



## ART OF GOALKEEPING IN HANDBALL

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### ABSTRACT :

The purpose of the study was to predict the shooting angle of the shooter in handball by a goalkeeper. In the handball shooting movement involves a sequential action of a chain of body segments, leading to the high-velocity motion of handball, Results in the production of a summated velocity at the end of the chain of segment used, the path of handball motion is half curvilinear in nature. The force imparted to handball through the end of a chain of body segments in order to develop kinetic energy, followed by a high-velocity motion of that handball. As the handballs throw with a high velocity that mean handball have direction as well as the magnitude of the force. The shooting direction of handball is directly related to moving direction of the shooter so the goalkeeper can take cues of shooting direction from the moving direction of the shooter. This will help the keeper to save a goal and that create the difference between winning and losing a game and goalkeeper could be a true hero! The tactic is a very important part of the game. If the decision made by the goalkeeper is right and he knows in which direction the ball goes, it is highly possible that he saves even if his skills are not proficient. During all saving actions, a goalkeeper needs to take some decision. It is called as a Goalkeeper's tactic and it is essential. Some people say that tactic is even more important than the personal skills of a goalkeeper. The sooner he makes the right decision (direction and the type of saving) the bigger chance to block the ball.



**KEYWORDS :** Handball, Kinetic Energy, Tactic.

It is great to be a goalkeeper.

He is a member of the team, he has friends, and they experience all workouts and games together.

But the same time during the game he is separated from them by goal area line. He needs to make decisions, concern a direction of the throw and the way he wants to defend, on his own. He takes full responsibility and each action is a new experience and a new challenge. The rest of the team tries to support him by interrupting and blocking the player; however, he knows that the final interference, in most cases, is up to him. It is said/ pointed by coaches, that the most important player of the team is a goalkeeper.

The goalkeeper is a key position in a game of handball. If goalkeeper becomes a great goalie, his efforts could make the difference between winning and losing a game and goalkeeper could be a true hero!

In handball, goalkeepers have the unenviable task of deflecting balls that come at speeds of up to over 80kmph. In the face of such bullet-like throws, the role of the goalkeeper is definitely not for the faint-hearted. Protecting the goal in handball is an extremely challenging role that requires lightning reflexes and great skill. Only the best goalkeepers in handball can hope to save more than 40% of the balls that come towards the goal. Goalkeeping in handball requires very high reflexes as the distance between the shooter and keeper is very less. All depends upon the stance of the goalkeeper.

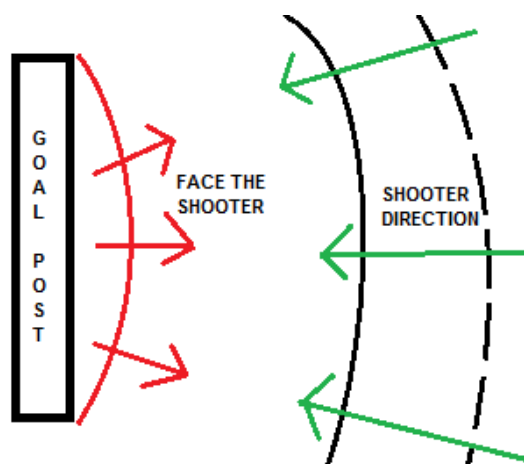
### Basic Movement Pattern of Handball Goal Keeper

- Move across goalpost from side to side following the ball. If goalkeeper is on the right side of the goal in time for a shot, goalkeeper can really narrow down a shooting angle for an attacker.
- Keep arms up. It's likely that an attacker will try and shoot above goalkeeper or try and bounce a ball into the roof of the net, so keeping arms up can not only deter an attacker doing this, but can also ensure arms are in a good starting position to save a shot.
- An attacker might shoot low, meaning goalkeeper won't be able to get arms down quickly enough, and so arm and leg co-ordination is vital. Try and save low shots with legs.
- In all situations, readiness is key; don't stand flat-footed, stand on the balls of feet so goalkeeper can spring into action.

### Relation of Goalkeeper movement with shooter

#### Tip 1: Always face the shooter

Reducing the angle of the shooter depends upon the position of the goalkeeper. Imagine there is an imaginary semicircle in front of goal post in which goalkeeper is meant to move. Always face the shooter as he approaches. Standing in the middle of the post will do no good to stop the ball. As shown in the figure if the shooter approached from a certain direction faces him in that direction.



#### Tip 2: Always reduce the angle of vision of the shooter

Extend both arms out at 45 degrees with palm wide open. This reduces the vision of the side post and brackets of the post. Do not wide open the legs as it is more vulnerable. The more forward goalkeeper comes till 6 meter line while facing the shooter and spreading arms, the more his shooting angle is reduced. If goalkeeper stands behind the near post and spread arms, he may see the post more clearly.

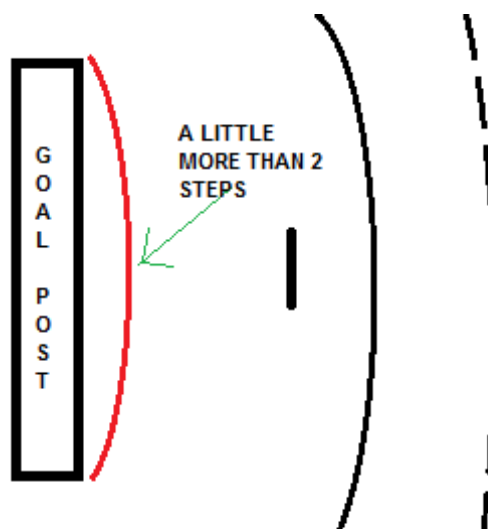
What happens if the shooting angle is reduced?

- 1) He tries to shoot away outside the post
- 2) The goalkeeper has more chance of stopping

The disadvantages if the goalkeeper comes too much further?

- 1) He loops the ball above the goalkeeper's head
- 2) Goalkeeper needs to have swift reflexes to stop the ball

Hence too much ahead and too much behind will do no good. The goalkeeper needs to be at a reasonable distance from the shooter either to go back when he loops or to stop at one on one situation.



As shown in the figure the goalkeeper needs to come 2 steps ahead to confront the shooter. It will be around the center of 4 meter mark. This may also give time to react and also fairly reduce the angle of vision of the shooter.

**Tip 3: Always lock down eyes on the ball**

Never look at the player. Look at the ball movements. Player movement should be by peripheral vision. If the goalkeeper does not look at the ball, it will zoom past goalkeeper. Try some reflex games to improve eye coordination. Hold stance until the shooter releases the ball from his hand. As soon as he releases the ball react accordingly. This part needs practice as if goalkeeper react a bit early the shooter gets more chances to organize a shot and if goalkeeper reacts a bit, late goalkeeper loses.

**Tip 4: On Toes for the saves, especially for the 9 meter ones.**

A goalkeeper needs to be on toes to spring upon. For 9 meter he needs to spring more if the player shoots the brackets or side down. Being on toes increases goalkeeper reflex rate increase.

**Tip 5: Jump while saving.**

Jumping helps goalkeeper to reduce the shooter angle more. As soon as the shooter approaches and takes a shot, jump a little forward and react accordingly in air. But jump only after the player shoots as said earlier. If goalkeeper jump too early the shooter will pass it underneath.

**Tip 6: Zero angle shots**

In Zero angle shots, always stick to the side post or a little ahead but never leave the side post-gap for the shooter. Now the shooter will either hit the post far behind or above goalkeeper's head or below goalkeeper's leg since goalkeeper has blocked the main post. The angle here is very tight and a goalkeeper has more chances of stopping the ball. Coming little ahead will again reduce shooter angle.

If the goalkeeper is blocking the left side of the main post, then support goalkeeper body weight on the left leg and hover goalkeeper right leg to move sideways to stop the ball quickly. Same with the right post.

The situation between a shooter and a goalkeeper in Handball is fundamentally a duel. The shooter wants to beat the goalkeeper and score a goal. The goalkeeper wants to beat the shooter and make a save! In a duel between two players, previous research works demonstrated the role of the opponents' motions. It means that elements in the opponent's movements make the other player choose an appropriated reaction. The ability to utilize visual cues and "anticipate" what the shooter is doing is what makes a World-class handball goalkeeper.

Endless hours of shooting training help goalkeepers in developing the appropriate strategies and moves; however, one could argue that the ability for a goalkeeper to progress depends a lot on the quality of players providing him/her with "cues". From a coaching standpoint, a goalkeeper always facing shooters "easy to read", would never progress further, so allowing him/her to train with more advanced shooters and a variety of shooters and situations can improve the goalkeepers' ability to develop.

There is a lot of emphasis on technique and position (all very important), virtually no work on eye movements and visual abilities, and virtually no work on advanced cues and anticipation (due to the limitations of the quality of shooters and drills).

***In this paper, I want to head in the area of biomechanics that mean shooter movement direction and its throwing direction.***

In team handball the most used throw at the goal is the jump throw made from 9 m from the goal (Wagner et al., 2008). An opponent is often between the thrower and the goal, which could influence the kinematics and the throwing velocity of the attacker. Furthermore, the goalkeeper has to be surprised by the throw. Therefore, different degrees of opposition could influence throwing velocity.

In the handball shooting movement involves a sequential action of a chain of body segments, leading to the high-velocity motion of handball, Results in the production of a summated velocity at the end of the chain of segment used, the path of handball motion is half curvilinear in nature. The force imparted to handball through the end of a chain of body segments in order to develop kinetic energy, followed by a high-velocity motion of that handball. As the handballs throw with a high velocity that mean handball have direction as well as the magnitude of the force. The shooting direction of handball is directly related to moving direction of the shooter so the goalkeeper can take cues of shooting direction from the moving

direction of shooter. This will help the keeper to save a goal and that create the difference between winning and losing a game and goalkeeper could be a true hero!

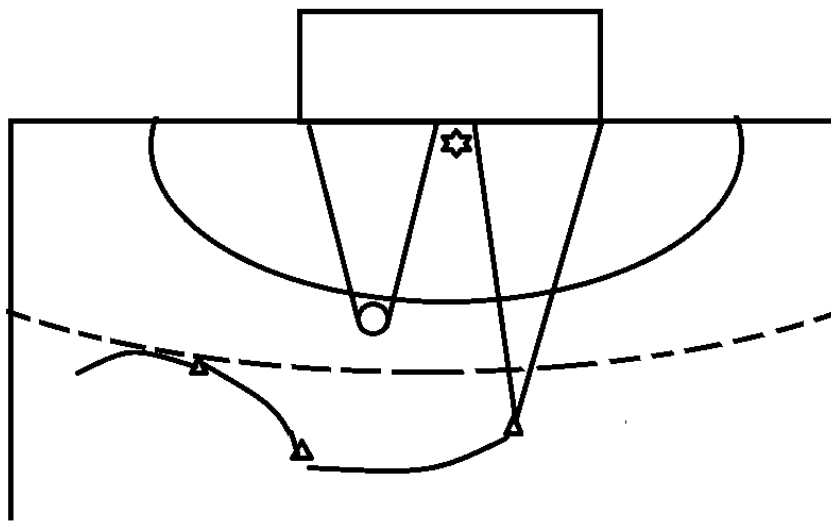
The tactic is an essential part of the game. If the decision made by the goalkeeper is right and he knows in which direction the ball goes, it is highly possible that he saves even if his skills are not proficient.

### Goalkeeper's tactics

During all saving actions, a goalkeeper needs to take some decision. It is called as a Goalkeeper's tactic and it is very important. Some people say that tactic is even more important than the personal skills of a goalkeeper. The sooner he makes the right decision (direction and the type of saving) the bigger chance to block the ball. The decision (tactic) depends on many circumstances, for example,

- The direction from where he is coming toward the goal
- The attacker hand and trunk array
- Defenders positions:
- Blocking by defenders
- Pushing the attacker aside
- The luck of defenders
- Rules of playing in the goal
- Memories of the attacker's behaviors

Let take an example:



The throw from the central part of the field

The defender, who was late, is blocking the long corner and the goalkeeper saves the short corner.

The goalkeeper also needs to take care of "tactics" while saving 9-meters shots.

If the player with a ball is moving towards sidelines, the goalkeeper cannot allow him to throw into the short corner. To avoid shots into short corners, the goalkeeper needs to move close to the closer goal post.

Here the question arises why the goalkeeper has to save short corner. The solution of this problem is that the shooter is moving from a left-wing position to right-back. This creates momentum in the body - the momentum used by the shooter to shoot the handball into the goal post.

If shooter tries to shoot into the long corner, it will be miss directed and less in force, have the least chances of goal conversion and more chances of injury due to imbalance. The shooting direction of handball

is directly related to moving direction of the shooter so the goalkeeper can take cues of shooting direction from the moving direction of shooter that is the short-left corner in this case.

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