

Time Zone Travel Negatively Impacts National Hockey League Performance Indicators



Overall Findings

- Significant effects of travel on two indicators of hockey performance for two NHL teams
 - Hits
 - Shots

Performance Edge in Professional Sports

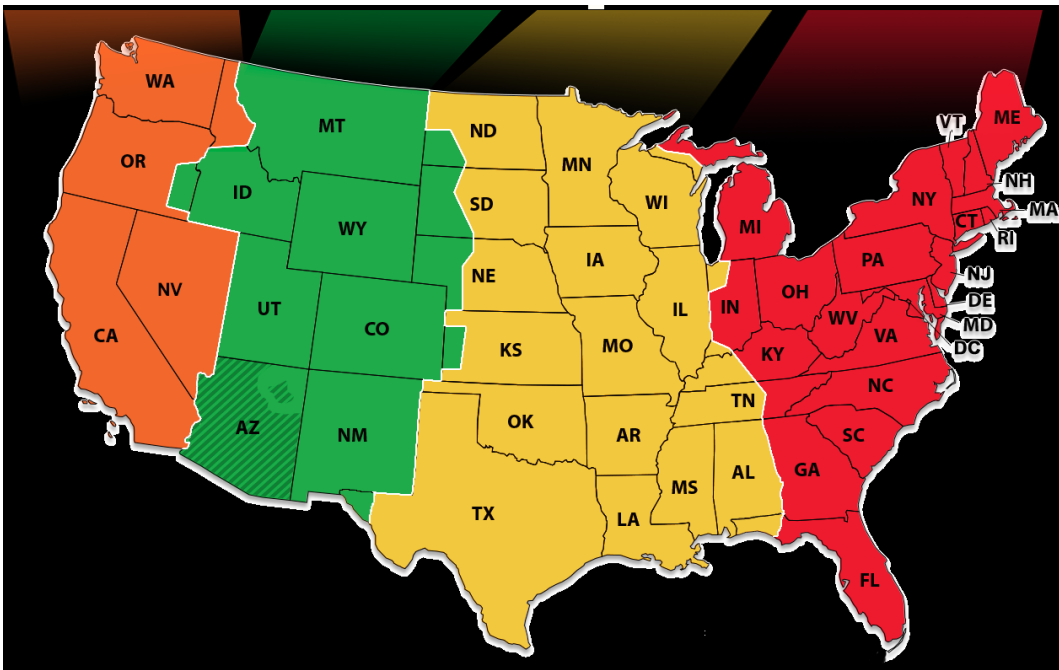
- Influenced by nutrition, sleep, and recovery
- Travel westward produces “circadian disadvantage” (J Sleep Res 2018 Feb; 27(1):86-89)
- Increase trainer/coach awareness to enhance coping strategies





Blue Jackets coach John Tortorella says “there’s not many things that you can control in the game. Conditioning is one.” [JOSHUA A. BICKEL/DISPATCH] 8/16/20

Issues with Time Zone Travel?

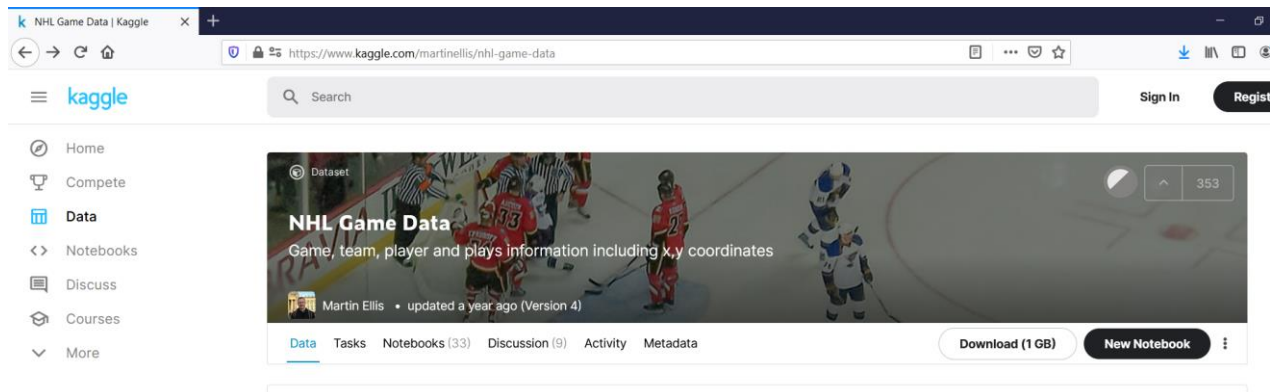


www.time.gov

- Two NHL teams in EDT were Western Conference teams prior to 2013! CBJ, DET
- *Does travel from Eastern to Western time zones negatively impact subsequent game performance of NHL Eastern conference teams?*

NHL Game Dataset

- Time zone info, dates, wins, goals, shots, hits, faceoff wins, powerplay goals, etc. as well as individual player data
- [Raw data available here](https://www.kaggle.com/martinellis/nhl-game-data) from Kaggle dataset “NHL Game Data” curated by Martin Ellis
- 11,412 records from Oct. 2010 - May 2019 for CBJ and DET

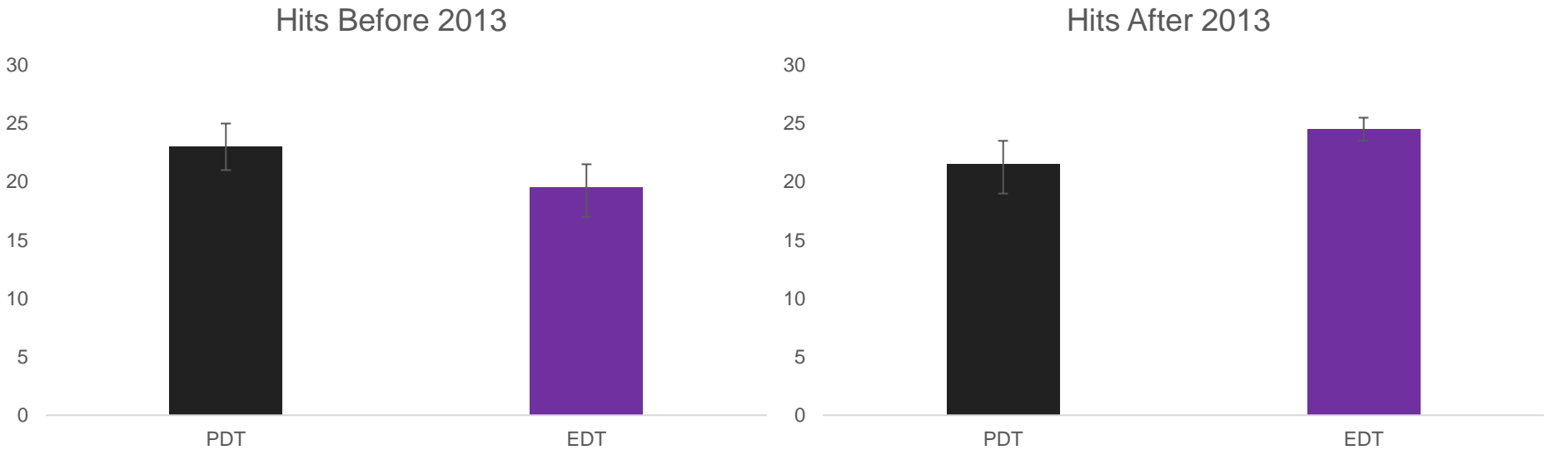


Data Setup and Analysis

- Games divided into before/after 2013 for two teams
- Performance between PDT and EDT compared
- Performance indicators: shots and hits

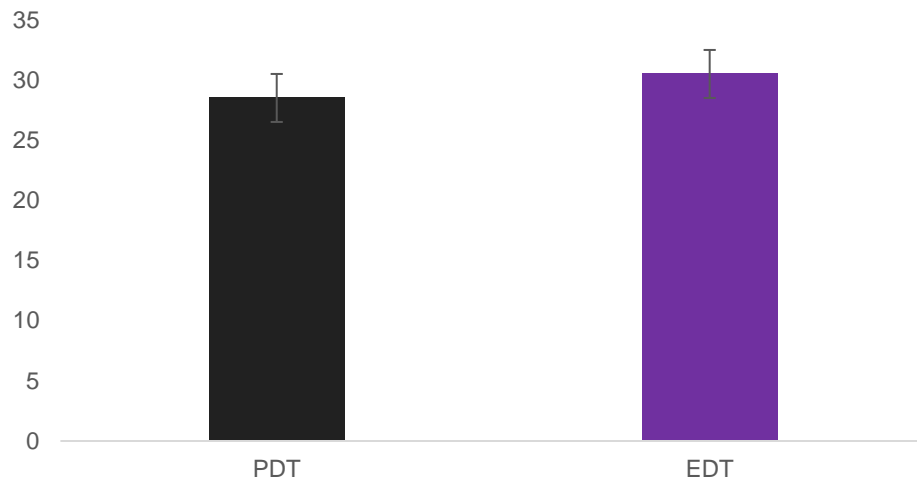


Statistically Significant Differences in Hits between Time Zones

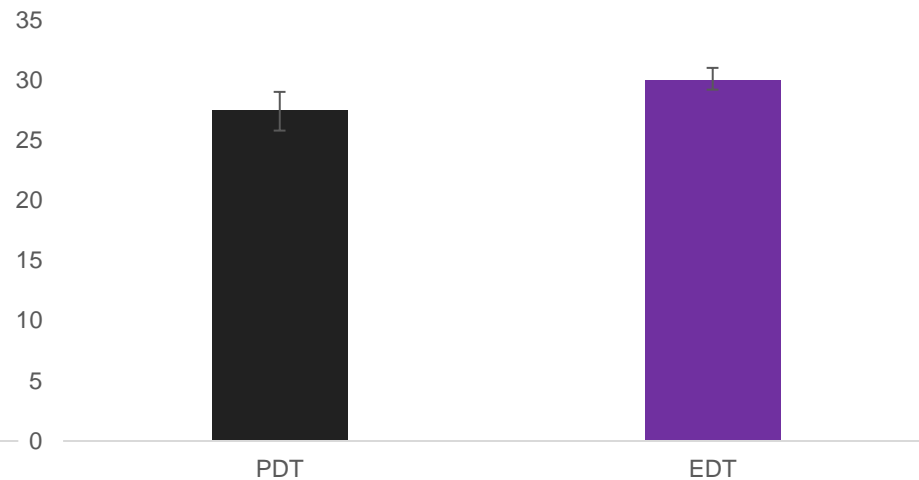


Statistically Significant Differences in Shots between Time Zones

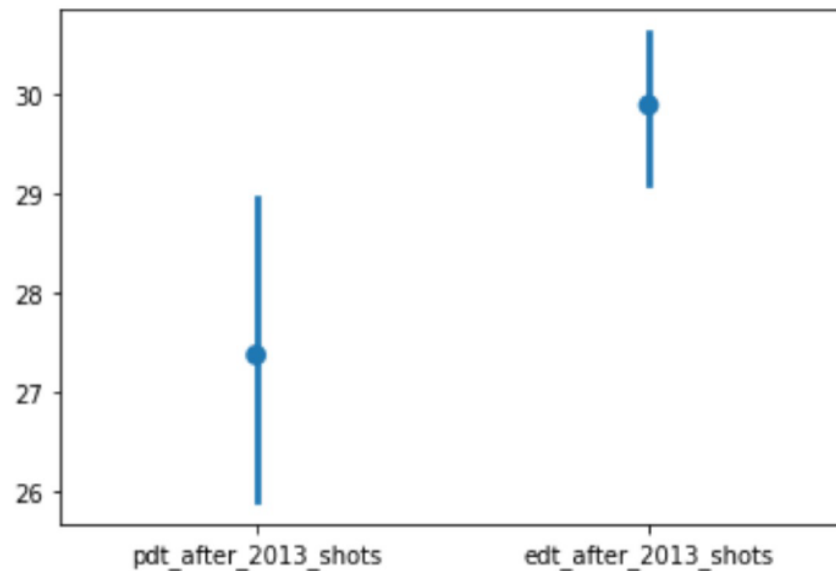
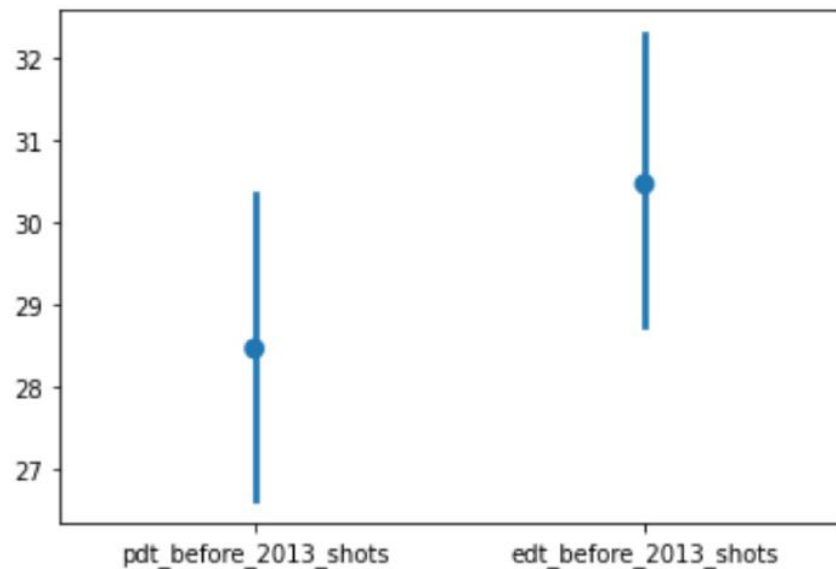
Shots Before 2013



Shots After 2013



Another View of Shots



Conclusions and Next Steps

- Significant effects of travel on two indicators of hockey performance for two teams
- Further Research
 - Look at other Eastern Conference teams
 - Ideal: Eastern time zone 1-2 days after return travel from the Western time zone

Keep Your Players Happy...

- Increase awareness of time zone effects on performance
- Mitigation using nutrition, physical recovery strategies, light exposure (Sports Med. 2012 Mar 1;42(3):185-208)



THINKFUL



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Questions?

THANKFUL

Thank You