

BASEBALL;Jet Lag Could Lead to Some Lazy Flies

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Oh, the travails of travel -- and the seductive appeal of baseball statistics. Jetting across time zones can bring on headache, insomnia, fatigue, and a feeling of fuzzy-headedness. Baseball statistics have been known to cause the same symptoms, but no fan is able to resist them.

A University of Massachusetts neurologist and two colleagues are the latest to succumb to the numbers game, reporting that for major league baseball players, jet lag may mean the difference between winning and losing a game and, possibly, between winning and losing a division race.

Using records for the last three complete baseball seasons, Dr. Lawrence D. Recht and Dr. William J. Schwartz of the University of Massachusetts Medical School, and Dr. Robert A. Lew of the Brigham and Women's Hospital in Boston concluded that West Coast teams that had just traveled to the East Coast gave up at least one additional run in each game they played. Their conclusions were published in a letter in today's issue of *Nature*, a British science journal.

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Schwartz said in an interview that the study is "certainly a very preliminary look." But, he and his colleagues reported, "in 1991 and 1993, the National League Western Division races were lost by West Coast teams to their eastern rivals by only one game." Both times, Atlanta was the winner, first over Los Angeles and then over San Francisco.

The study of baseball records began "as a lark," Recht said. At lunch one day, Schwartz was telling Recht about the lack of good data showing jet lag's effects. Recht, an avid baseball fan, proclaimed that baseball records might

be a trove of information.

The doctors bought books of box scores and set to work. They looked at performance when West Coast teams traveled east because sleep researchers have found that eastward travel is more difficult than westward travel. Going east requires people to go to bed earlier and awaken earlier than normal and the body's natural inclination is to have its internal clock drift toward a longer day, not a shorter one.

Using baseball statistics to look for a jet-lag effect is "a cute idea," said Dr. Gary S. Richardson, director of the sleep disorders service at the Brigham and Women's Hospital. And, he added, "it constitutes the first statistical evidence," that jet lag directly alters athletic performances.

But Dr. Carl Morris, who is chairman of the statistics department at Harvard University, cautioned that the researchers did not analyze enough data for him to have confidence in their conclusions. "I would want to see more evidence," he said, adding that he is "wondering if it's not just a spurious result."

Morris is puzzled, for example, by the fact that the investigators report that East Coast teams do not seem to do worse when they travel from the West Coast back home, although their own theory says they should. (Schwartz said that the jet-lag disadvantage is canceled out by the home-field advantage, but Morris said they did not show that.)

Tony Gwynn, who has played for the San Diego Padres for 14 years, and has won six batting titles, said: "I don't buy it, because the game is a mental game from my standpoint. Everybody, West Coast teams, East Coast teams, deal with the same things. If you let fatigue, restless nights interfere with your performance, it's an excuse."

Even so, Gwynn does make a concession to the time change when he's playing in the East. He normally goes to bed at 1 A.M. on the West Coast, he said, so to remain consistent, he tries to go to bed at 4 A.M. in the East.

That's because, Gwynn said, it's more difficult in general to win on the road. "You have to concentrate more, execute more, pitch more if you expect to win on a consistent basis on the road," he said. "You're not in your own bed, your eating schedule is off. You have to be better than the other clubs."

Circadian advantage

From Wikipedia, the free encyclopedia

Circadian advantage is a term that refers to a sporting team's advantage over another by virtue of its relative degree of acclimation to a time zone versus their opponent. While this concept was explored by researchers at Stanford in 1997,^[1] and at the University of Massachusetts,^[2] the term was coined in 2004 by Dr. W. Christopher Winter, a sleep specialist and neurologist studying the effects of travel between time zones on Major League Baseball (MLB) performance.^[3] This study was expanded into a ten-year retrospective study with a grant through MLB that was completed by Dr. Winter and his research assistant Noah H. Green, then an undergraduate student at the University of Virginia. The work was presented in 2008 at the 22nd Annual Meeting of the Associated Professional Sleep Societies in Baltimore, Maryland.^[4]

Using the convention that for every time zone crossed, synchronization to that time zone requires one day, teams can be analyzed during a season to see where they are in terms of being acclimated to their time zone of play. For example, consider a MLB team based in Washington D.C. If they have been competing at home for the last 3 days or more, they would be completely acclimated to Eastern Standard Time (EST). If they were to travel to Los Angeles, upon arrival they would be 3 hours off, because they traveled 3 time zones west. Every 24 hours spent on the west coast, would bring them 1 hour closer to acclimation.^[5] So after 24 hours in Los Angeles, they would be 2 hours off. After 48 hours, they would be 1 hour off, and after 72 hours, they would be acclimated to west coast time and would stay that way until they left their time zone.

Unlike home field advantage which is present any time two teams play a game that is not held in a neutral site, circadian advantage does not apply to all games. In a typical MLB season, it applies to approximately 20% of games played with the other 80% featuring teams at equal circadian advantage. In sports that allow more time between games, it may apply to significantly fewer games. Circadian advantage is much more of an issue in sports that feature significant international travel.

Circadian advantage is most significant when a team holds a 3-hour advantage (or more) over another. This match-up is only encountered after coast-to-coast flights in the continental United States where the traveling team plays soon after arrival. As the magnitude of time zone differences between two teams becomes smaller, so too does circadian advantage.

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