



Development and training of the specific elements determining the performance of young goalkeepers¹

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The goalkeeper has always had a highlighted position within the handball team and during the last decades, special attention has been given to his preparation.

The current game originates conditions that justify great reflection over the implications in the goal keepers actions to take into account in the training and preparation of future generation players.

His main essential tasks remain unchangeable, i.e. avoiding suffering goals and start the attack immediately.

Additionally some data seem to indicate few changes in the course of the game. Regarding the efficacy level of the best goalkeepers in international competitions (even taking into account the best performances) there are no relevant changes in the percentage level. From the minimums (little more over 20%) to the unusual maximums (of around 50%), we have an average in between 35% and 40%.

Higher number of interventions per match

The main difference is that the number of attacks, the number of actions in the match, has risen significantly and the teams go often beyond 55 actions per match. This means that the goalkeepers in order to keep the same level of efficacy are obliged to make a higher number of defences per match, with all the inherent implications, either by each match, either in the whole of the matches of all the championships they are involved and the inherent consequences in the physical and psychic conditions of the athlete.

Consequences of the successive changes in the Rules

In the same way, the variation in the rules, which have implications in the goalkeepers activities, have been constant in recent years (as a matter of fact, the rules changes have always affected the goalkeepers functions, mainly during the last three alterations) and once again, the violation of the area sanctioned by the goalkeeper throw is one more example of the great capacity of adaptation that exists in the action of the goalkeeper.

All these alterations have direct and indirect repercussions in the way of acting, in which the growing factor of concern with the recovery of the ball and the varied throw to the goal has a prominent role.

¹ | I would like to mention the help of the Technical Department of the Handball Federation of Portugal, with the participation of **Manuel Laguna (ex-national coach of the youth teams)** and **Mats Olsson (national men's team coach of Portugal)** in the making of the orientation lines here presented.

The rhythm and intensity of the match

The match's own rhythm that prevails in the top teams, according to the rules (of which I highlight the fast throw off after goal and the pressure of the passive game – whose interpretations pressure in the sense of a fast reconstruction of the ball to the centre of the playing field after the goal, under the risk of providing less time of attack to our team) – they force a permanent quick reaction, with the immediate placement of the ball into play and the need to pay attention, immediately, as the opponent team can also use the same procedure.

The throwing capacity has increased and generalised

The throwing capacity has risen in a very significant way with a high number of throwers capable of throwing with great potential and variety. Currently it is not adequate to concentrate the attention on two or three throwers, each one of them with their main types of throw, **as everybody throws with short and quick arm movements - "small arm amplitudes"** - in the type and the moment of the throw, almost in a hidden manner, in which the ball is thrown, creating surprising courses and speeds – the so called "twisting" effects and the "amortises" throws have created even more problems to the time of reaction and action of the goalkeepers.

The Throw Off after the Goal and the play out of the goal area

The throw off after the goal and the offensive defences have introduced a more significant number of isolated throws, leading to a higher needs of a good balance in the capacity of defending short or long distance throws.

The participation in the fast break either for the first pass either to the continuation of the fast break, leads to a much more active and continued game capacity outside the area, to which we add the pass to the midfield, in order to allow an immediate re-start of the match.

In a similar way, the need for disturbing the long passes of the opposite team and the speed for the re-occupation of the position in the goal are elements, which remain, and the tendency is to continue in the same sense of evolution.

More than ever, the goalkeeper is forced to play outside the goal. This is made with self-assurance, efficiency and equilibrium.

The tendency to increase the goalkeeper substitutions

Since the use of the false goalkeeper – introduction of one more field player – a new notion of goalkeeper substitution has been created with a different frequency in the game – during the moments of inferiority beyond the generalization of the end of the match.

The substitution is now an act of extreme speed and high risk. It does not happen only during time out or of much security in ball possession.

The reflection times had decreased and the goalkeeper changes have increased.

The goalkeeper is subjected to an enormous load and on top of it the training (attention paid) does not correspond in the whole to the rhythm, time and conditions of the remaining team members.

Some initial intervention can create less adequate stimulation to the match and increase the discomfort and insecurity of the goalkeeper, who is already living moments of inadaptation, which we want to be momentaneous.

Young goalkeepers training – long term process of formation

The goalkeeper does not define and build himself only through his natural born skills and then just hope that maturity will do the rest.

The fact the goalkeepers last in time (a fact which is becoming less and less exclusive to the goalkeepers, because there are many field players who show careers with considerable longevity) and affirm themselves in time, leads one to “think” that we must just let them be, let them go on defending, because they will get there with the age

All this means very little conditions for stimulation and very little time dedicated to the younger age goalkeepers, or even the discontinued form of that attention.

From a given moment the young goalkeepers always show some kind of disadjustment because the team mates have very much improved their throwing capacities and this improvement was not followed with the same speed by the technical development of the goalkeeper.

This is mainly due to some particular aspects and almost simultaneous:

- ▶ The amount of time dedicated to throwing work is higher and more stimulated in terms of quality.
- ▶ The individual attention produced to the throwers is more cared for and more systematic than it is to the goalkeepers.
- ▶ Some interventions of the goalkeepers have great spectacularity and this may lead into mistake a less attentive observation.

On the other hand it is also frequent this happening in a process of precocious specialisation with beautiful movements and technical gesticulations, making some “nice photos”, but leading to an inadequate process of formation, as it works in detriment of the quality of displacements and of defence, some of which, because of their insufficiency, originate a series of injuries.

We can talk about four phases in the evolution of the goalkeeper

1. **There is still no goalkeeper (until +/- 11 years of age)** - “nobody is obliged to stay in the goal but everybody has to play forward”. Everybody must have to go through the process of the initiation of the game, participating as field players. Avoid that some seek refuge in the goal, where they can achieve some immediate success, but the lack of mobility may be disastrous, particularly for those who will follow their activity as goalkeepers. There are no

sessions with specific goalkeepers techniques. The important is the **HANDBALL KNOWLEDGE.**

2. **Learning phase – knowledge of the ball and the goal – *Global Technical Training* (more or less in the period 12 –15 years).** Learning of Displacements, Defence with hands and “Knowledge” of the Goal. Special psychological care (the relation with fear, the individualisation of the position). Orientation and Detection of Talents. Still playing forward and Throwing. Liaison to the Fast Break and the Defensive Balance and Recovery. Domination of the specific rules.
3. **Perfectioning phase – comprehension - *Technical-Tactical Formation. The Basic and Specific Physical Condition* (15 - 18 years).** The notion of the angles – domination of the positioning and specific displacements. The technique for defences towards specific throws. The “Executing Arm” of throws. Long and short term memory and learning how to read the game, paying attention to simple elements that show the actions of the opponents. To learn what is happening and to be able to anticipate very different from guessing. The physical condition – Specific Resistance (displacements, fall and standing up, the basic positions, ball recovery and first pass); Flexibility / Force, Speed and Reaction Time. Not to stop playing as field player and not to stop from throwing frequently during the training sessions. To know how to cooperate with the defence and to teach how to profit from the blocks which it is an help action, because the final responsibility remains with the goalkeeper.
4. **Specialisation and rentability phase – strategy (18 - 19 years +) *Tactical education – special strategic and physical condition*** in which the strength (muscular potential) and the flexibility (extensions of the great bone segments – particular attention to the articulations of the elbows and the knees). Observation and a lot of individual training. The capacity of the small goalkeeper’s team and the integration in the whole team-mate. Attention to the physical and psychological characteristics of **the “concrete” goalkeeper.** The training of the immediate and systematic observation. To take profit of the possibilities of cooperation offered by the defence and the situation between the shooter and the defender.

General orientation lines in the preparation of the goalkeepers

1. ATHLETES OF GREAT QUALITY - This is one of the determinant characteristics of a current goalkeeper.

They can be included in the category of the Handball super-athletes of the near future.

Physical general condition with the resistance reaching high levels towards the permanent requirements to which they are submitted to (the times of attack of the team do not allow the tradition of resting during the attack).

The importance of the muscular potential work and muscular toning in order to oppose with security (match and health) to the strength of the shots, the only way to diminish the possibilities of injuries in the elbows (impact of the ball – muscular reinforcement – toning of the elbow’s flexors) and of the knees (positions under overweight of the crossed ligaments – multi jumps and positions of extreme extension – in which the

work of stretching and flexibility becomes decisive) beyond the special attention of the adductors (corrections to the non natural positions of the pelvic cavity), the abdominal (prolonged maintenance under high impacts and in positions of great instability) , apart from the general physical condition.

In the general physical condition attention needs to be paid to the STRENGTH and the AEROBICAL RESISTANCE.

In the specific physical condition, special care in POTENCY (explosion), GENERAL AND SPECIFIC AGILITY, FLEXIBILITY and BALANCE capacity.

2. PSYCHOLOGICALLY VERY STRONG

This has always been one of the dominant capacities in the goalkeepers but today the intense number of competitions and within these competitions the intensity of the actions increase (if this is possible) the importance of this characteristic.

The “fragilities” for suffering a higher number of goals must be overcome with another frequency, the substitutions are more frequent, the throws are more surprising, and the action in fatigue is constant.

3. CONSTANT TECHNICAL CAPACITY

Overall in the sense of effort economy and action profit, with the simplification of processes.

4. MORE ACTIVE TACTIC CAPACITY

With great capacity of “reading the game” which allows the anticipation of the actions through small indications but without inducing in a “guessing game” in which sometimes you get it right (and then there are good days and there are others ...and in those what counts is the basic quality and these are more than we would like them to be). Stimulation to long term memory, to short term memory without keeping permanent the emotional intelligence, indispensable to the particular success in atmospheres of great intensity and stress as it is a sporting competition.

The **INDIVIDUAL** tactical capacity referring to the **SPACE** (at the right TIME, adequate position, for the efficient action, being able to anticipate and cheat), **TO CONDITION THE GAME.**

The technical **COLLECTIVE** capacity, to read to Read our own Defence (where are the “holes”) and the opposite Attack (which are the most probable possibilities – to know where the ball will come from), presupposing that the defence is there to help but the responsibility belongs to the goalkeeper.

CONSIDERATIONS ABOUT THE TRAINING

▶ At the technical level

A GOALKEPER must always look for the ball – to defend and not just only to position himself only with the aim of “being hit by the ball”, and these means ability to move in proper and efficient way.

One of the main concerns mentioned before **is that the goalkeeper training is always very general**, even if it is goalkeeper specifics and **does not take into account the individual – the type (morpho type, conditional and cognitive qualities, psychology) of the goalkeeper in presence** – this fact only happens when the goalkeepers are very experienced when they condition their own preparation, and not in beginning of the preparation when they are not able to be responsible for this preparation.

It is important that the goalkeeper feels comfortable when displacing and that he can move in a relaxed, fast and explosive way.

The initial position must take into account many particular aspects but cannot place himself in extreme positions:

- Never as “scarecrows”;
- Neither as “cowboys”,
- but as boxers, in which there are no stopping moments and he is always ready to intervene.

If it is possible to define in writing this dynamic position, one can say that the knees must be slightly flexed with the legs slightly separated from each other (at around shoulder height) with comfortable feet – without being on their toes or on their heels.

The arms are separated with some degree of flexion (the elbows flexed and turned out) and never completely stretched like the scarecrows. The hands must always be turned to the field of the game, and they can at variable heights, but never below the elbows (like the far west cowboys) or the arms up very high above the head, reminding the speed with which the boxers use them.

▶ The Displacements

The conjugation of the base position with the displacements are essential motor elements in order to get a good action profit and above all that do not cause extreme fatigue and increase the tactical capacity conditions, determinant for the success of the intervention of the goalkeeper.

Therefore the goalkeeper’s movements must be similar to the defensive displacements of the field players made by small intervals and not in a continuous way. This means **he must displace and then place to displace again**. It must not be exclusively sideways but **in several directions according to the “reading of the game”** and the probable throw circumstances he will have to face.

I must emphasize **the need for comfort and speed always available** to the fastest and explosive intervention determined by the circumstances, in which the conditions necessary for the action over the throw must be highlighted, the throw may vary in type, moment, place and also conditioned by the strategic action itself, which must be determined by the goalkeeper himself

▶ **The action towards the throws**

We can characterise two initial important elements in the goalkeepers defending action:

- **THE CONTACT WITH THE BALL** – must be able to receive, dominate the impact or repel it.
- **THE ACTION WITH THE THROWER** – which will be determined by the capacity of anticipation of the events (this is “reading the game” and not decide by the opponent), the MOMENT OF REACTION (conditioned by the time of reaction to the stimulation identified by the goalkeeper) and by the STRATEGY (transmission process of false indications to the opponent which allow the goalkeeper to condition the situation and to have initiative chances).

The action towards the throws is sustained by the domination of the position and the use of the displacements but is mainly based in the tactics, therefore the goalkeeper must be prepared to act at any moment but conditioned by the SITUATION, by the RELATIVE POSITION and the intervention forms – according to the distance (more or less close to the goal) of the trajectory, height, of the ball but above all the special zone where the throw comes from:

- **TOWARDS A FAST BREAK THROW**

The positioning is determinant but it must reveal an enormous PRESENCE (to put the attacker before a great figure who will steal the supremacy and evidence from him – YOU ARE GOING TO FAIL!)

We can follow a fast action towards the thrower (to diminish the angle and to limit the space) and which distance (to the thrower) will depend of the zone (centre, more tilted, from the aisle), although still very close to the throw! The way out direction is in the sense of closing one part of the goal through the placement of the body, impeding the thrower to throw from where he wants but making him throw to the side the goalkeeper wants.

In any case, one must avoid gesticulation in prejudice of looking for the ball, the ball is the determinant factor. For more efficacy the body flexion movements and extension of the body, particularly the arms (parallel), are decisive in the moment of closing the goal (the side I “left open”) and strongly condition the throwing options.

- **TOWARDS THE EXTREME THROW**

The most important is to vary the strategy and to look again for the initiative and condition the opponent, leading to the solutions I want, and these must allow efficacy conditions.

In any case it is adjusted to give one step ahead (slightly away from the goal – not forget that the second post is already at a 3 meter distance, and as fast as possible, in order to have time for reaction and stability for the decision) and one step, normally in diagonal and towards the jump of the thrower (displacing in order to follow the thrower sideways and remain the throwing angle), trying not to leave the two sides as options and create adequate conditions to my intervention.

In this context it is important to keep the arms in an asymmetric way and place oneself in order to “close” one part of the goal and to prepare the action for the other side (without forgetting to pay attention to the thrower, who may amend the intervention), always with small and short distance gestures (the angles outside the goal are not important) but very quick, trying to create conditions to intervene with the whole body and not only with the extremities.

- **LONG DISTANCE SHOTS**

The principle of using both hands (reduces the possibility of injuring the elbows and provides more efficacy because the defence surface is larger) whenever possible and to impulse with the opposed leg to the one in the defence intervention, obviously without forgetting the motto that the important is to defend, avoiding the goal and recover the ball as quick as possible, starting the attack.

However, we can subdivide the defence zones into three levels:

- **Upwards: (high balls)** in which the general principle of using the two hands is more variable with a one hand defence, facing the distances, but the need for impulsion with the opposed leg to the defence is indispensable.
- **Medium Height (balls to medium zones)** allows the use of the two hands technique more often, because it eases the domination and recovery of the ball but the impulsion with the opposed leg with rapid displacement movements in the base position (depending on the distance to which the ball is, towards the placement of the goalkeeper).
- **Downwards (balls close to the ground)** leads to the use of arms and legs in order to reach a sitting position like a “hurdle runner” (leg in lateral extension – on the side of the defence and the other, impulsion – on the other side, flexing) followed by the hand on the side of the extended leg, in order to protect the area over the leg and this way to present a larger defence surface.

- **6 METER THROWS**

We can add the importance of reading the situation and the side of the throw, as well as how to start from a higher position or more parallel to the ground and the pressure it is subjected by the defence.

It means to cover the largest part of the area as possible, keeping the feet in contact with the ground as much as possible and never, in any circumstance, leave both feet at the mercy of the thrower, trying to condition the possibilities.

To keep the contact with the ball and be available to correct the way out movements towards the displacement and the options of the thrower.

The variation of the defence actions is determinant to the initiative in this permanent dialogue to look for the creation of insecurity and reduce the angles that the goalkeeper must be permanently available to make,

We will not address the 7 meters throw although it is a particular type of throw which deserves more attention and training than the mere instruction originating from the observation or the 7 meter throw exercises which determine many training sessions.

The same consideration about the cooperation with the defence which I remember the key idea is **the defence is there to help but the responsibility belongs to the goalkeeper.**

Other activities of the goalkeeper

The goalkeeper still divides his tasks among the interventions out of the goal, either in defensive functions – **to dissuade the first phase** of the opponent fast break and help the defensive recovery, or **conditioning the long distance passes and orientate the recovery of the team mates**, while he rapidly recovers in order to place himself in the goal but also in the most traditional pass actions for the transition defence –attack, either through a long pass, or a short pass and coming out of the goal area to support and continuity, only possible with the confidence acquired with the ball handling and the individual tactics inherent to the attack actions.

Also **in with the new median pass with about 20 meters**, to a more or less fixed zone and after having suffered a goal (it is suppose to do it more or less 20 times per match - normally we do not do this in all the goals we suffer – and always in the same circumstances and where the defenders have a relative importance), where the emotional stability and the quick displacement conjugate themselves with the efficacy of an almost closed throw. To overlook this need for a quick pass, of medium distance and which does not difficult the reception may mean one will have to go out one of the options of the current game – the throw off after the goal.

Finally **it starts to be asked to the goalkeeper his cooperation as a seventh attacker**, either in the effective function of field player, capable of giving sequence to the actions and even of throwing, or in the tactical capacity of being replaced and quickly replace, **in a type of intervention a lot less common in the life of the goalkeepers.**

All that has been referred depends on the way how along the education of the goalkeepers; we put into practice the adequate exercises and the relation of profit to be established along the career of the player.

For sure, **patience, persistence and the need to stimulate the goalkeeper to defend and not to teach him with "gymnastic gestic" that never reach the ball is one of the most complex tasks**, but nevertheless determinant in the confirmation of an athlete as a goalkeeper.

Carlos Cruz, August 2005