

# Crossing 5+ time zones more than doubles illness risk for elite athletes

August 8 2012

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Elite athletes who cross more than five time zones to compete are around two to three times as likely to get ill as when they compete on their home turf, suggests research published online in the *British Journal of Sports Medicine*.

The researchers tracked the daily health of 259 elite rugby players competing in the 2010 Super 14 Rugby Tournament.

In this annual tournament, 14 teams from Australia, South Africa and New Zealand compete over 16 weeks (February to May) at venues in all three countries, and in [time zones](#) varying from 2 to 11 hours' difference from their own.

Games are played weekly to a [high intensity](#) international standard, accompanied by three to five weekly training sessions over the 16 week period.

The 8 team physicians were asked to complete a daily log of any [illness](#) that required [medical attention](#) for each member of their squad.

The rate of illness was calculated for 1000 player days, with the total number of player days across all the teams 22,676, based on squad size x days of play.

Throughout the 16 weeks of the tournament, 469 illnesses were reported in 187 of the players (just over 72%), giving an overall incidence of just

under 21 per 1000 player days.

But the rate varied considerably, depending on where the matches were played.

For matches played on home turf before international travel, the incidence was 15.4/1000 player days.

But this rose to 32.6/1000 player days for matches played in locations that were 5+ hours' time difference away from home, irrespective of direction of travel.

For matches played on return back home after international travel, the incidence fell back to 10.6/1000 player days.

Almost one in three of all illnesses reported were [respiratory conditions](#) (just under 31%), followed by gut problems (27.5%) and skin and soft tissue conditions (22.5%). Infections accounted for most of the reported illnesses.

There was little difference in the number of infections reported for each of the months, although there was a slight fall in incidence during April.

It has been suggested that air travel might explain the higher risk of illness, but if that were the case, infection rates would also be higher after returning home, say the authors—at least for respiratory infections.

"The results from our study indicate that the illness risk is not directly related to the travel itself, but rather the arrival and location of the team at a distant destination," write the authors.

They suggest that various stressors could be involved, including changes in pollution, temperature, allergens, humidity, altitude, as well as

different food, germs, and culture.

Provided by British Medical Journal

Citation: Crossing 5+ time zones more than doubles illness risk for elite athletes (2012, August 8)  
retrieved 4 May 2024 from

<https://medicalxpress.com/news/2012-08-zones-illness-elite-athletes.html>

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