foot back and forth at the ankle can easily stretch calf muscles. (Caution: if you are driving, wait to flex the right foot until you are out the car!)

### **“I'm Driving Now .... Please Leave a Message”**

A cell phone that is not hands-free is perhaps the most ergonomic-unfriendly product on the planet. Cradled between the top of the shoulder and the ear, it's a cervical spine nightmare. Even Houdini would have problems with some of the contortions people twist themselves into while trying to drive, talk on the phone, change the radio station and eat lunch.

Some luxury cars feature the ultimate in hands-free phone use: voice-activated systems. By stating the name of the person to be called, or reciting the phone number, the system automatically does the dialling. The same holds true with the car's voice-activated navigation system.

As anyone who has studied ergonomics will tell you, no two people are created exactly alike. If we were, this would definitely be a one-size-fits-all world. That's why it's important to include your chiropractor in your quest for an ergonomic-friendly car. Make an appointment today and let your doctor of chiropractic help put you in the driver's seat: the ergonomically-correct driver's seat, that is!

### **Here's your Homework:**

The next time you settle into the driver's seat of your car, think for a moment and consider your surroundings.

- Can you reach the accelerator and brake pedals easily?
- Is your steering wheel at the correct height?
- How much space is behind the back of your neck and your headrest?
- Do you have a hands-free cell phone?
- Is your seat comfortable?
- Do you ever experience sciatica pain while driving?

Become fully conscious of your physical environment. If you answered “no” to any of the questions listed above, plan to make the necessary adjustments. Ask your doctor of chiropractic for recommendations specific to your needs.