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# Sleep preference can predict performance of Major League Baseball pitchers

## Pitchers who are 'morning types' appear to have an advantage over night owls

WESTCHESTER, IL – A Major League Baseball pitcher's natural sleep preference might affect how he performs in day and night games, according to a research abstract that will be presented Wednesday, June 9, 2010, in San Antonio, Texas, at SLEEP 2010, the 24th annual meeting of the Associated Professional Sleep Societies LLC.

Results indicate that pitchers who were morning types performed statistically better overall than those who were evening types. In early games that started before 7 p.m., the earned run average (ERA) of pitchers who were morning types (3.06) was lower than the average ERA of pitchers who were evening types (3.49); however, in games that started at 7 p.m. or later, pitchers who were evening types performed slightly better (4.07 ERA) than morning types (4.15 ERA).

"We were surprised to see that chronotype did affect pitching," said principal investigator and lead author W. Christopher Winter, MD, medical director of the Martha Jefferson Hospital Sleep Medicine Center in Charlottesville, Va. "We were also surprised to see that pitchers who were more 'morning type' seemed to do better overall."

Individual pitchers showed a trend toward higher ERAs in the late games. According to Winter, this supports previous research showing that the peak performance time for most athletes is between mid-afternoon and early evening.

The study involved 18 pitchers from five MLB teams: the Los Angeles Dodgers, New York Mets, Philadelphia Phillies, San Francisco Giants and Tampa Bay Rays. Sleep preference was determined using a modified version of the Morningness-Eveningness Questionnaire (MEQ). It identifies a person's tendency to be either a morning type who prefers to go to bed and wake up early, or an evening type who prefers to stay up late at night and wake up late in the day. Ten participants were found to be evening types, and eight were morning types.

The study used the players' statistics from the 2009 season, which provided about 728 early innings and 845 late innings for analysis. Game start times were adjusted for travel using the principle that for every time zone crossed, it takes 24 hours to adjust.

"These results are important as they are potentially giving insight into an entirely new way to grade or classify an athlete, in this specific case a pitcher," said Winter. "This study may provide insight as to which pitchers would be best in a given situation based upon when the game is being played. For example, a critical game being played in the evening might be a better situation to pitch an evening-type pitcher versus a day-type pitcher."

Winter also has studied the effect of travel across time zones on the performance of MLB teams. At SLEEP 2008 he presented the initial findings of a 10-year retrospective study that was later published in the September 2009 issue of the *International Journal of Sports Physiology and Performance*. He found that teams traveling from Western time zones to Eastern time zones were 14 percent more likely to win than teams traveling from east to west. Teams also won more than 60 percent of the games in which they had a three-hour "circadian advantage."

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The SLEEP 2010 abstract supplement is available for download on the website of the journal *Sleep* at <http://www.journalsleep.org/ViewAbstractSupplement.aspx>.

A joint venture of the American Academy of Sleep Medicine and the Sleep Research Society, the annual SLEEP meeting brings together an international body of more than 5,000 leading clinicians and scientists in the fields of sleep medicine and sleep research. At SLEEP 2010 more than 1,100 research abstract presentations will showcase new findings that contribute to the understanding of sleep and the effective diagnosis and treatment of sleep disorders such as insomnia, narcolepsy and sleep apnea.

