

IMPRESSION

# TRAVEL BLADDER BLUES

Going on holiday? Make the most of your trip by knowing what to drink, when to drink, and why your water bottle might just be one of the most important travel companions.

BY DR. JAY LIM, UROLOGIST, UROLOGIST, PANASIA SURGERY GROUP



Travelling is one of Singaporeans' favourite pastimes. Whether you are a free-spirited young adult taking time to see the world, a parent with young children or teenagers, or a retiree fulfilling your age-old dreams, Singaporeans are amongst the most prolific travellers.

Woodlands checkpoint and Changi Airport rank high globally. The land crossing is one of the busiest in the world, with more than 350,000 crossing daily, while Changi consistently ranks high on the global airport scene. It is easy to see how travel is part and parcel of the Singaporean fabric.

As Po from Kung Fu Panda once said, "My old enemy, stairs." Looking for a toilet or thinking about peeing is never far from the minds of travellers and can be a big hassle for some. For some, travel is associated with getting sick or having urinary tract infections during or after a trip. Adults, particularly women, are prone to urinary tract infections, but are clueless as to why they happen. Similarly, I often hear how patients reduce their fluid intake once they are on the plane as they worry about not getting to the toilet in time or having to go unexpectedly. Others simply stay at home so that they are not troubled or be a nuisance for their family on overseas trips.

We fear the unknown, and for some, it's not knowing how often they will need to pee. To demystify the urinary system, we must understand how it works and apply some simple principles to make the trip much more predictable.

## THE BODY

A man's bladder's "functional" capacity is around 350 to 450mls, while a woman's bladder is slightly smaller, at 250 to 350mls for Asians. This is the volume at which most people empty their bladders, but depending on your needs, the bladder can be stretched by another 200 to 300mls. The kidneys continuously produces urine at the rate of 0.5–1.5 ml per kg per hour, so a 70kg man or 55 kg woman takes about three hours to fill the bladder.

## THE INTAKE

The daily recommended fluid intake is around two litres of pH-neutral fluid, which means plain water. However, coffee/tea and alcohol are among the most favourite beverages worldwide, which people mistakenly count as part of their fluid intake. Coffee and tea contain caffeine, a diuretic and bladder stimulant that makes your kidneys produce urine quickly and go to the toilet urgently. While it varies from individual to individual, caffeine's diuretic effect can cause the bladder to be full and urgent one to two hours after drinking. Alcohol is also a diuretic and has a similar impact on the urinary system. The critical thing to note is to drink consistently rather than a large amount of any fluid in a short period, as the kidney excretes any excess fluid very quickly and avoids overwhelming the bladder capacity in a short space of time.

## THE OUTPUT

With this knowledge, if you are hydrating with plain water, most adults would not have any issues on road trips holding on for three hours. Consequently, I try to achieve a voiding interval of at least two hours for my patients with overactive bladders, which allows my most "insecure" patients the courage to venture outside their comfort zone or even on a road trip to Kuala Lumpur on a commercial bus ride by taking note of the time they last void. Naturally, timing or limiting caffeine intake just before a long drive helps. In fact, most people tend to under-drink during road trips to prolong their voiding interval, and I use it at times as an adjunct for anxious patients.

Meanwhile, air travel significantly differs from road trips due to the environment and the access to plane toilets. In modern commercial planes, fresh air is mixed with recirculated air, filtered, heated, and pressurised before release into the cabin. The pressure in the cabin is maintained at 6000-8000 feet of atmospheric pressure, equivalent to 1800m to 2400m above sea level. Unless you stay at high altitudes, the air pressure is much lower than most humans are used to.

More importantly, cabin air is generally drier at 10-20% humidity compared to 30-65% on the ground to reduce damage to the airframe. This is, again, lower than Singaporeans' average humidity of 70-90%. Low humidity causes dry eyes, skin, sore throats, dehydration, and the occasional nosebleed. In short, the body loses water very quickly after take-off.

Understandably, air travellers tend to underdrink on the plane for various reasons. Young children glued to entertainment systems is a good distraction from pressure changes and a relief for parents who can finally take a breather from going through immigration and boarding. Adults collapse onto the seat and enjoy the services of full flight seats with tea, coffee, wine or they simply go to sleep. The elderly under-hydrate while fussing over grandchildren and avoid the toilet queue due to the hassle and the occasional air turbulence. Coupled with long flight hours, the body loses more fluid than a road trip or cruise of the same duration.

Depending on the destination, cooler weather may make sweating less appreciable, and dehydration may worsen due to lower humidity (not many places have higher humidity than Singapore), a lack of clean portable tap water, or the odd taste of water overseas. As a result, we are generally dehydrated the moment we board the plane. This worsens during the trip and on the return journey.



## THE OUTCOME

The result is the often noted situation why we 'fall sick' or, specifically for a group of people, develop urinary tract issues commonly after a trip. To avoid the pitfalls of travel, here are some suggestions to follow;

**1** Drink from your own bottle on flights and trips. Get a bottle with a known volume. Drink from that source consistently on the plane. Take a sip or two here and there and track your intake. When you hit two litres in a day, you know you are safe

**2** If you fail to plan, you plan to fail. Time your beverage intake. Whether you're drinking alcohol, coffee, or tea, time your intake so that you won't need to rush as the plane takes off or lands. Taking note of your voiding interval helps you plan to avoid the queue, especially after meal services.

**3** Children and teenagers need constant reminders to drink. Voiding is less of an issue as they simply queue and won't get lost on a plane.

**4** Continue hydrating once you land. Avoid large-volume drinking in a short time because the kidney reacts to your intake; a large intake means large output in a short time. Remember that even in a cold country, you are still losing fluid through evaporation, sweating, or talking. Hydration needs to be consistent before, during and after a trip. <sup>[P]</sup>