

FIELD HOCKEY STATISTICS – 2017

With the rapid growth of the sport of field hockey, it is important that the recording of the statistics of the game, which serve as a permanent record of the contest, be accurate and be meaningful to anyone who reads them. To this end, it is important to have a compilation of the terms used in statistics. The purpose of this work is to address this need of nomenclature for the statistics currently used. In addition, this work will help to establish some guidelines for consistency.

Consistency is a fundamental part of the taking of statistics. Consistency is important not only from game-to-game for an individual team but also from team to team so that statistics can be compared across teams. There are a number of situations in which players are compared on a statistical basis; it is crucial to a fair comparison that the statisticians that are with the various teams be of the same mindset.

In each of these explanations below, a number of examples are given as possible scenarios that a statistician might encounter. They are by no means exhaustive nor are they all-inclusive. They simply provide a means to demonstrate some situations and provide a guideline for the recording of the statistics. In each of the examples, members from team A all have names that begin with the letter "A" and players on the opposing team all have names that begin with the letter "B."

Following the description of each of the statistics, two special situations (shoot-out competition and a substitute keeper) are described. Finally, a list of formulas is provided to reacquaint the statisticians with the method of determining such statistics as scoring offense, scoring defense, save percentage and goals against average.

For more information about official field hockey statistics, please contact Chip Rogers at chip.rogers@miamioh.edu.

The statistics described below are as follows:

- SHOT
- SHOT ON GOAL
- GOAL
- GAME-WINNING GOAL
- ASSIST
- SAVE (GOALIE SAVE, DEFENSIVE SAVE)
- PENALTY (SHORT) CORNERS

The special situations are:

- SHOOT OUT COMPETITION
- INCOMPLETE GAMES
- NO KEEPER (KICKING BACK, EXTRA FIELD PLAYER)
- FORFEIT

SHOT: A shot is any attempt made by a player to score a goal.

The player, regardless of her playing position on the field, must be playing the ball in such a manner that her actions could result in her scoring on the opposing team's goal. Where she is on the field, the speed of the shot, and the placement of the other players, both on her team and the opposing team, are irrelevant--as long as she can LEGALLY score a goal from her spot on the field.

A shot--one that is deemed to be legal--can have four outcomes: a goal, a save (for the opposing goalie or a defender on the opposing team), it can go wide, or a foul can be assessed to the opposing team.

If a player takes a shot that is blocked by a player who is in front of the goalie, the shot still counts and is just considered wide. If the player is behind the goalie or the goalie is out of position to make the save (not a testament to her ability, just a note to determine viability of a defensive save), the player who stops the ball from going in the net shall be credited with a defensive save (see below).

Note that an attempt that is broken up by a foul (eg. hits the body of a defending player, hits the wrong side of the stick of a defending player) should still be considered a shot.

If an attacking player enters the circle and directs the ball towards the cage, and brings out the goalie to make a play on the ball, the intervention of the goalie will often be the determining factor in crediting a shot.

It is important to note that a "shot" taken *outside* the circle should not be credited as a shot because if it goes in the cage untouched, it would not count as a goal.

Also, a shot that is deemed dangerous (eg. on a direct corner) is not a shot since it cannot score.

SHOT ON GOAL: Any shot attempt that results in either a save (goalie or defensive) or a goal. *Note that shots on goal are preferable to record than shots.*

GOAL: A goal should only be recorded if the umpire signals a goal is scored.

There are situations in which the ball might go into the cage but the goal is disallowed for various reasons, including a shot that is deemed dangerous. Thus, it is crucial that a goal not be recorded until the umpire gives the signal. Note that goals are recorded as time into in the game.

A.R. 1 Amanda strikes the ball in the circle and sends it on a path to the cage. Betty attempts to block the shot but her attempt does not stop the progress of the ball; it redirects it. A goal shall be awarded to Amanda.

A.R. 2 On a penalty corner, the ball is passed outside the circle and Ali takes the ball into the circle where she places it on cage and hits a defender, including the goalkeeper, and enters the goal. The goal shall be awarded Ali.

A.R. 3 Ammie attacks the endline and passes the ball to a teammate in front of the cage. The pass is not directed on cage, but the pass goes off a defender's stick OR the goalkeeper's pads and into the cage. Ammie shall get credit for a goal.

Note that starting in 2014, own goals have been taken out of the international (and thus the NCAA) game. The last player on the attacking team that touches the ball before it enters the cage legally and scores a goal shall be credited with the score.

Note that a goal should be recorded as player-up if the defending team has been penalized with a card (green, yellow or red)

Game-winning goal

The game-winning goal is the goal that puts a team ahead for good.

If Team A is up 4-0 and Team B scores a late goal to make it 4-1, the GWG is the first goal scored by Team A. If Team B pulls to 4-3, it is *still* the first goal by Team A.

ASSIST: An assist is a play that directly results in a goal being scored.

NOTE: There is only one assist given on ANY field goal.

The assist is a pass made by one teammate to another who in turn scores a goal. It is imperative that the statistician exercises consistent and clear judgment in awarding an assist. It should be noted that an assist does not detract from the player who scored a goal; that is, an unassisted goal is no better statistically than an assisted goal. However, not every goal needs to be assisted. Consistency remains the underlying principle with this statistic.

Some specific situations include:

- 1) a breakaway situation: Amanda, a forward, is playing at the midfield stripe. Her teammate Abbie, a back, intercepts a pass and Amanda takes off downfield uncontested. Abbie slots the ball through to Amanda 30 yards from the goal and Amanda dribbles and scores without a defensive player marking her. Even though Amanda took more than three steps, Abbie set up the play that allowed her team to score. The yardstick is the defensive pressure that Amanda faces in her scoring run. If Amanda must outrace/performance excessive defensive pressure, she will record an unassisted goal.

- 2) an odd-woman rush: Amanda picks up a loose ball and races down field with Alix on her side. The only defensive pressure is Barbara, at goalie, who must cover both players. Barbara moves out to play the ball, leaving Alix free. Amanda passes Alix the ball and Alix takes 4 or 5 steps before shooting. If Alix scores, Amanda is awarded an assist.

Note that an assist should not be given if the goal-scorer creates the goal herself. For this reason, it is imperative that a statistician not only is consistent with his or her recording but also has a good understanding of the game and its play.

An assist is NOT awarded to a player that shoots and has her shot rebound off the post or the goalie and the ball is picked up by a teammate and shot in the goal.

Example: Agnes shoots and her shot caroms off the pads of the goalie. Amory collects the ball and scores on a scramble in front of the cage. Agnes is not awarded an assist; she is credited with a shot (the goalie gets a save) and Amory gets a shot and a goal.

DOUBLE ASSISTS. There is **only ONE** instance in which two people can be awarded an assist on a goal. If a player scored on a direct corner, then both the person who injected the corner and the player who was the stick stop for the striker may be credited with an assist. If there is any other kind of play, then only the person with the final pass may be credited with an assist. Examples of single assists include, but are not limited to:

- a) a flip from either the striker or the stick stop to a player on either side of the battery
- b) a tip in to the pusher or an on-rushing player

NOTE that if the striker's DIRECT SHOT is deflected into the cage by a **defender**, then both the pusher and the stick stop can be credited with assists.

SAVE: The save records each time a player stops a ball from going in her goal that if she did not stop, would result in a goal for the opponent.

Obviously, each time the ball passes the plane of the goal line a goal is scored assuming there is not a violation by the offense (dangerous shot, etc.). However, there are situations in which a ball which advances in a scoring manner and the goalie does not record a save. In looking at the definition of a goal, in which an offensive player has played the ball inside the scoring circle, one finds the basis for the definition of a save. A goalie should get credit for a save only if they stop a ball from going in the cage after it has touched by an attacker in the circle and the ball is headed towards the cage. It does not matter who touched it last as long as it was touched by an attacker in the circle; the goalie still records a save if she stops it from going in the net.

A statistician should use reasonable guidance to award a save; if, from an elevated, angled position of sight a shot might appear to be headed just wide of the cage but the goalie stops it, a save can be awarded.

There CANNOT be more saves recorded than shots for the opponent. In addition, a shot that hits the crossbar or post is not recorded as a save for the goalie.

Examples

a) Amanda takes a shot that would go in. Brittany, the goalie, blocks the shot. Brittany records a save; Amanda records a shot.

b) Agnes is the striker on a penalty corner. Her shot, which is ruled "safe," is saved by Brittany from going in the cage. Brittany's save, however, pops up and the umpire rules a lifted or dangerous ball and awards team A another corner. Brittany's save is still a save, as she prevented the ball from going into the goal.

c) Ammie is on a breakaway and dribbles into the circle. Brittany comes out to play her and blocks the ball after Ammie has taken it into the circle and sent it towards the cage. Because an offensive player has touched the ball inside the circle, Brittany gets credit for the save. Note that Ammie also gets credit for a shot as well.

d) Alice carries the ball into the circle and attempts a pass to Annie, but the pass is tipped up by Belle and redirected towards the cage. Brittany dives to stop the ball from going in the cage, as should the ball cross the line, it would be a goal. Brittany gets a save; Alice records a shot.

DEFENSIVE SAVE:

On a corner Amory shoots the ball in the corner away from the goalie. Barb, who is on the post, legally stops the ball from going in the cage. Amory gets credit for a shot, and Barb records a defensive save.

NOTE that a defensive player who is playing in front of the goalie who blocks a shot IS NOT credited with a defensive save. The defensive save must be the FINAL ABSOLUTE last line of defense.

Examples of situations in which the goalie plays the ball but there is NOT a save:

a) on a long hit coming across the mouth of the cage the goalie punches the ball out of the circle (or away from play)

b) the goalie blocks a crossing pass from outside the circle (long hit, eg) that is not directed towards the goal as a shot

The only judgment call that should be made in the recording of a save is whether the ball would have gone in the cage. It is rare for a team to have 100% accuracy in shot placement; thus, it would be unusual for a team to have as many saves (and goals against) as the opponent has shots. Again, a crucial point is that a shot that hits the post is not considered a save.

It is important that a statistician keep careful account of all of the shots during a game; for this purpose a table has been provided for recording shots that hit posts and go wide as well as far as totals for a team.

Shutouts:

A goalie can only get credit for a shutout if she plays the entire game (and of course her team holds the opponent scoreless). Teams that split their keeper still are credited with a shutout, but the individual keepers are not credited with a "half-shutout." In addition, should both goalies play the entire game that ends 0-0 in regulation and goes to a shootout, then both goalies shall record a shutout, regardless of the result in the shootout. That is, a team could lose 1-0 as the result of a loss in the shootout, but the keeper, if she played the entire 100 minutes, would record a shutout.

Penalty Corners:

Also known as short corners, penalty corners are awarded by umpires for infractions by the defense.

Goals scored off deflections by a defensive stick should be awarded to the offensive player who last touched the ball.

If the defense breaks early and the umpire resets the corner, a new corner shall not be recorded; it is the same corner for statistical purposes in numbers of corners awarded.

A direct strike on a penalty corner is the only situation in which a double assist can be awarded. Care should be noted that it is a direct strike, and not a deflected/tipped ball, in which case the sole assist would go to the striker with the goal going to the player who deflected the ball in.

SPECIAL FIELD HOCKEY SITUATIONS:

The shootout competition:

In the case that Team A and Team B are tied following the mandatory, sudden-victory 15 minutes overtime periods, a shootout competition is held to determine a winner of the contest. Teams go through one series of a best of five, played to completion, unless one team has a decided advantage. If after a set of five both teams are tied, a sudden victory set of five is taken until a winner has been declared. The team that wins the contest will be awarded a "team goal" to be added to the score of that team. The result is recorded as such: Team A defeats Team B in a shootout OR "A, 2-1 SO."

It is important to note that each team is only held accountable for the goals scored in regulation (in the example above, just the one goal). **The game-winning "goal" is not charged to the other team; it is not allowed by anyone, nor is it scored by anyone.** In stats-recording programs (ie, StatCrew) the "goal" is scored by "team" and it should not be included in total goals scored on the season. It should also not be included in total goals allowed.

Note that if a player participates in the shootout, she is considered to have participated in the game.

The goalies of record in the game are the keepers who participate in the shootout. They might or might not be the goalkeepers who played during regulation. Since the teams are tied at the end of regulation, the goalkeeper of the team that loses is the one who was in when her team went behind for good, which is the definition of the goalie of record.

Note that if two teams enter a shootout with the score tied at 0-0, BOTH goalies are awarded a shutout.

Should an attempt result in a stroke, and a different player attempts the stroke, the ORIGINAL player who attempted the shootout is recorded, not the person who takes the stroke.

A "substitute" keeper – a kicking back or an extra field player

A team is not required to have a goalie on the field. Teams may elect to have a kicking back or simply an extra field player. From a statistical standpoint, both of these situations are treated the same; that is, there is NO keeper on the field. The goal is charged to the team, but it is NOT charged to any keeper.

A keeper's minutes should reflect only the time she is on the field. The goal should be recorded with an (en) to reflect that the goal was scored without a true goalkeeper.

If the player is a kicking back, (ie dressed with the helmet, etc) makes a save with her feet (she has kicking privileges in the circle), it is still a defensive save. This is the same as if she had made it with her stick, or any other field player were to make a save with her stick.

Example 1: Team A leads 1-0 and Team B pulls their keeper with 4:00 to play. Brittany comes off the field while Betsy enters with the protective headgear and the different color jersey. Team A scores with 2:00 to play. Brittany is charged with only one goal against in 66 minutes of play, while Team B overall has two goals against in the course of the 70-minute game. Team A's goal should be listed as an (en) goal to reflect the actual situation, because to list the goal against what is basically a field player is a misleading statistic.

Example 2: Team A leads 2-0 and Team B pulls their keeper with 10:00 to play. Brittany comes off the field while Betsy enters with the protective headgear and the different color jersey. On a breakaway, Team A advances the ball upfield and Ammie shoots as soon as she enters the circle.

Betsy dives and knocks the ball away from the cage with her stick. On the ensuing long hit, Team A is able to score. Brittany is charged with only one goal against in 60 minutes of play, while Team B overall has three goals against in the course of the 70-minute game. Team A's goal should be listed as an (en) goal to reflect the actual situation, but Betsy is credited with a save.

Goalie of record:

In general, the goalie of record in the game is the one who is in the cage when the relative score changes for good. That is, if Team A scores in the first minute of play and takes a 1-0 lead, and they do not relinquish the lead all game, the goalies who are in when the team went up (or down) 1-0 are recorded, even if the score changes dramatically throughout the course of the contest. As long as the relative score remains the same, they are the goalies of record.

Incomplete games:

In the case that the game ends prior to completion, the game is not considered official and therefore the stats of the games are not official. Note that a contest cannot end in a tie; the teams must go through the tie-breaking procedures (overtime and/or shootout) to break the tie. If the game is suspended by the umpires and cannot be made up that day, it may be picked up at the point of interruption. If the game is not continued, it is not completed and therefore the stats cannot be included in any manner.

A forfeit

There is no forfeit of a contest until both participating teams are present and the referee or other appropriate contest official has assumed jurisdiction in accordance with the applicable playing rules. When a team does not appear (e.g., due to weather conditions, accidents, breakdown of vehicles, illness or catastrophic causes), a forfeit is not recorded. An institution shall not, for statistical purposes, declare a forfeit for non-fulfillment of a contract. Such instances shall be considered "no contest." In circumstances involving institutions from the same conference, the league office has the option to declare a forfeit win and loss for conference-standings purposes, but this does not change an institution's overall won-lost record.

Should a game result in a forfeit, the final score of the game shall be recorded as 1-0 for the team accepting the forfeit. The goal scored is recorded as a team goal; it is not scored by an individual. Nor is the goal "allowed" included in a team's countable goals for the season. None of the statistics generated in the game are to be recorded.

Should a game be called by an umpire due to the failure of a coach who has been booked with a red card to leave the playing area, the score shall be recorded as 1-0. However, all of the statistics awarded in the game shall be counted as recorded. A team shall not be penalized statistics due to the actions of an opposing coach.

By no means are any of these examples given in the game scenarios perfect nor are they exhaustive. They only represent some of the more common situations and give an idea of how a statistician should record the play. In any situation where a question arises; it is crucial that the statisticians of both teams discuss the situation so that both teams' statistics are identical.

Notes for those using computer-generated stats programs:

- 1) make sure all times set are for hockey, which is a 70-minute game

2) make sure the title lists "field hockey" and NOT "soccer"

3) there are no such things as penalty shots. There are penalty (short) corners and penalty strokes, but no penalty shots.

4) penalty shootout competitions are separate statistically from the rest of the game with regard to saves and goals scored.

Note in the summary of the game, it is perfectly fine to say that a goalie made saves in the shootout; they are just not recorded in her overall totals, nor are the shots against or the goals recorded.

STATISTICAL FORMULAS

SCORING AVERAGE: $\frac{\text{Number of goals} \times 70}{\text{Number of minutes played}}$

(Scoring offense)

Team A has played 15 games (one OT of 5 min) and scored 60 goals.

$$60 \times 70 = 4200$$

$$15 \times 70 + 5 = 1055$$

$$4200 / 1055 = 3.98 \text{ gpg}$$

Team A has a scoring offense of 3.98 gpg

SCORING DEFENSE: $\frac{\text{Number of goals allowed} \times 70}{\text{Number of minutes played}}$

(Scoring defense)

Team A's opponents have scored 25 goals.

$$25 \times 70 = 1750$$

$$1750 / 1055 = 1.66$$

Team A has a scoring defense of 1.66

SCORING MARGIN: Scoring Average - Scoring Defense = Scoring Margin

SAVE PERCENTAGE: $\frac{\text{Number of saves}}{\text{Number of saves} + \text{Number of goals}}$

Anna has made 180 saves and has allowed 75 goals.

$$180 + 75 = 255$$

$$180 / 255 = .706$$

Anna's save percentage is .706

GOALS AGAINST AVERAGE: $\frac{\text{Number of goals allowed} \times 70}{\text{Total minutes played}}$

Anna has allowed 20 goals while playing in 985 minutes.

$$20 \times 70 = 1400$$

$$1400 / 985 = 1.42$$

Anna has a GAA of 1.42.

Notice that the team has played 1055 minutes; she has played 93.4% of the team's minutes. Her GAA is very close to the scoring defense.

CAREER GAA:

Note that some goalies played in 60 minute games. Career GAA should be calculated using the following formula:

$A + B / \text{total minutes}$, where

A = number of goals allowed in a 60 minute game x 60

B = number of goals allowed in a 70 minute game x 70

Eg: 10 goals in 5 games of 60 minutes and played 280 minutes, and allowed 10 goals in 5 games of 70 min. and played 300 minutes, her GAA would be: $10 \times 60 + 10 \times 70 = 1300 / (280 + 300) = 2.24$

$20 \times 70 = 1400 / 580 = 2.41$ which is higher than what it should be.