

The Official National Collegiate Athletic Association

2020 FIELD HOCKEY STATISTICIANS' MANUAL

Including Special Interpretations and Approved Rulings Covering Unusual Situations



OFFICIAL FIELD HOCKEY STATISTICS RULES

Welcome

Statistics serve as the permanent record of the contest, so it is important to be as accurate as possible. To this end, it is imperative to have a compilation of the terms used in statistics to ensure consistency which 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, special situations (shoot-out competitions, suspended/incomplete games, substitute keepers, and forfeits) 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.

An NCAA field hockey game consists of four 15 minute quarters, plus the possibility of one or two 10 minute sudden-victory overtime periods, and the possibility of a penalty shootout.

Teams consist of 11 players at a time, up to one goalkeeper and either 10 or 11 field players (if no goalkeeper is present). Penalty cards will cause the offending team to play down a player(s) for finite periods of time.

Please note that the statistical instructions provided can be applied to all levels of field hockey though they were created to establish consistency within NCAA games. The feminine gender is used for the reader's convenience.

For more information about official NCAA field hockey statistics, please contact **Sahar Abdur-Rashid** at srashid@ncaa.org (Division I), **Cassie Langdon** at clangdon@ncaa.org (Division II) or **Rick Nixon** at rnixon@ncaa.org (Division III). The NCAA would like to recognize the National Field Hockey Coaches Association (NFHCA) and Chip Rogers, currently assistant coach at Miami of Ohio, in building and maintaining the statistics manual before transitioning to the NCAA in 2020. Additional thanks to Jacob Skipper, associate media relations director at William & Mary for his contributions.

The statistics described below are as follows:

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

The special situations are:

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

SECTION 1—SHOT

Article 1. A shot is any attempt made by a player to score a goal.

Note: *The ball must be touched inside of the circle by either an attacking or defending player to be able to count as a goal. 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.*

Article 2. 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.

Article 3. A shot—one that is deemed to be legal—can have four outcomes:

- (1) a goal,
- (2) a save (for the opposing goalie or a defender on the opposing team),
- (3) it can go wide, or
- (4) a foul can be assessed to the opposing team.

Article 4. 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 Section 6).

Note: *An attempt that is broken up by a foul (e.g., hits the body of a defending player, hits the wrong side of the stick of a defending player) should still be considered a shot.*

Article 5. 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.

SHOT ON GOAL

Article 1. Any shot attempt that results in either a save (goalie or defensive) or a goal. This includes shots that hit the crossbar or posts. Note that shots on goal are preferable to record than shots.

Article 2. If a shot on goal that would have gone in the cage is stopped illegally and a stroke is called, this is still a shot on goal.

SECTION 2—GOAL

Article 1. A goal should only be recorded if the umpire signals a goal is scored (see *Official Field Hockey Signals - Pages 8-9*).

Article 2. 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.

Article 3. The credit for a goal goes to the attacker whose actions most proximately led to the goal. 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.

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 into the cage. 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 to 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: 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

Article 1. The game-winning goal is the goal that puts a team in a leading position and changes the character of the game more than any other goal. This designation reflects the role that the scoring of the leading goal has in the overall contest.

A.R. 1. *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.*

A.R. 2. - Team A is up 2-0 and Team B scores to tie the game 2-2. Team A goes on to win 4-2, the winning goal is the third goal scored by Team A.

A.R. 3. - Team A is up 2-0 and Team B scores three games to lead 3-2. Team A scores again to tie the game 3-3, and Team B scores the final goal to win 4-3. The winning goal is the fourth scored by Team B.

A.R. 4. - Team B scores four goals and leads 4-0. Team A scores three goals, then Team B scores a fifth, and Team A scores a fourth to finish the game 5-4. The winning goal is still the first goal scored by Team B.

A.R. 5. - In a shootout, the winning goal is credited to "TM" of the winning team following the shootout.

SECTION 3—ASSIST

Article 1. An assist is a play that directly results in a goal being scored.

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

Article 2. 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.

Article 3. Some specific situations include, but are not limited to:

(1) A breakaway situation.

A.R. 1. *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.

A.R. 2. *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.*

Notes: An assist should not be given if the goal-scorer creates the goal opportunity 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.

If the ball is deflected in by a **defensive** player, the assist(s) are given as if that ball had not touched a defending player. Thus, if a direct strike is last touched by a defensive player, both the injector and the stick stop get the assists, and the goal is given to the player who struck the ball. If just a single assist would normally be awarded had the ball gone directly into the goal instead of being last touched by a defensive player, the assist is still given.

Article 4. 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.

A.R. 1. *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.*

A.R. 2. *Amanda carries the ball down to the baseline and passes back to Alix at the edge of the scoring area. Alix turns with the ball and dribbles around one defend, then drives to the other side of the cage and shoots and scores. Amanda is not awarded an assist.*

DOUBLE ASSISTS

Terms related to the attacking team on a penalty corner:

ACTIONS

Insertion: The action of putting the ball into play to begin the penalty corner.

Direct Shot/Corner: A shot taken during a penalty corner without any pass except for the ball being Inserted or positioned by the stick-stop.

PERSONNEL

Insertor: The attacker who starts the penalty corner from the back-line, i.e. the player who inserts the ball into play.

Stick Stop: The attacker who receives the inserted ball and positions the ball for the striker or passes to another attacker.

Striker: The attacker who on a penalty corner who is likely to take the first shot after the ball is received by themselves or the stick-stop.

Battery/Castle: Two attackers – a stick-stop and striker – who are in close proximity to each other and appear ready to receive and shoot the ball. Teams sometimes setup multiple batteries to help confuse their opponents.

Article 1. There is only **ONE** instance in which two people can be awarded an assist on a goal, and it takes place during the taking of a penalty corner.

A.R. 1. *On the start of the penalty corner, if the ball is sent from the injector (starter) to the stick-stop, and directly struck or swept into the net for a goal, then award an assist to both the injector and the stick-stop.*

A.R. 2. *In any other situation, only one assist may be awarded for the following: 1) direct pass from injector to any other except the stick-stop; 2) the stick-stop sending the ball to any player other than the one in battery with her; 3) a shot from the battery that is tipped or deflected by any other offen-*

sive player before going into the net and 4) any subsequent ball movement after the initial pass that isn't in the scope of A.R. 1

Note: *In open field play and on a penalty corner, if the ball is deflected by a defensive player and the ball crosses the goal-line, the assist(s) are given as if that ball had not touched a defending player. Thus, if a direct shot on a penalty corner is last touched by a defensive player, both the inserter and the stick-stop get the assists, and the goal is given to the attacker who played the ball just prior to the defender's deflection. i.e. the striker. If just a single assist would normally be awarded had the ball gone directly into the goal instead of being last touched by a defensive player, the single assist is still given.*

SECTION 4—SAVE

Article 1. A goalie should get credit for a save only if they stop a ball from going in the cage after it has touched a field player (attacking or defending) 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.

Article 2. 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.

Article 3. 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.

A.R. 1. *Amanda takes a shot that would go in. Brittany, the goalie, blocks the shot. Brittany records a save; Amanda records a shot.*

A.R. 2. *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.*

A.R. 3. *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.*

A.R. 4. *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.*

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

A.R. 5. *on a long hit coming across the mouth of the cage the goalie punches the ball out of the circle (or away from play)*

A.R. 6. *the goalie blocks a crossing pass from outside the circle (long hit, eg) that is not directed towards the goal as a shot*

Article 5. 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.

DEFENSIVE SAVES

Article 1. A defensive save is awarded when a defender, with no other field player or goalkeeper between herself and the goal, stops a shot from entering the goal.

Article 2. 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.

Article 3. You cannot award a defensive save for an action that is illegal. Should a penalty stroke be awarded, the attacking player is credited with a shot ON GOAL. If a penalty corner is called, the infraction was most likely NOT a shot on goal.

A.R. 1. *On a corner, Amory shoots the ball in the corner of the goal 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.*

A.R. 2. *Anna takes a shot that hits the Bella the goalie's pads and goes into the air; the backspin sends it towards the goal and would cross the line, but Britney plays the ball safely out of the way of the goal. Anna is credited with a shot on goal; Britney is credited with a defensive save. Bella does not get a save as her action, while it stopped the initial shot, did not finally guarantee the ball would not have gone in the goal. Only one save is permissible per shot, so the save goes to the player who ultimately kept it out of the cage.*

A.R. 3. *Ammie takes a shot that gets past the goalie, but Beth is at the goal line and knocks the ball out of the way before it fully crosses the line. Ammie is credited with a shot on goal; Beth gets a defensive save.*

A.R. 4. *Ammie takes a shot that gets past the goalie, but hits Beth in the body at the goal line. The referee calls for a penalty stroke to be taken by Team A. Credit Ammie with a shot on-goal, DO NOT credit Beth with a defensive save.*

A.R. 5. *Abby shoots from the top of the circle, and Bella steps in front of the goalkeeper to stop the shot and deflect it away from the goal. Credit Abby with a shot (NOT on-goal), and input "blocked" as the result. Since the goalkeeper was behind Bella, Bella cannot be credited with a defensive save.*

Note: A defender who stops a shot in front of the goalkeeper, or with another defender behind her, is only credited with a block, and the shot is not considered on-goal.

SECTION 5—SHUTOUTS

Article 1. A goalie can only get credit for a shutout if ...:

- (1) She plays the entire game. If she is substituted, she cannot earn a shutout.
- (2) Her team holds the opponent scoreless.

Article 2. Teams that split their keeper still are credited with a shutout, but the individual keepers are not credited with a "half-shutout."

Article 3. It is possible for two goalies, each on opposing teams, to record a shutout in the same game. Should both goalies (the GK for each team) 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.

Article 4. A team could lose 1-0 as the result of a loss in the shootout, but the keeper, if she played the entire game, records a shutout.

SECTION 6—PENALTY CORNERS

Article 1. Also known as short corners, penalty corners are awarded by umpires for infractions by the defense inside the circle or that intentionally prevent the attack from entering the circle.

Article 2. Goals scored off deflections by a defensive stick should be awarded to the offensive player who last touched the ball.

Article 3. If the umpire resets the corner for any violation, offensive or defensive, and the corner is re-started, a new corner shall not be recorded; it is the same corner for statistical purposes in numbers of corners awarded.

Article 4. 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.

Article 5. The corner shall continue until either (a) the ball is scored, (b) the ball is played outside of the scoring area, (c) the referee whistles the attacking team for an infraction, or (d) the defending team is whistled for an infraction which creates a new corner situation.

Article 6. When a corner is called, or being played, when the clock at the end of a period goes to zero, then the corner shall continue to be played until completed via the above methods and the referee signals the end of the period. More corners can be called and played as a result of the previous corner, until the period can end legally and without infraction.

SECTION 7—SPECIAL FIELD HOCKEY SITUATIONS:

THE SHOOTOUT COMPETITION

Article 1. In the case that Team A and Team B are tied following the mandatory, sudden-victory 10 minutes overtime periods, a shootout competition is held to determine a winner of the contest. Each sudden-victory overtime period is played seven versus seven. At the start of each period, note the seven players who take the field for each team, including players currently sitting out on penalty cards (if necessary). All other statistical rules remain in effect. 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.”

Article 2. 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: *If a player participates in the shootout, she is considered to have participated in the game.*

Article 3. 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: *If two teams enter a shootout with the score tied at 0-0, BOTH goalies are awarded a shutout.*

Article 4. 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.

“SUBSTITUTE” KEEPER

Article 1. A substitute keeper is a kicking back or an extra field player. When a goalkeeper is substituted, the time on the field is

stopped, and the specific goalkeeper setting option is selected in the scoring software. Place the new keeper on the field. Do not record the substitute like you would a field player.

Article 2. A team is not required to have a goalie on the field. Note that the Rules of Hockey changed in 2019 so that kicking backs are no longer permissible. Teams must have either one fully kitted keeper OR just field players. From a statistical standpoint, there is not a “substitute” for the keeper. The GK is subbed off as a field player, the goalie of record is “Team.” Any goal that is scored with only field players on the pitch is charged to the team.

Article 3. 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.

A.R. 1. *Team A leads 1-0 and Team B pulls their keeper Brittany with 4:00 to play. Brittany comes off the field while Betsy enters as an extra field player. Team A scores with 2:00 to play. Brittany is charged with only one goal against over the minutes she participated in the game, while Team B overall has two goals against in the course of the 60-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.*

A.R. 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 as an extra field player. 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 two goals against in 60 minutes of play, while Team B overall has three goals against in the course of the game. Team A’s goal should be listed as an (en) goal to reflect the actual situation, but Betsy is credited with a defensive save.*

CARDS

A green card shall cause the offending player to sit at midfield in the chairs provided for two (2) minutes. The statistician and field attendant shall note the time of the card issued and the player to whom it was issued.

A yellow card is by default five (5) minutes, but can be extended at the discretion of the referee. Any change from the default shall be communicated from the referee to the field attendant, the player, and the statistician.

A red card immediately ejects the player or coach from the game.

Cards issued carry over to the next period(s) as necessary. A green card issued with 30 seconds left at the end of the first period will cause that player to also sit and the team to have one fewer player for the first 90 seconds of the second period.

Cards do not carry over game-to-game.

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.

Note: *In shootouts, the goalie of record are the goalies that participated in the shootout (and if there was a swap of keepers mid-shootout, it was the one who gave up the deciding attempt).*

SUSPENDED OR INCOMPLETE GAMES

If a game is suspended or interrupted and cannot be resumed, it is considered complete if 48 minutes (80%) of playing time has

elapsed, unless the rule is overridden by a mutual agreement between the teams before the beginning of the game or by conference policy.

If 48 minutes of the playing time has elapsed and the game will not be resumed, the score will stand, all statistics are official and the team ahead on the scoreboard is the winner. Under the same scenario, if the score is tied, the result will be recorded as a tie, with all statistics again official.

If a goalie, who has played the entire game to the point of interruption/completion, has not allowed a goal, she shall be credited with a shutout.

If a suspended game doesn't reach the 48-minute mark and is resumed on another day, the game will resume at the point of suspension.

If a game does not reach the required minimum of 48 minutes of playing time and is NOT resumed, the game is not considered official and therefore the stats of the games are NOT official.

FORFEIT

Article 1. 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.

Article 2. 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.

Article 3. 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.

SECTION 8—STATISTICS PROGRAM, GENERAL REPORTING POLICIES

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.

Article 1. For a member institution to be eligible for either an individual or a team national statistics title, it shall have filed accurate reports with the NCAA national office on a consistent basis during the regular season.

Article 2. Filing a statistics report does not ensure automatically a member institution's inclusion in the NCAA statistics rankings. The report shall be mathematically accurate. Unusual statistics that cannot be promptly supported will not be included in the rankings. The NCAA shall withhold such reports from the rankings until an appropriate official of the member institution involved submits a satisfactory explanation and substantiation of the statistics.

Article 3. Notes for those using computer-generated stats programs:

- (1) Make sure all times set are for hockey, which is a 60-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.*

APPENDIX A—STATISTICAL FORMULAS

SCORING AVERAGE (SCORING OFFENSE)

$$SA = \frac{\text{Goals} \times 60}{\text{Total Minutes Played}}$$

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

$$\frac{60 \text{ goals} \times 60 = 3,600}{(15 \times 60) + 5 = 905}$$

Team A has a scoring offense of 3.98.

SCORING DEFENSE (GOALS AGAINST AVERAGE)

$$GAA = \frac{\text{Goals Allowed} \times 60}{\text{Total Minutes Played}}$$

Example. Team A's opponents have scored 25 goals in 15 games (one OT of 5 min).

$$\frac{25 \times 60 = 1,500}{(15 \times 60) + 5 = 905}$$

Team A has a scoring defense of 1.66.

Example. Anna has allowed 20 goals while playing in 785 minutes.

$$\frac{20 \times 60 = 1,200}{785}$$

Anna has a GAA of 1.53.

Notice that the team has played 905 minutes; she has played 86.7% of the team's minutes. Her GAA is very close to the scoring defense.

CAREER GOALS AGAINST AVERAGE

Beginning in 2019-20, game length changed from 70 minutes to 60 minutes. In order to have a more accurate representation of a player's career GAA, the formula should be calculated as follows.

$$\text{Career GAA} = \frac{A+B}{\text{Total Minutes Played}}$$

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

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

Example. Alice allowed 10 goals in 5 60-minute games with a total of 280 minutes played and allowed 10 goals in 5 70-minute games where she played 300 minutes.

$$\frac{(10 \times 60) + (10 \times 70) = 13,000}{280 + 300 = 580}$$

Alice's career goals against average is 2.24

If one were to use 70 minutes to calculate Alice's career, $(20 \times 70 = 1,400/580)$ it would give her 2.41, which is higher than what it should be.

SCORING MARGIN

Scoring Average - Scoring Defense = Scoring Margin

SAVE PERCENTAGE

$$Sv \% = \frac{\text{Saves}}{\text{Saves} + \text{Goals Allowed}}$$

Example. Anna has made 180 saves and has allowed 75 goals.

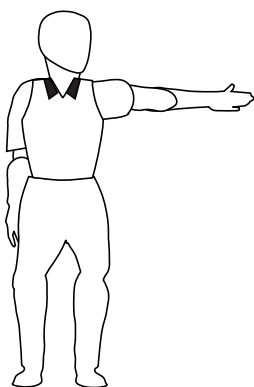
$$\frac{180}{180 + 75}$$

Anna's save percentage is .706



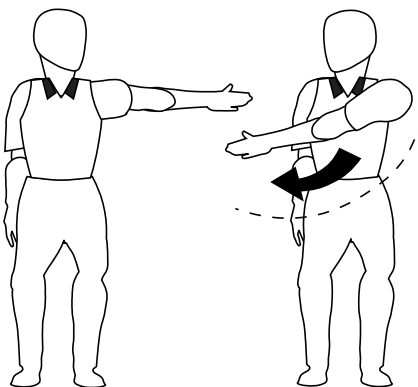
OFFICIAL FIELD HOCKEY SIGNALS

1



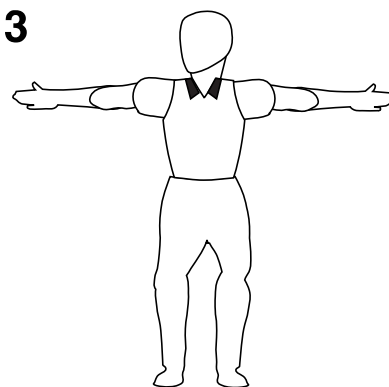
Free Hit

2



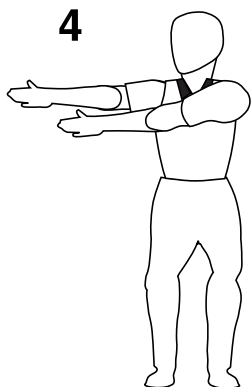
25-yard Free Hit

3



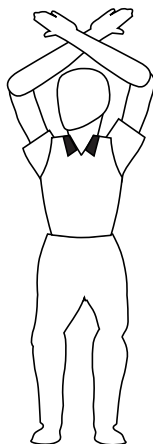
16-yard Free Hit

4



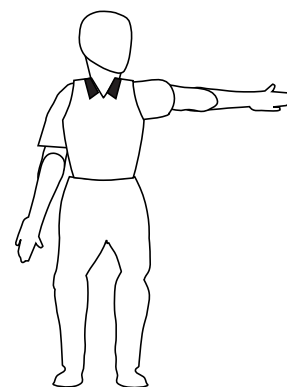
Penalty Corner

5



Penalty Stroke

6



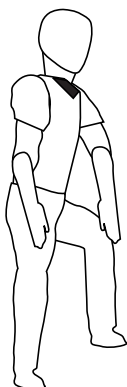
Side-in

7



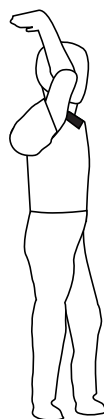
Stick Interference

8



Advancing

9



Dangerous Use
of Stick

10

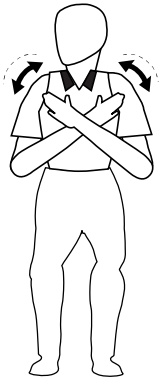


Obstruction



OFFICIAL FIELD HOCKEY SIGNALS

11



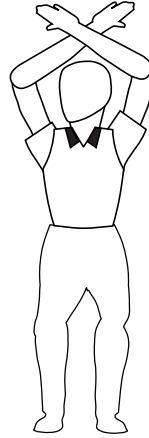
Third-Party Obstruction

12



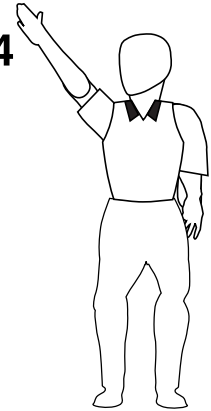
Dangerous Play

13



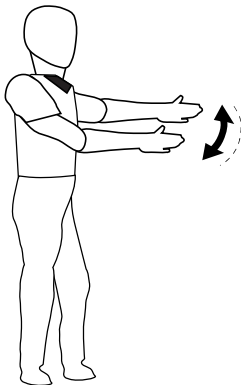
Timeout

14



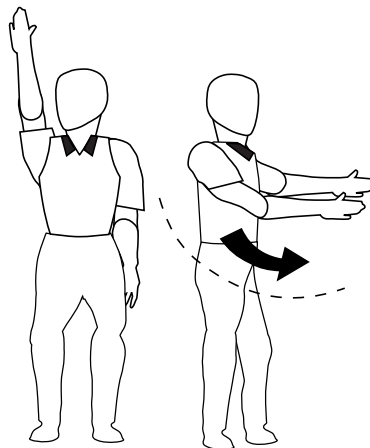
Advantage

16



Bully

15



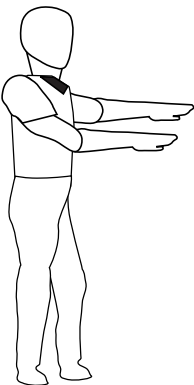
Goal Scored

17



5-yard Distance

18



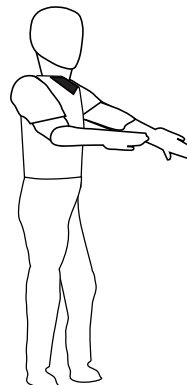
Raised Ball

19



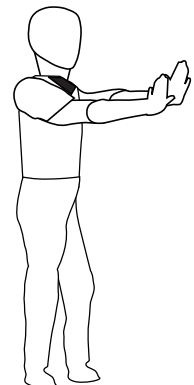
No Goal

20



Play with Wrong Side of Stick

21



Pushing