

2015 Stanley Cup Playoffs Analytics Report  
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## Advanced Statistics

The following are the advanced statistics used, along with their weighing factor:

### *Corsi For % (Corsi) – 20%*

Corsi is a measurement of shots on goal, blocked shots, and missed shots. Corsi For refers to the total number of shots by the team vs Corsi Against which refers to the number of shots by opposing teams. The percentage computes this as

$$\text{Corsi For} / (\text{Corsi For} + \text{Corsi Against})$$

### *Fenwick For % (Fenwick) – 20%*

Fenwick measures shots on goal and missed shots (same as Corsi, without blocked shots). Fenwick For refers to the total number of Fenwick shots by the team vs Fenwick Against which refers to the number of Fenwick shots by opposing teams. The percentage computes this as

$$\text{Fenwick For} / (\text{Fenwick For} + \text{Fenwick Against})$$

### *Special Teams (Corsi PP, Corsi PK, Fenwick PP, Fenwick PK) – 5% each*

Corsi For % and Fenwick For % (see above) calculated during Power Play (PP) and Penalty Kill (PK).

### *Even Save % - 20%*

Team save percentage. I consider this the most controversial of the advanced statistics used (its really not “advanced”). I continue to use it as I am a firm believer in the ability of goaltenders to “steal” games.

### *PDO – 10%*

PDO is the shooting percentage + the save percentage and is considered a good measure of “luck”. Any team with a PDO > 1.000 is considered “lucky” and more likely that their statistics are inflated.

### *Home Ice – 10%*

The importance of home ice varies by team and round. In order to account for this as best as I could, I used statistics calculated from the lockout to determine the contribution of home ice advantage. (Source: <http://bleacherreport.com/articles/1630882-how-much-does-home-ice-matter-in-the-stanley-cup-playoffs>, updated through 2014)

Prelims	Conf. Semis	Conf. Finals	Cup Finals
56.9%	50.0%	50.0%	77.8%

## Normalization

Most advanced statistics are normalized against the worst and best NHL regular season record and multiplied by the weighting factor by the following formula

$$\frac{(Team - League Low)}{(League High - League Low)} * Weighting Factor * 100$$

PDO is calculated slightly different, based on normalization around 1.000.

## Result

The normalized and weighted terms are added together and the team with the larger number wins. The difference between the teams is computed in order to determine the strength of one team against another, which is used as a proxy to determine the amount of games it will take to conclude the series (lower difference results in more games).

## Predictable Faults

- Any statistical analysis requires a large sample size to realize the predicted result and the NHL Best-of-7 playoff series format does not lend itself to a large sample size.
- The use of more advanced statistics would result in a clearer picture, I use 7 advanced statistics in my 9-member model.
- The weighting factors are largely arbitrary. These could be tuned and improved in future playoff years.
- These statistics were computed over the entire season, does not take into account team improvement/degradation due to trades or injuries during the course of the regular season.
- The use of Save Percentage is highly debatable. I acknowledge this, but maintain the importance of this statistic based on the ability of the better/"hotter" goaltenders to "steal" games.
- A large number of other intangibles: injuries, illness, travel, coaching, etc.

## Predictions

*Western Conference Quarter Finals*

St. Louis vs Minnesota: St. Louis in 6

Nashville vs Chicago: Chicago in 7 *\*the margin of difference is extremely small: 0.00459%*

Anaheim vs Winnipeg: Winnipeg in 6

Vancouver vs Calgary: Vancouver in 4

*Eastern Conference Quarter Finals*

Montreal vs Ottawa: Montreal in 6

Tampa Bay vs Detroit: Detroit in 7

NY Rangers vs Pittsburgh: Pittsburgh in 7 *\*the margin of difference is small: 0.032%*

Washington vs NY Islanders: NY Islanders in 7

*Western Conference Semi Finals*

St. Louis vs Chicago: Chicago in 5

Winnipeg vs Vancouver: Winnipeg in 4

*Eastern Conference Semi Finals*

Montreal vs Detroit: Detroit in 7

Pittsburgh vs NY Islanders: Pittsburgh in 7

*Western Conference Finals*

Chicago vs Winnipeg: Chicago in 7

*Eastern Conference Finals*

Detroit vs Pittsburgh: Pittsburgh in 7

*Stanley Cup Finals*

Chicago vs Pittsburgh: Chicago in 5

**References**

<http://bleacherreport.com/articles/1630882-how-much-does-home-ice-matter-in-the-stanley-cup-playoffs>

<http://grantland.com/the-triangle/the-fakers-guide-to-advanced-stats-in-the-nhl/>

<http://www.blueshirtbanter.com/2014/4/16/5615096/2014-nhl-playoffs-analytics-survival-guide>

<http://www.puckalytics.com/teamstats.html>

## Tables

Table 1. Best and worst advanced statistics during the 2013-2014 regular season (all 30 teams).

	Corsi	Fenwick	Corsi PP	PK	Fenwick PP	PK	Even Save %	PDO
Best	54.2	54.3	90.7	18.5	89.5	20.7	93.68	97.13
Worst	37.3	39.0	81.4	7.1	81.0	8.1	90.19	101.92

Table 2. Weighting of advanced statistics.

Corsi	Fenwick	Corsi PP	PK	Fenwick PP	PK	Save %	PDO	Home Ice
0.2	0.2	0.05	0.05	0.05	0.05	0.2	0.1	0.1

Table 3. Western Conference Preliminary Round

	<b>5v5</b>		<b>S. Teams</b>				<b>Goaltending</b>	<b>Luck</b>	<b>Home Ice</b>	<b>SUM</b>	<b>DIFF</b>
	Corsi	Fenwick	Corsi	PK	Fenwick	PK	Save %	PDO			
			PP		PP						
<b>STL (109)</b>	<b>51.20</b>	<b>52.30</b>	<b>88.10</b>	<b>12.30</b>	<b>87.50</b>	<b>14.40</b>	<b>92.36</b>	<b>100.55</b>			
	<b>16.45</b>	<b>17.39</b>	<b>3.60</b>	<b>2.28</b>	<b>3.82</b>	<b>2.50</b>	<b>12.44</b>	<b>-0.55</b>	<b>5.69</b>	<b>63.62</b>	
MIN (100)	50.80	52.00	89.20	12.00	88.10	13.30	91.85	100.36			
	15.98	16.99	4.19	2.15	4.18	2.06	9.51	-0.36	4.31	59.02	4.60
NSH (104)	53.50	53.60	89.40	11.20	89.50	12.70	93.10	101.18			
	19.17	19.08	4.30	1.80	5.00	1.83	16.68	-1.18	5.69	72.37	
<b>CHI (102)</b>	<b>54.00</b>	<b>53.00</b>	<b>89.20</b>	<b>10.90</b>	<b>87.10</b>	<b>12.10</b>	<b>93.59</b>	<b>100.46</b>			
	<b>19.76</b>	<b>18.30</b>	<b>4.19</b>	<b>1.67</b>	<b>3.59</b>	<b>1.59</b>	<b>19.48</b>	<b>-0.46</b>	<b>4.31</b>	<b>72.43</b>	-0.07
ANA (109)	50.80	51.50	89.00	16.80	86.40	20.70	91.92	100.36			
	15.98	16.34	4.09	4.25	3.18	5.00	9.91	-0.36	<b>5.69</b>	64.08	
<b>WPG (99)</b>	<b>54.20</b>	<b>54.10</b>	<b>87.40</b>	<b>13.90</b>	<b>85.30</b>	<b>16.10</b>	<b>92.73</b>	<b>100.60</b>			
	<b>20.00</b>	<b>19.74</b>	<b>3.23</b>	<b>2.98</b>	<b>2.53</b>	<b>3.17</b>	<b>14.56</b>	<b>-0.60</b>	4.31	<b>69.92</b>	-5.84
<b>VAN (101)</b>	<b>50.20</b>	<b>50.70</b>	<b>87.90</b>	<b>14.60</b>	<b>86.50</b>	<b>17.10</b>	<b>91.60</b>	<b>99.35</b>			
	<b>15.27</b>	<b>15.29</b>	<b>3.49</b>	<b>3.29</b>	<b>3.24</b>	<b>3.57</b>	<b>8.08</b>	<b>0.65</b>	<b>5.69</b>	<b>58.57</b>	
CGY (97)	45.10	46.20	87.40	13.70	85.90	15.10	92.15	101.03			
	9.23	9.41	3.23	2.89	2.88	2.78	11.23	-1.03	4.31	44.94	13.64

Table 4. Eastern Conference Preliminary Round

	5v5 Corsi	Fenwick	S. Teams Corsi PP	PK	Fenwick PP	PK	Goaltending Save %	Luck PDO	Home Ice	SUM	DIFF
<b>MTL (110)</b>	<b>49.60</b>	<b>50.70</b>	<b>86.00</b>	<b>11.30</b>	<b>84.90</b>	<b>12.60</b>	<b>93.68</b>	<b>101.61</b>			
	<b>15.98</b>	<b>16.34</b>	<b>4.09</b>	<b>4.25</b>	<b>3.18</b>	<b>5.00</b>	<b>9.91</b>	<b>-1.61</b>	<b>5.69</b>	<b>62.83</b>	
OTT (99)	49.50	47.80	87.80	14.80	86.20	15.00	92.97	100.99			
	14.44	11.50	3.44	3.38	3.06	2.74	15.93	-0.99	4.31	57.81	5.02
TBL (108)	53.90	53.70	86.90	10.10	84.70	11.00	91.98	101.01			
	19.64	19.22	2.96	1.32	2.18	1.15	10.26	-1.01	5.69	61.40	
<b>DET (100)</b>	<b>53.70</b>	<b>52.10</b>	<b>88.40</b>	<b>10.90</b>	<b>87.10</b>	<b>12.10</b>	<b>92.61</b>	<b>99.93</b>			
	<b>19.41</b>	<b>17.12</b>	<b>3.76</b>	<b>1.67</b>	<b>3.59</b>	<b>1.59</b>	<b>13.87</b>	<b>0.07</b>	<b>4.31</b>	<b>65.39</b>	-3.99
NYR (113)	49.80	49.70	88.40	18.50	87.50	20.00	93.08	101.92			
	14.79	13.99	3.76	5.00	3.82	4.72	16.56	-1.92	5.69	66.42	
<b>PIT (98)</b>	<b>53.80</b>	<b>53.80</b>	<b>88.50</b>	<b>9.80</b>	<b>87.40</b>	<b>10.90</b>	<b>92.60</b>	<b>100.03</b>			
	<b>19.53</b>	<b>19.35</b>	<b>3.82</b>	<b>1.18</b>	<b>3.76</b>	<b>1.11</b>	<b>13.81</b>	<b>-0.03</b>	<b>4.31</b>	<b>66.84</b>	-0.42
WSH (101)	51.50	51.80	87.80	11.30	86.40	13.30	92.44	100.49			
	16.80	16.73	3.44	1.84	3.18	2.06	12.89	-0.49	<b>5.69</b>	62.15	
<b>NYI (101)</b>	<b>52.90</b>	<b>54.30</b>	<b>88.10</b>	<b>15.50</b>	<b>87.40</b>	<b>17.50</b>	<b>91.47</b>	<b>99.26</b>			
	<b>18.46</b>	<b>20.00</b>	<b>3.60</b>	<b>3.68</b>	<b>3.76</b>	<b>3.73</b>	<b>7.34</b>	<b>0.74</b>	4.31	<b>65.63</b>	-3.47



Table 6. Conference Finals

	5v5 Corsi	Fenwick	S. Teams Corsi PP	PK	Fenwick PP	PK	Goaltending Save %	Luck PDO	Home Ice	SUM	DIFF
<b>WEST</b>											
<b>CHI (102)</b>	<b>54.00</b>	<b>53.00</b>	<b>89.20</b>	<b>10.90</b>	<b>87.10</b>	<b>12.10</b>	<b>93.59</b>	<b>100.46</b>			
	<b>19.76</b>	<b>18.30</b>	<b>4.19</b>	<b>1.67</b>	<b>3.59</b>	<b>1.59</b>	<b>19.48</b>	<b>-0.46</b>	<b>5.00</b>	<b>73.12</b>	
WPG (99)	54.20	54.10	87.40	13.90	85.30	16.10	92.73	100.60			
	20.00	19.74	3.23	2.98	2.53	3.17	14.56	-0.60	5.00	70.61	2.52
<b>EAST</b>											
DET (100)	53.70	52.10	88.40	10.90	87.10	12.10	92.61	99.93			
	19.41	17.12	3.76	1.67	3.59	1.59	13.87	0.07	5.00	66.08	
<b>PIT (98)</b>	<b>53.80</b>	<b>53.80</b>	<b>88.50</b>	<b>9.80</b>	<b>87.40</b>	<b>10.90</b>	<b>92.60</b>	<b>100.03</b>			
	<b>19.53</b>	<b>19.35</b>	<b>3.82</b>	<b>1.18</b>	<b>3.76</b>	<b>1.11</b>	<b>13.81</b>	<b>-0.03</b>	<b>5.00</b>	<b>67.53</b>	-1.45



