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## ***How important are faceoffs to possession in women's hockey?***

As a result of women's hockey analytics needing to play "catch up," it's not unusual to see analysts relying on stats that have already been proven to be less insightful in the men's game. One such area of the game that is frequently highlighted at the collegiate, professional, and international levels of the women's game are faceoffs.

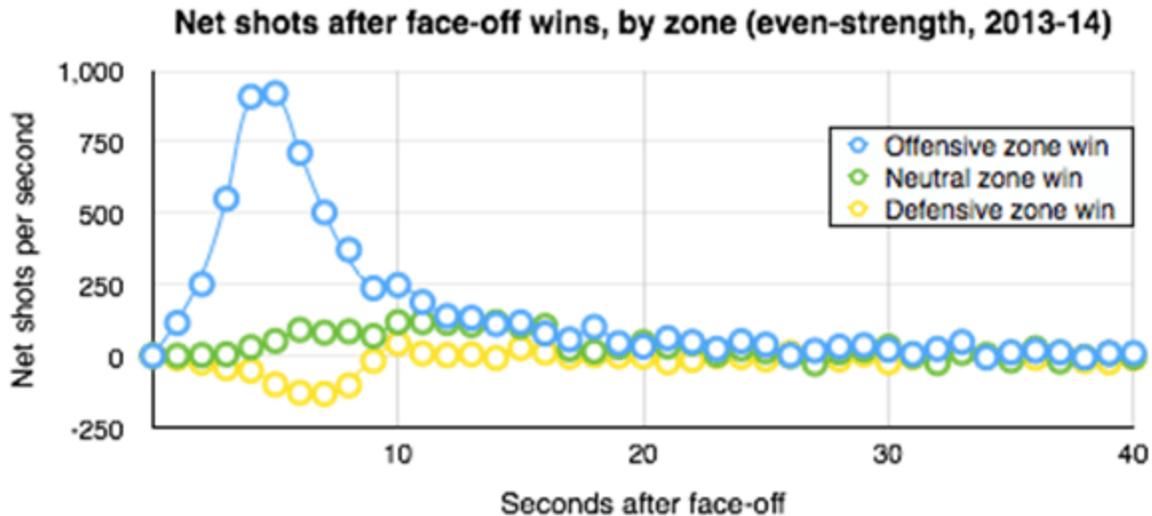
Faceoffs have been covered extensively in men's hockey, and much of that work points to the fact that faceoffs wins aren't all that they're chalked up to be. Back in 2015, [Arik Parnass](#), now of the Colorado Avalanche, found, "This ... aligns with what hockey analysis has found over the years when it comes to faceoffs. Overall, winning them just isn't as important as it's made out to be."

While a great deal of work has been done on the importance (or lack thereof) of faceoffs in the men's game but the same cannot be said of women's hockey. But why would it be any different?

Generally speaking, the rules against body-checking in the women's game put an emphasis on puck possession and passing. That rule could also influence the role that wingers play in winning draws, and, more importantly, make "winning" the puck in a faceoff more valuable than it is in the men's game.

To examine how valuable faceoffs are to possession in the women's game, starting at the NWHL (National Women's Hockey League) level, we looked at all net shots post-faceoff for all games in Lake Placid. The NWHL follows NCAA rules that assess at least a minor penalty for any kind of body checking.

This approach was inspired by Craig Tabita's work for hockeyprospectus.com and Gabe Desjardins' work on the topic, [published in 2011 on SB Nation](#). Alison Lukan highlighted Tabita's work in an article she wrote for [The Athletic in 2017](#): "Tabita found that after 10 seconds of play, regardless of where a face-off occurs (neutral zone, offensive zone, defensive zone) that shot volume evens out to be more or less the same."



Following Tabita and Desjardins’ work – and with other research on the value of faceoffs in mind – we looked at net shots post-faceoff for the 15 NWHL games in Lake Placid to determine if faceoffs are potentially more valuable in the women’s game than they are in the men’s game.

## Overview

We were expecting to see a difference in net shots post-faceoff in the offensive zone – perhaps a longer window than Tabita’s 10 seconds – but were unsure what we’d see from neutral zone and defensive zone draws. The results definitely surprised us.

- We looked at every event from the NWHL data set and isolated the faceoff wins that ended with a shot. From there we used the x,y coordinates to place the faceoff in its appropriate zone and the time stamp to determine how long it took for a shot to be attempted.
- Once we had the data we wanted to work with, we plotted it to compare it to similar visualizations created by Desjardins and Tabita to identify any potential trends.
- We broke down data to compare shots by seconds after a draw, comparing the numbers for each zone.
- Data also compiled to separate shots after faceoffs by strength, as well as by team.

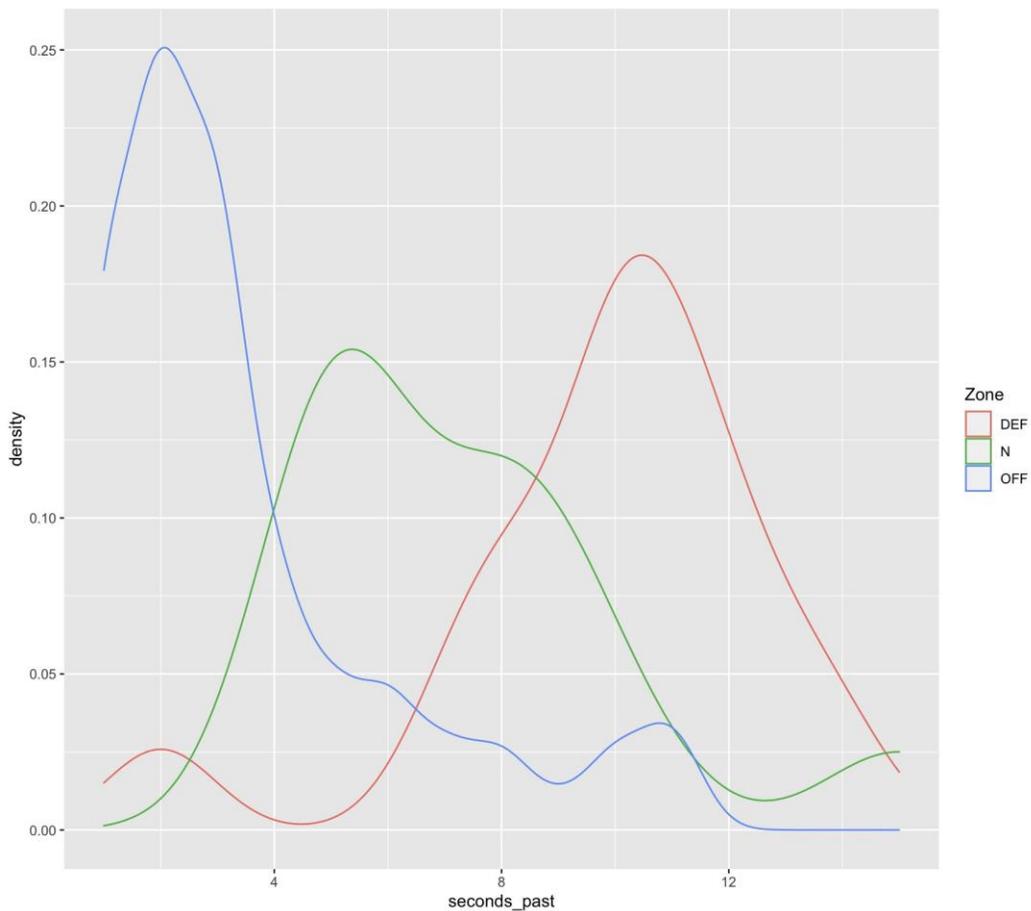
From a sample of over 200 faceoff wins – 166 offensive zone, 15 neutral zone, and 20 defensive zone – we, predictably, saw the most noticeable spike in net shots post-faceoff from the offensive zone. The majority of those shots came quickly off the draw – within the first four seconds. The longer time rolled on post-draw, the fewer shots generated that reached the net. That generally lines up with Tabita and Desjardins’ work. But the drop off in net shots in the seconds to follow do pose the question as to whether faceoff wins truly make a difference in

sustained pressure; teams could be simply firing shots quickly and having to shift right back to defense.

Unlike men's hockey, there are spikes in net shots after draws in the neutral zone and defensive end. Most shots generated after neutral zone draws occur in the four to eight second span of time after the faceoff. Shots created after defensive zone draws often take more time – somewhere in the eight to 10 second range.

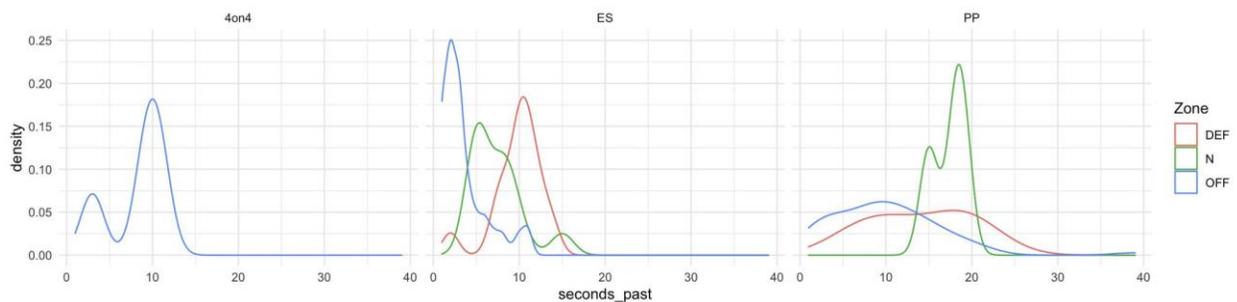
While shots were quickly taken after offensive zone draws before taking a steep decline, neutral and defensive zone wins may correlate to more possession because the team that wins the draw manages to transition the puck up the ice to generate shots on goal.

Teams can often regain the puck after shots are taken, but when a team has possession and is skating up the ice, there has to be more strategy involved without body-checking like stick checks. That could indicate that the body checking rule is influential on women's hockey's emphasis on puck possession, and may point to faceoffs being more important outside the offensive zone to driving play up the ice.



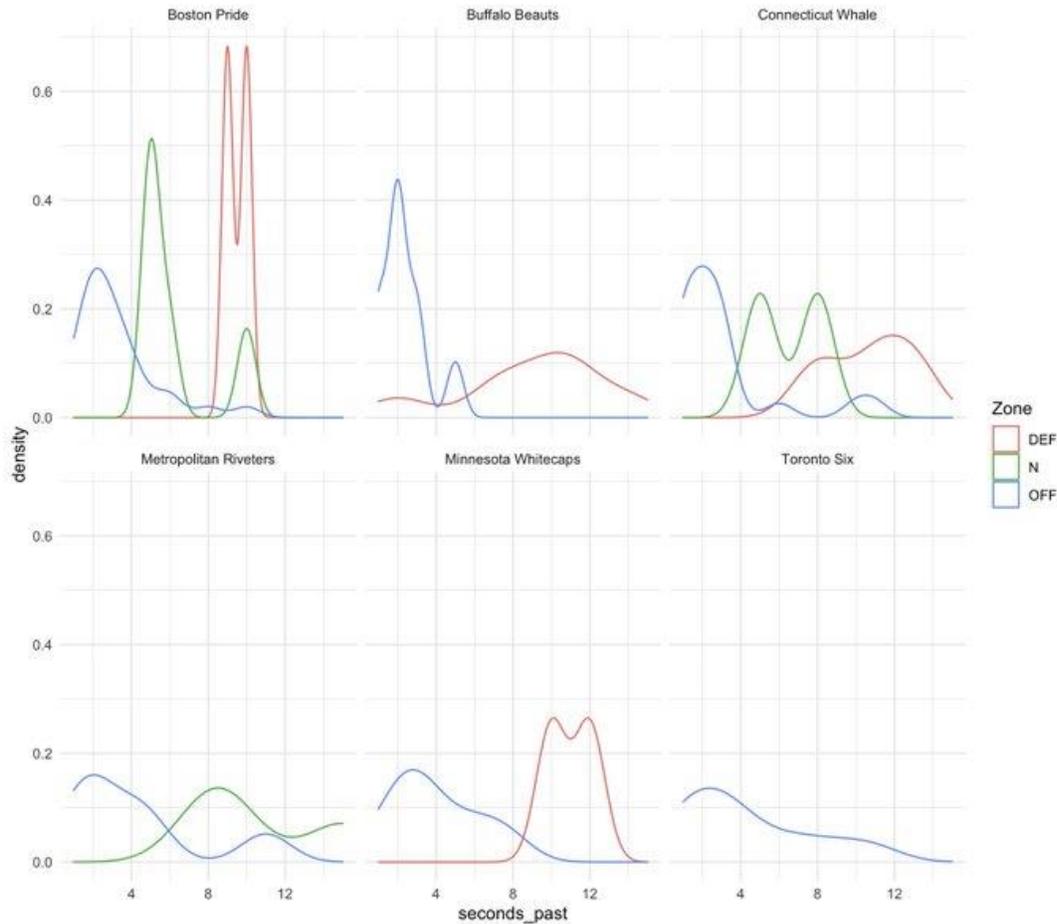
## Weaknesses

The biggest weakness of our research is sample size. The NWHL's play in Lake Placid was intended to be a condensed two-week season featuring round-robin games and the playoffs because the pandemic impeded their ability to put on a regular season. Teams were limited to at most seven games before the NWHL season was halted. Comparatively, the 2019-20 season featured 24 regular season games per team.



What's also tricky about focusing on Lake Placid is that teams played an uneven number of games due to COVID-19 related factors. The Metropolitan Riveters played just three games, while the Boston Pride led the league with seven. Of course, not all teams are created equally in

regards to their success in faceoffs or puck possession.



Another challenge comes from the condensed schedule. Due to the pandemic, teams were not able to put in the same offseason training as they typically would to prepare for the new year.

Due to this season's entire schedule being limited to two weeks, there wasn't enough time to examine each team's body of work to make significant changes. Strategic changes often had to come on the fly, or quickly between games. Plus, there were only so many games to analyze, and there's only so much to draw from this sample.

Another detail that came as a result of the condensed schedule was the size of the bench. The NWHL's bench usually consists of nine forwards and seven defenders, and possibly features players roving between positions within those constraints. For Lake Placid, the benches were extended to allow 12 forwards. That depth may have changed average shift lengths, which can affect possession as well.

At the very least, exploring data from Lake Placid gave us a starting point for further research.

## Further Research

Studying the conclusion of the 2020-21 NWHL season would be the next step, as would analyzing future seasons depending on the availability of data, which is always a hurdle in women's hockey. Having a full season – or at least one standard season of NWHL hockey – could help provide more insights into the importance of faceoffs on shot generation, and eventually, scoring.

Pairing this data with video would also provide further insights and could provide direction for application by players and coaches, as it would help show how those playing alongside the center can help drive play to maintain possession, whether there's quick puck movement or more protection around the center to make the most of the possession gained from a faceoff win.

The process of moving the puck up the ice after neutral zone and defensive draws could be studied with video as well, as it would help us determine just how key winning a faceoff was to the eventual shot.

By expanding our sample, we can get a better idea of each team's tactics as well – especially for those who generally aren't as strong on the dot.

Conversely, we can try to learn more about how teams regain possession after losing draws and how they limit shots that result from their opponents winning draws.

## **Concluding Thoughts**

- There appears to be a connection to faceoff wins and generating shots, similar to findings done with research into the men's game.
- The timing of those shots does vary based on where the faceoff was won, although each appears to be in accordance with the distance needed to get from the dot to the net.
- Unlike findings by Tabita, Desjardins, and others in net shots post-faceoff in the men's game, it appears that there is value in winning faceoffs in the neutral and defensive zones in high level women's hockey. However, the level of that value is difficult to determine due to small sample size.
- These findings call into question the overall impact of rules against body-checking and how they affect the flow of play and possession in the women's game.
- But further research is needed to determine if winning faceoffs in women's hockey is more valuable in regards to possession and creating offense than it is in men's hockey, preferably in a complete, standard regular season without the wrinkles of Lake Placid, with the typical bench size.