



*“Don’t let anyone tell you that the goalie is not by far the most important player on the team”*

## **HOCKEY ANALYTICS – GOALIE MEASURES**

Measuring goaltending performance with any degree of accuracy requires various levels of data analysis.

Lets start at the beginning with what most coaches like to talk about ... save %. What’s a Save %? It is the number of shots on net that our goalie stopped divided by the number of shots the goalie had on net in total.

Shots on net do not include shots that were not capable of going in. This is a rule that many scorekeepers either fail to understand or do understand but realize it helps the home town goalie’s save % if the shot numbers are inflated. For example, a shot over the cross bar that the goalie chooses to catch or deflect is not a shot on net, nor is a shot that hits the goal post or cross bar or that is stopped by the goalie away from his net or across his crease. Inflating shots matters a lot. Keep your own shot count if you can using the form in this website.

For example, suppose we lost 4 – 3 and had 42 shots against us. We gave up 4 goals, so our goalie’s save % would be 38 divided by 42 or 90.48 %. If the shots against us were really 38, our goalie’s save% would be 34 divided by 38, or 89.5%.

Now normally a save % of about 92% or 920 is consider a quality start by most coaches. So, at first look it appears our goalie did not have a quality start and 4 goals against is way over our 2.5 GAA (Goals Against Average) we set for our team.

So seems simple. But what about power play shots? Most amateur teams count power play shots and goals in save % calculations, but counting these can distort a goalie’s save % greatly and really is unfair as one team may get way more power play shots than another. Let’s say of the 42 total shots in the above example, 7 were on the power play and 2 of these power play shots went in.

The total shot save % is 90.48 % as stated above and the non power play save % would be 35 stopped shots divided by 37 total shots = 94.6 %, save %, quite a difference.

Now we’re not quite there yet because we ought to consider where the 37 shots came from and what their qualities were? So, we pull out our completed Shots Data form and see that they had 8 AA non power play shots, 15 non power play Grade A shots in addition, and 14 non power play Grade B shots, and that 5 of the Grade B shots were screened and that there were 15 of the total shots designated as “dangerous” shots.

Our goalie did have a quality start.



So, if you are going to assess your goalie by calculating Save % do it by category of shots:

- Total shots save %
- Non Power play shots save %
- Grade A shots save %
- Grade AA shots save %
- Grade B shots save %
- Dangerous shots save %

Also, consider if your goalie is playing in many back-to-back games on consecutive days and see if his save %'s are distorted at all by fatigue. NHL studies have found not much variance occurs.

Another simple gauge used by coaches is goals against averages or GAA. Again, this like save % does not break down the type of shots that resulted in goals, nor power play shots.

Coaches also consider a goalies win – loss record, but again this brings in factors like how many goals did we score and what was the relative quality of the teams we played compared to another goalie in the comparison group.

A goalie's physical size, coordination, reflex and reaction times, speed of movement and mental skills also may be measured by experts. <http://www.nbclearn.com/science-of-nhl-hockey/cuecard/56600>.

Given the constant net size, a tall wide goalie with the same other skills as a smaller, shorter goalie does not fill the net more than a smaller goalie, particularly in the butterfly position.