

EAT.SLEEP.SIM Ratings

Notes

- Skaters include forwards and defensemen only.
- Players include forwards, defensemen and goalies.
- Players who do not play 1 NHL game are returned to prospect pool.
- In instances when a player has played both F and D during a season they will receive separate ratings based on the position they are used in FHL Sim.
- SP and SK are created/adjusted by a ratings committee.
- Unless otherwise stated, the minimum individual rating is 25 and maximum is 99.
- DF can be adjusted by a ratings committee to control egregious results.
- Unless otherwise stated, NHL statistics sourced from NHL.com

Skaters

IT (Intensity)

This is the player's ability to play at his peak level every shift on the ice. IT is based largely on hits but not exclusively. We also incorporate blocked shots and takeaways. Blocked shots can show players who leave nothing on the ice, fearless and willing to do anything to win. Takeaways show players who never give you an extra second with the puck always fighting for possession. We use different calculators for Hits, Blocked shots and Takeaways with Hits receiving the highest weighting since our studies have shown IT above all means more hitting in the Sim.

NHL Stats that are used to produce IT rating:

Games Played (GP), Hits, Blocked Shots (BkS), Take Aways (TkA), Time on Ice (TOI).

Formula:

Forward: $(\text{Hits} / \text{TOI}) / 0.0035 + (\text{BkS} / \text{TOI}) / 0.0055 + (\text{TkA} / \text{TOI}) / 0.0055 + 25$

**If player has not played at least 20 games, then TOI is replaced by 240.*

**Minimum value is 30*

SP (Speed)

This is the player's skating speed, which is both acceleration and raw speed.

NHL Stats that are used to produce IT rating:

None available

Formula:

None available

**Since there is no NHL statistic available to produce a rating from, SP is a subjective rating.*

ST (Strength)

This rating affects the player's ability to work in the corners, in front of the net, etc. For this rating we use Height and Weight but also include players Weight in relation to their Height to determine strength. This is determined with the Body Mass Index (BMI) calculation.

NHL Stats that are used to produce ST rating:

Height (Ht) and Weight (Wt).

Formula:

Part 1: $(Wt \times 703) / (Ht \times Ht) = \text{Body Mass Index (BMI)}$

Part 2: $(((((BMI / 32) \times (BMI - 21) / 11) \times 74 + 25)) + (((Ht - 60) + (Wt - 155) / 1.75) + 25)) / 1.825$

**Maximum value is 93*

EN (Endurance)

The endurance rating allows players to take more and longer shifts during the game. For this rating we gave more value to players who played "harder minutes". Short-Handed Time on Ice was given more value because of the amount of energy required to kill a penalty. Power Play Time on Ice was given the least value because less energy is being expended while having a man advantage. Even Strength Time on Ice is 1 times value, Penalty Kill Time on Ice is 1.25 times value and Power Play Time on Ice is 0.25 times value.

NHL Stats that are used to produce EN rating:

Games Played (GP), Even Strength Time on Ice (ES TOI), Short Handed Time on Ice (SHTOI), Power Play Time on Ice (PP TOI).

Formula(s):

Forward: $((ES\ TOI / GP) * 1) + ((SH\ TOI / GP) * 1.25) + ((PP\ TOI / GP) * 0.25) * 3.85$

**Minimum value is 30. Maximum value is 80.*

Defense: $((ES\ TOI / GP) * 1) + ((SH\ TOI / GP) * 1.25) + ((PP\ TOI / GP) * 0.25) * 3.27$

**Minimum value is 30. Maximum value is 80*

DU (Durability)

The durability rating is directly proportional to how often a player will come out of a game unhurt. We use a combination of games played and 'games lost due to injury' to derive this rating from. Currently the best source for 'games lost due to injury' is available on [NHL Injury Viz](#).

NHL Stats that are used to produce DU rating:

Games Played (GP), Games Lost Due to Injury (INJ)

Formula:

$((GP - 82) + 99) + (82 - INJ) / 2 \times 0.95$

**Minimum value is 30*

DI (Discipline)

A player with a low discipline rating takes more penalties and is more likely to fight when combined with Intensity.

NHL Stats that are used to produce DI rating:

Penalty Minutes (PIM), Time on Ice (TOI).

Formula:

$(89 - ((PIM / TOI) / 0.00341))$

**If skater has less than 240 minutes of Time on Ice then 89 is replaced with 79.*

SK (Skating)

This rating affects the players to balance and move in all four directions.

NHL Stats that are used to produce IT rating:

None available

Formula:

None available

**Since there is no NHL statistic available to produce a rating from, SP is a subjective rating.*

PA (Passing)

The passing rating represents how good the player is at moving the puck or setting players up in scoring position. In all sim tests, PA determined assists. The better the PA, the more assists a player accumulated. Thus, our rating is dependent on NHL assists.

NHL Stats that are used to produce PA rating:

Games Played (GP), Assists (A).

Formula:

$(A / GP) / 0.0117 + 35$

**Maximum value is set at 94.*

**If player has not played at least 25 games, then GP is replaced by 25.*

PC (Puck Control)

A high puck control rating means the player is more likely to shoot and less likely to give the puck away. During tests with PC we found the effect on the sim to be less about offense and more about defense, in other words, possession of the puck. We decided to include some advanced statistics in the rating, specifically Fenwick Relative (The difference between a team's shots for/against when a player is on and off the ice at even strength except for blocked shots). Fenwick Relative statistics are taken from hockey-reference.com and shown as FF% rel.

NHL Stats that are used to produce PC rating:

Games Played (GP), Fenwick Relative (FF% rel), Power Play Points (PPP), Shots.

Formula:

Part 1: Defensive Possession (DP) based on Fenwick Relative (FF% rel):

If FF% rel > 5 then rating is 99

If FF% rel > 3.5 then rating is 89

If FF% rel > 1.5 then rating is 79

If FF% rel > -1.1 then rating is 69

If FF% rel > -2.5 then rating is 59

If FF% rel > -4.5 then rating is 49

If FF% rel > -5 then rating is 39

**If a player has not played 25 games they are given a 30*

Part 2: Offensive Possession (OP) based on Power Play Points and Shots on net:

Forward: $((\text{Shots}/\text{GP}) / 0.015 + (\text{PPP}/\text{GP}) / 0.015) / 3.5 + 25$

Defense: $((\text{Shots}/\text{GP}) / 0.015 + (\text{PPP}/\text{GP}) / 0.015) / 2.5 + 25$

**If player has not played at least 10 games, then GP is replaced by 10.*

Part 3: Offensive Possession (OP) and Defensive Possession (DP)

$((\text{DP} \times 0.35) + (\text{OP} \times 0.65) \times 0.9)) = \text{PC}$

**Maximum PC is 89*

DF (Defense)

A high defensive rating affects a players' ability to break up passes, rushes and cover offensive players. DF uses a plethora of inputs to output a realistic DF rating but even, so a Ratings Committee adjusts any egregious results. The DF formula uses Relative Corsi (The difference between a team's shots for/against when a player is on and off the ice at even strength). Relative Corsi statistics are taken from hockey-reference.com and are listed as CF% rel.

NHL Stats that are used to produce DF rating:

Games Played (GP), Blocked Shots (BkS), Take Aways (TkA), Short Handed Time on Ice (SHTOI), Relative Corsi (CF% rel), Time on Ice (TOI) and Defensive Possession (DP).

Formula:

Part 1: Defensive Possession (DP) based on Relative Corsi (CF% rel):

If CF% rel > 5 then rating is 99

If CF% rel > 3.5 then rating is 89

If CF% rel > 1.5 then rating is 79

If CF% rel > -1.1 then rating is 69

If CF% rel > -2.5 then rating is 59

If CF% rel > -4.5 then rating is 49

If CF% rel > -5 then rating is 39

**If a player has not played 25 games they are given a 30*

Part 2:

Forward: $((\text{BkS} / \text{GP}) \times 2.5) + (\text{TkA} \times 0.5) + ((\text{SHTOI} / \text{GP}) \times 7.5) + (\text{DP} \times 0.1) + 20$

++ If a forward has won a Selke award they are given a 10-point bump. If they have been nominated for a Selke in the previous season they are given a 5-point bump.

Defense: $((\text{SHTOI} / \text{GP}) \times 2.5) + ((\text{BkS} / \text{GP}) \times 2.5) + ((\text{TOI} / \text{GP}) \times 0.05) + (\text{DP} \times 0.1) + 54$

++ If a defenseman has been nominated for a Norris trophy the previous season they are given a 5-point bump.

**If player has not played at least 10 games, then GP is replaced by 10.*

***Maximum DF is 79, minimum DF is 35*

SC (Scoring)

This is the players' ability to put the puck in the net and to create scoring opportunities without the puck. With this rating the biggest challenge was limiting the anomalies, those players who score a high amount in a limited number of games. We added some qualifiers to limit those bizarre amounts.

NHL Stats that are used to produce SC rating:

Games Played (GP), Goals (G).

Formula:

Forwards: $(99 - ((55 - (\text{Goals} / \text{GP}) \times 82) \times 0.89)$

Defense: $(99 - ((30 - (\text{Goals} / \text{GP}) \times 82) \times 1.633)$

Also added in some qualifiers:

**If player has not played at least 10 games, then GP is replaced by 10.*

**If player has not played at least 42 games, goals scored are reduced by 20%.*

EX (Experience)

Experienced players tend to be more consistent from one game to the next and tend to be more effective in close games. EX is derived from a combination of age and career NHL games played (regular season and playoffs).

NHL Stats that are used to produce EX rating:

Career Regular Season Games Played (RSGP); Career Playoff Games Played (PGP), Age.

Formula:

$((\text{Age} \times 0.95) + (\text{RSGP}) + (\text{PGP} \times 1.1)) \times 0.06 + 25$

**Playoff statistics will not include current season since ratings are done in early spring while playoffs are still being played.*

LD (Leadership)

Players demonstrating leadership tend to make the whole team more consistent from game to game and shift to shift. LD is derived from a combination of age, career NHL games played (regular season and playoff) as well as bonus points for players listed as captain and assistant captain.

NHL Stats that are used to produce LD rating:

Age, Career Regular Season Games Played (RSGP), Career Playoff Games Played (PGP), Team Captain (Worth 10 points) and Team Assistant (Worth 5 points).

Formula:

$(\text{Age} \times 0.08) + (\text{RSGP} \times 0.05) + (\text{PGP} \times 0.09) + \text{Team Captain} + \text{Team Assistant} + 25$

**Playoff statistics will not include current season since ratings are done in early spring while playoffs are still being played.*

OV (Overall)

OV is a composite of the other ratings shown above. The weighting of these ratings is different for offensive players and defensive players, recognizing their important roles on the team and the relative value provided. FHL Sim generates the OV rating based on the ratings input. OV rating cannot be manually altered in any way.

Goalies

IT (Intensity)

This rating relates to goaltender's likeliness to play the puck and cut down the angles.

NHL Stats that are used to produce IT rating:

Games Played (GP), Wins (W), Goals Against Average (GAA), Save Percentage (SV%) and Shutouts (SO).

Formula:

If goalie has played 1 to 5 games, they get a max rating of 65

If goalie has played 6 to 10 games they get a max rating of 70

If goalie has played 11 to 15 games, they get a max rating of 75

If goalie has played 16 to 20 games they get a max rating of 80

Goalies that played 35+ games the previous season (not a backup) are exempt from the games played max ratings.

Otherwise:

$$(((SV\% - 0.8) \times 120) + (SO / 10) + ((W / GP) \times 2.5) + ((2.45 - GAA) \times 1.5)) \times 2.75 + 40$$

**Minimum value is 40. Maximum value is 91.*

SP (Speed)

This rating relates to goaltender's glove speed and reaction ability.

NHL Stats that are used to produce SP rating:

Games Played (GP), Wins (W), Goals Against Average (GAA), Save Percentage (SV%) and Shutouts (SO).

Formula:

If goalie has played 1 to 5 games, they get a max rating of 65

If goalie has played 6 to 10 games they get a max rating of 70

If goalie has played 11 to 15 games, they get a max rating of 75

If goalie has played 16 to 20 games they get a max rating of 80

Goalies that played 35+ games the previous season (not a backup) are exempt from the games played max ratings.

Otherwise:

$$(((SV\% - 0.8) \times 120) + (SO / 10) + ((W / GP) \times 2.5) + ((2.45 - GAA) \times 1.5)) \times 2.75 + 40$$

**Minimum value is 40. Maximum value is 91.*

ST (Strength)

This rating relates to goaltenders' size in goal. A bigger goalie can take up more of the net.

NHL Stats that are used to produce ST rating:

Height (Ht) and Weight (Wt).

Formula:

$$((\text{Ht} - 60) + (\text{Wt} - 155) / 2.2) + 40$$

**Minimum value is 60. Maximum value is 92.*

EN (Endurance)

The endurance rating allows goalies to play longer without getting fatigued.

NHL Stats that are used to produce EN rating:

Games Played (GP), Age.

Formula:

$$(\text{GP} - \text{Age} / 25) + (\text{GP} / 10 - 5) + 30$$

DU (Durability)

The durability rating is directly proportional to how quickly a goalie will recover if they do get injured. We use a combination of games played and 'games lost due to injury' to derive this rating from. Currently the best source for 'games lost due to injury' is available on [NHL Injury Viz](#).

NHL Stats that are used to produce DU rating:

Games Played (GP), Games Lost Due to Injury (INJ)

Formula:

$$((\text{GP} - 82) + 99) + (82 - \text{INJ}) / 1.75$$

**Minimum value is 30*

DI (Discipline)

A goalie with a low discipline rating takes more penalties.

NHL Stats that are used to produce DI rating:

Penalty Minutes (PIM)

Formula:

If goalie has less than 2 penalty minutes they get a default rating of 85

If goalie has between 2 - 4 penalty minutes they get a default rating of 80

If goalie has between 5 - 9 penalty minutes they get a default rating of 75

If goalie has 10 or more penalty minutes they get a default rating of 70

SK (Skating)

This rating affects the goalie's ability to move around in his crease, side to side movement.

NHL Stats that are used to produce SK rating:

Games Played (GP), Wins (W), Goals Against Average (GAA), Save Percentage (SV%) and Shutouts (SO).

Formula:

If goalie has played 1 to 5 games, they get a max rating of 65

If goalie has played 6 to 10 games they get a max rating of 70

If goalie has played 11 to 15 games, they get a max rating of 75

If goalie has played 16 to 20 games they get a max rating of 80

Goalies that played 35+ games the previous season (not a backup) are exempt from the games played max ratings.

Otherwise:

$$(((SV\% - 0.8) \times 120) + (SO / 10) + ((W / GP) \times 2.5) + ((2.45 - GAA) \times 1.5)) \times 2.75 + 40$$

**Minimum value is 40. Maximum value is 91.*

PA (Passing)

This rating relates to the goaltender's ability to play the puck out to the forwards. Goalie PA is based on assists with goalies receiving a rating between 68 and 75 based on the criteria listed below:

NHL Stats that are used to produce PC rating:

Games Played (GP), Assists (A).

Formula:

If goalie has 0 assists they get a default rating of 68

If goalie has 1 assists they get a default rating of 70

If goalie has 2 assists they get a default rating of 73

If goalie has 3 or more assists they get a default rating of 75

PC (Puck Control)

How well the player controls rebounds and gathers the puck.

NHL Stats that are used to produce PC rating:

Games Played (GP), Wins (W), Goals Against Average (GAA), Save Percentage (SV%) and Shutouts (SO).

Formula:

If goalie has played 1 to 5 games, they get a max rating of 65

If goalie has played 6 to 10 games they get a max rating of 70

If goalie has played 11 to 15 games, they get a max rating of 75
If goalie has played 16 to 20 games they get a max rating of 80

Goalies that played 35+ games the previous season (not a backup) are exempt from the games played max ratings.

Otherwise:

$$(((SV\% - 0.8) \times 120) + (SO / 10) + ((W / GP) \times 2.5) + ((2.45 - GAA) \times 1.5)) \times 2.75 + 40$$

**Minimum value is 40. Maximum value is 91.*

DF (Defense)

For goaltenders, the DF rating has no effect on performance and is given a default rating of 25.

SC (Scoring)

For goaltenders, the SC rating has no effect on performance and is given a default rating of 25.

EX (Experience)

Experienced players tend to be more consistent from one game to the next and tend to be more effective in close games. EX is derived from a combination of age and career NHL games played (regular season and playoffs).

NHL Stats that are used to produce EX rating:

Career Regular Season Games Played (RSGP); Career Playoff Games Played (PGP), Age.

Formula:

$$((Age \times 0.09) + (RSGP \times 0.09) + (PGP \times 0.175)) + 30$$

**Minimum value is 30*

LD (Leadership)

Players demonstrating leadership tend to make the whole team more consistent from game to game and shift to shift. LD is derived from a combination of age, career NHL games played (regular season and playoff) and Playoff wins.

NHL Stats that are used to produce LD rating:

Age, Career Regular Season Games Played (RSGP), Career Playoff Games Played (PGP), Playoff Wins (PW).

Formula:

$$(Age \times 0.12) + (RSGP \times 0.12) + (PGP \times 0.18) + (PW \times 0.18) + 25$$

**Minimum value is 30*

OV (Overall)

OV is a composite of the other ratings shown above. FHL Sim generates the OV rating based on the ratings input. OV rating cannot be manually altered in any way.