

REST HUB

Travel Ready

Jet Lag vs. Travel Fatigue

Jet lag

- > Circadian rhythms are ~24 hour physiological cycles (i.e., peaks and troughs) controlled by an area in the brain called the suprachiasmatic nucleus. These cycles are collectively referred to as 'the body clock'.
- > Our eyes detect patterns of light/dark and send signals to the body clock to keep our biology 'in sync' with the real world.
- > When travellers cross multiple (i.e., ≥3) time zones, a temporary misalignment occurs between the body clock and the new time zone's light-dark cycle.
- > Jet lag is an exogenous circadian rhythm disorder that temporarily impairs sleep and other biological processes.
- > Symptoms may include poor sleep, daytime fatigue, performance decrements, and gastrointestinal discomfort.
- > The severity and longevity of symptoms increase with the number of time zones crossed and alleviate as the body clock adjusts to the timing of the new time zone's light-dark cycle.
- > Light can be used as a powerful tool to synchronise the body clock to a new time zone. By scheduling appropriately timed periods of light exposure and avoidance, the body clock can be manipulated to adapt to a new time zone at a faster rate.
- > The body clock resets every ~24 hours, meaning it is quicker for it to move later in the day (delay; often westward travel) rather than earlier in the day (advance; often eastward travel).
- > On average, the body adjusts ~2 hours per day when 'delaying' and ~1 hour per day when advancing. This often means jet lag symptoms subside faster when travelling west than east.

Travel fatigue

- > Travel fatigue is the result of **any** physiological or psychological stressor encountered during, and immediately following long-haul travel, and can be acute or chronic.
- > Symptoms may include tiredness, general fatigue, and changes in mood state.
- > Travel fatigue can occur independent of jet lag, regardless of whether time zones are crossed. For example, travelling from Johannesburg to London requires 13-17 hours of travel time, but only a 1 hour change in time zone, likely resulting in travel fatigue but not jet lag.

Travel fatigue: considerations, challenges, & management strategies.

Consideration	Challenge	Management strategies
Opportunity for sleep	Travel may require early wake times or a stopover in the middle of the night, when you would ordinarily be sleeping in your home environment.	Prioritise rest and sleep whenever possible. Do not be concerned with aligning sleep to the destination time zone during travel.
Cabin environment	The cabin environment may impact resting physiology (e.g., reduced blood flow to the extremities), general comfort, and sleep.	Wear medical grade compression socks. Use hydrating products (e.g., eye drops, nose spray). Consider seating location and use items such as ear plugs/eye mask to control the environment to suit individual needs.
Logistical stressors	Disruptions to typical routines (e.g., sleep, training). Door-to-door logistics and travel processes (e.g., travel preparations, check-in, security screening, embarking/disembarking) can be long and arduous.	Prepare for a variety of scenarios and acknowledge that routines will inevitably be disrupted. Prepare for the unexpected and encourage flexibility.
Diet & fluids	Differences in the timing, availability, quantity, and nutritional quality of meals or fluids.	Consult a sports dietitian to identify and optimise individualised recommendations.