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TRAVEL MEDICINE

Jettisoning the lag of jet lag

*There was a young lady named Bright,
Whose speed was far faster than light;
She started one day
In a relative way,
And returned on the previous night.*

A. H. Reginald Buller seems to have predicted in 1923 in Punch magazine that travelling speeds and distances would increase tremendously. Ms Bright must have been totally bewildered and suffered an extreme form of jet lag, which literally is the feeling that, though you are physically in one place, your mind and internal body clock is in a completely different time zone. The sun is shining brightly in the late afternoon after you had flown from London to Vancouver a number of time zones to the west, and you are yawning even as you are trying to admire the stunning mountainous scenery. Or though vibrant Singapore tries to beckon you, who had arrived a few hours earlier from Johannesburg, to a breakfast of delightful tropical fruit, she finds you soundly snoring in your bed.

Any long journey can lead to travel fatigue, even though no or very few time zones are crossed. A Cape Town to London flight can lead to non-specific symptoms of lethargy, sleep disturbances, irritability, and appetite disturbances. Sitting in cramped conditions in an aircraft for prolonged periods, irregular meals, frustrations at airports with its inevitable check-in and security issues, can all cause aggravations. It is

normally reversed within a day or two after arriving at the destination with sufficient rest, sleep and proper meals. Its impact can be minimised by planning the journey well in advance, arriving at the airport timeously, not being agitated easily and generally being in a jovial mood. Of course flying business class, which speeds up check-in at dedicated counters, and having access to airport lounges, can be immensely beneficial, even if it's only for the privileged few!

Jet lag is a defined sleep disturbance disorder which results from a temporary misalignment between the internal body clock and the external local time cues present at the destination. Insomnia, daytime sleepiness, mood disturbances, inability to perform at the peak of cognitive faculties, gastrointestinal disturbances and a general lack of energy can manifest in one form or the other. Its severity depends on the number of time zones crossed, the duration of the journey, the direction of travel as eastward travel is generally more difficult than westward travel, the ability to sleep whilst travelling, the intensity of time cues at the destination, and individual tolerances to stresses. These effects persist until the body's internal clock is realigned with the local time. Jet lag occurs if more than three time zones are crossed.

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The internal clock follows a predictable circadian rhythm. Hence after flying eastwards, the body's internal clock is still a few hours 'behind' the local time, and there is difficulty in falling asleep in the evening (yes, it's 3am Wednesday in



Business lounges certainly relaxes the mind



Not all are privileged to access first class lounges

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Boarding security and custom issues can certainly aggravate travel fatigue



Queues can be frustrating



Economy class passengers can still relax in comfort at most airports



Traveling in a jovial group diminishes travel fatigue alcohol can aggravate it

There are unfortunately no easy solutions presently available for journeys involving crossing multiple time zones

Singapore but it's only 9pm Tuesday according to your body's South African clock with lots of time to party!) and waking up in the morning. After westward travel there is early evening sleepiness with early morning awakening (hey, your South African clock says it's 10am and you are starving for breakfast whilst the time in Vancouver lags nine hours behind at 1am!). After travelling in an eastward direction, it generally takes two-thirds of the number of time zones crossed in the number of days to fully recover from jet lag. The number of days required to recover from westward flights is roughly equal to half the number of time zones crossed. The reason that westward travel is 'easier' stems from the fact that the intrinsic body clock is longer than 24 hours, so 'slowing it down' seems easier than 'speeding it up.' The sleep-wake cycle is intricately controlled by the body via receptors in the brain. The hormone responsible for this is melatonin, the secretion of which is suppressed by light and stimulated by darkness.

It is generally advised not to plan important meetings, or for athletes to participate in events, within the first day or two after crossing a number of time zones. If staying for only one or two days at such a destination, it is best to stick to 'home time' and plan activities such as meals and sleep around that as far as possible. Some general strategies revolve around priming the body for the destination time. If flying eastward, going to bed earlier by an hour

or two in the two weeks before the flight and ensuring darkness in the room

(encouraging melatonin secretion) can help. Waking up earlier and exposure to bright light will switch off melatonin secretion, as would happen at the destination. Melatonin supplements

can be taken at bedtime or earlier on the day of departure, and when going to bed at the destination.

Similarly, if the flight is westbound, sleeping later gradually over a period of a week or two before the journey and ensuring that bright lights are on till late at night (suppressing melatonin secretion), is a measure worthwhile considering. In this case melatonin can be taken early in the morning on the day of departure, simulating the 'night-time' activity of those living at the destination.

The newer short acting hypnotic drugs can be used to induce sleep either on the aircraft or at the destination. This has to be done in consultation with a travel medicine practitioner as rebound insomnia, some degree of amnesia, lower doses for the fairer sex and the elderly, as well as interactions with alcohol and medications need to be taken into account. Melatonin is only available in South Africa in the form of a supplement and it has a rather flat response effect for doses ranging from 0.5mg to 6mg. Special diets, exercise regimes, herbal supplements have minimal, if any effects on jet lag.

Certain stimulants are used to help with day-time sleepiness. Caffeine, modafinil and even methylphenidate have been used but the latter two have to be used with caution and in consultation with a medical professional.

There are unfortunately no easy solutions presently available for journeys involving crossing multiple time zones. Awareness of jet lag and planning ahead can certainly help jettisoning the 'lag' in starting to appreciate a far off destination!