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Freeball and downball: what we know and what remains to be researched so far

Freeball e downball: evidências do conhecimento actual e sugestões para investigações futuras

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Abstract

The game of volleyball may be structured into six functional complexes, of which the most studied are complexes I (side-out), II (side-out transition) and III (transition). It's a known fact that the number of studies analysing the game has considerably increased during the past few years, but still the literature on complexes IV and V is very scarce. The purpose of this study was therefore to analyse complex V, aiming to present concepts that are useful for a deeper understanding and manipulation of this game phase.

Resumo

O jogo de voleibol pode ser estruturado em seis complexos funcionais de jogo, dos quais o complexos I (side-out), II (transição de side-out) e III (transição) são os mais estudados. O número de estudos centrados na análise de jogo tem aumentado nos últimos anos, porém a literatura é escassa relativamente aos complexos IV e V. O propósito deste estudo consistiu, assim, em analisar o complexo V, bem como apresentar conceitos de utilidade para uma mais profunda compreensão e manipulação desta fase de jogo.

Introduction

High-level volleyball comprises a considerable balance between opposing competitors. Consequently, the result of each match usually relies on little details. Therefore, coaches have to devote a great amount of attention to developing the different game complexes. The game can be structured into six functional complexes, of which the most studied are complexes I (*side-out*), II (side-out transition) and III (*counterattack or transition*) (Laporta et. al, 2015). It's a known fact that the number of studies analysing the game has considerably increased during the past few years (Laporta et. al, 2015), but the literature on complexes IV (attack coverage) and V (freeball and downball) is still very scarce. In this manuscript, we will focus on the analysis of complex V, which is usually defined as the offensive construction initiated by a situation of freeball or downball.

A freeball occurs when the opponents will *predictably* send an easy ball, not having the possibility to spike, which regularly turns out as an advantage for the team taking the offense. On the other hand, a downball exists when the blockers decide there is no need for blocking, but still the opponent is capable of producing an attack with a downward trajectory, thereby warranting greater caution when defending. (Dunphy & Wilde, 2000). As expected, freeball and downball afford distinct possibilities for building an offense, presenting specific defensive structures and particular attacking strategies, both of which differentiate complex V from complexes II and III. Within complex V, freeball and downball each present their own specificities, thereby requiring a somewhat specialized analysis.

One of the very few studies on complex V indicates that there is an average of five freeballs *per set* in women's volleyball, while in men's volleyball the number of freeballs *per set* is four (Almeida & Afonso, 2013). Since in high-level volleyball winners may be decided on the basis of a very narrow difference in the scoreboard, making the most of each freeball may become decisive for winning sets and matches. For this reason, it becomes important to study complex V, firstly because its full understanding and analysis is far from complete, and secondly because four or five freeballs per set may translate into decisive points for winning the match.

Defensive and offensive organization on freeball

The organization of the defensive system when the opponent is expected to play a freeball is dependent of many factors, such as the playing level of the team, whether the setter is in the offensive or in the defensive zone, if the intended setting zone is in position 3 or in position 2, if the team plays with or without penetration, and whether the team plays with or without libero.

a) Differences between playing with or without the libero

The defensive structure should be organized into an imperfect “W”, regardless of the team playing with or without a libero. When playing with a libero, this player is the main responsible player for providing the first contact in most of the situations, especially at high-level. The intent is to release the remaining five players to prepare their attack actions and the different offensive combinations. In this case, the libero moves to the centre of the court, while the player in zone 6 moves to zone 1 (if the setter is behind). In order to compensate for this situation, the player in zone 4 can also participate in the first contact, since he/she usually has more time to prepare the attack than the remaining attackers. For this reason, the responsibility of the first contact must be removed from the opposite and the middle-blocker, meaning that both players maintain an advanced position on the court. This is, of course, a mere guideline, as teams may intend to deploy more diversified and/or versatile strategies. For example, zone 6 may be displaced further to the left, not to the right, in order to prepare attacks on the left side of zone 6 or in zone 5.

When the libero is not playing (e.g. when the middle-player is serving), the backcourt players must keep their positions and the players of the first line of attack should retreat slightly to the inside in order to assume the first contact of the short balls. As mentioned previously, with a slower attack the back row players can cover more space, thus freeing spikers to begin their attack approach. If a team chooses not to use the libero, or if the rules forbid its utilization (as is the case with some age groups in many countries), this structure will likely be deployed, as will be argued.

b) Age groups without possibility of using the libero

A team can play with or without a libero, as well as with or without penetration of the setter, depending on its age group and game model. In freeball situations in which the setter is behind — in age groups where the libero is not allowed (which differs markedly from country to country) — and in a team that plays with penetration, what usually happens is that the setter penetrates directly to the setting zone and all the elements move to the right in order to compensate its ascent (player in zone 6 moves to zone 1 and player in zone 5 moves to zone 6; player in zone 4 goes down to circa 4 to 5 meters away from the net, in order to compensate the movements of zone 5; player in zone 2 defends the short ball). On the contrary, in situations of (expected) downball, the setter remains in the defensive zone, ready to make first contact if needed. In this case, the offensive construction of the team will

depend on the game model, the players' characteristics and the coach's options. Usually, the middle-player will be called to assure this function.

c) First contact by the middle blocker

One of the few situations when the first contact on a freeball is not provided by the libero occurs when the ball is returned high to the inside of the 3-meter line near zone 3. In such cases the middle-player usually performs the first contact, after which he/she quickly deploys an action for the quick attack. The usual setting zone, in high-level teams, is zone 2/3. Nonetheless, there are some teams that, in the situation of freeball, prefer to direct the first contact towards zone 3, in order to centre the opponents' block, and hence release more space for the wing-spikers. When the setter is in zones 5 or 2, the middle blocker is serving and thus the libero is not in the court. In this case, the first contact can be performed by the defending middle-player or by the player in zone 6. In our opinion, the choice of who plays this first contact must be made according to the individual characteristics of the players and to the game model of each team.

d) Offensive combinations in freeball

Where the offensive aspects of the organization of freeball are concerned, and keeping in mind that this is a privileged situation, there is a greater likelihood of the setter playing with an 'A' ball. This creates opportunities for deploying faster and more complex and diversified attack combinations, such as crossings, zone and/or tempo "overlapping", as well as combinations between the first and the second lines of attack. Also – albeit less used – there are wide possibilities for the player providing the first contact to play the ball directly towards an attacker, who might attack on second contact. The surprise factor will certainly increase the possibilities of success and, what is more, will keep the opponent unbalanced (i.e., under greater uncertainty), throughout the game.

Nevertheless, there are events capable of complicating the offensive combinations in freeball. For example, if the libero assumes the first contact in the upper part of zone 6, the back row wing spiker cannot enter this zone to perform the attack, thus inhibiting some attack combinations. Of course, this constraint can be worked out by pushing this attacker's action towards the left side of zone 6. A different scenario occurs when the opposite team plays the freeball into zone 2/3. If the libero is in the court he/she performs the first contact, even though it affects the opposite and the middle-blocker's preparation of the attack, especially in plays involving crossings or double first tempos. Additionally, if the player in zone 6 or the

opposite make the first contact, they might not have sufficient time to attack, or at least to perform quick, combined attack sequences.

Finally, the velocity of the first contact is an important factor. If it is performed by the libero or by the player in zone 6, the ball should follow an accelerated trajectory (lower parable) in order to reduce the opponent's time to organize, thus increasing the surprise factor and the likelihood of attacking against an unbalanced block and defence.

Defensive and offensive organization on downball

a) Defensive organization on downball

A downball is a – supposedly or expectedly – more difficult ball than the freeball, and therefore the defensive organization will not suffer so many adjustments and movements in the anticipation of the opponents' devolution of the ball. If the setter is in the back row, he/she must keep his/her position and prepare to perform the first contact, if necessary. This happens due to the higher speed and aggressiveness that the downball may bring about, in comparison with the freeball. Therefore, if the setter moves toward the setting zone, the remaining players might not have enough time to compensate his/her movement, especially if the opponent plays a ball towards the corner of zone 1. The blockers near the point of attack should remain closer to the net and the off blocker should move to its defensive assignment (Dunphy & Wilde, 2000). In this situation, the entire defence must progress in the court in order to be as close to the attack as possible, hence reducing the conflict zones. If the setter makes the first contact, the setting is usually assumed by the middle-player or by the libero, depending on ball location and game model.

b) Offensive combinations in downball

The offensive combinations in downball and freeball are similar, especially when the defence provides an "A" ball. In this case, the setter can speed up the attack and deliver different combinations involving the first and second lines of attack. On the other hand, if the defence produces a "B" ball, the type and number of offensive combinations becomes narrower. The middle-player will usually have reduced attack options, and plays involving the crossing of players are less likely to occur. The same happens when the setter has to execute the first contact; consequently, the libero or the middle-player become responsible for the setting, hence reducing the complexity of the attack organization. For that reason, we consider the training of the setting as a matter of paramount importance.

Type of first contact in complex V

Almeida and Afonso (2013) analysed the differences in type of contact used to play the freeball between women and men elite-level national teams (seven women volleyball matches and seven men matches of the 2012 Olympic Games were analysed). They concluded that in women's volleyball only 20.7% of freeballs were played using overhead pass ($n=29$), while 79.3% were performed applying the forearm pass ($n=111$), whereas men played 46.8% of freeballs using overhead pass ($n=44$), and 53.2% using forearm pass ($n=50$). According to these data we can conclude that there is a great discrepancy between the number of first contacts using forearm pass and overhead pass. The consequence of playing the first contact using overhead pass is to speed up the game, while simultaneously taking precious organizational defensive time away of the opposing team. One of the key points of the study was to underline those coaches in women's volleyball teams should emphasize the overhead pass in freeball situations and stimulate practicing it, so as to develop the sense of confidence in this action. When the overhead pass is used, the construction of the attack is faster and the chances of hampering the defensive organization of the adversary are enhanced. This is so because the point of contact with the ball in overhead pass is higher than the one in forearm pass (Figure 1). The trajectory imprinted to the ball is also important. We believe this reflects a training problem that is later reflected in superior levels of practice.

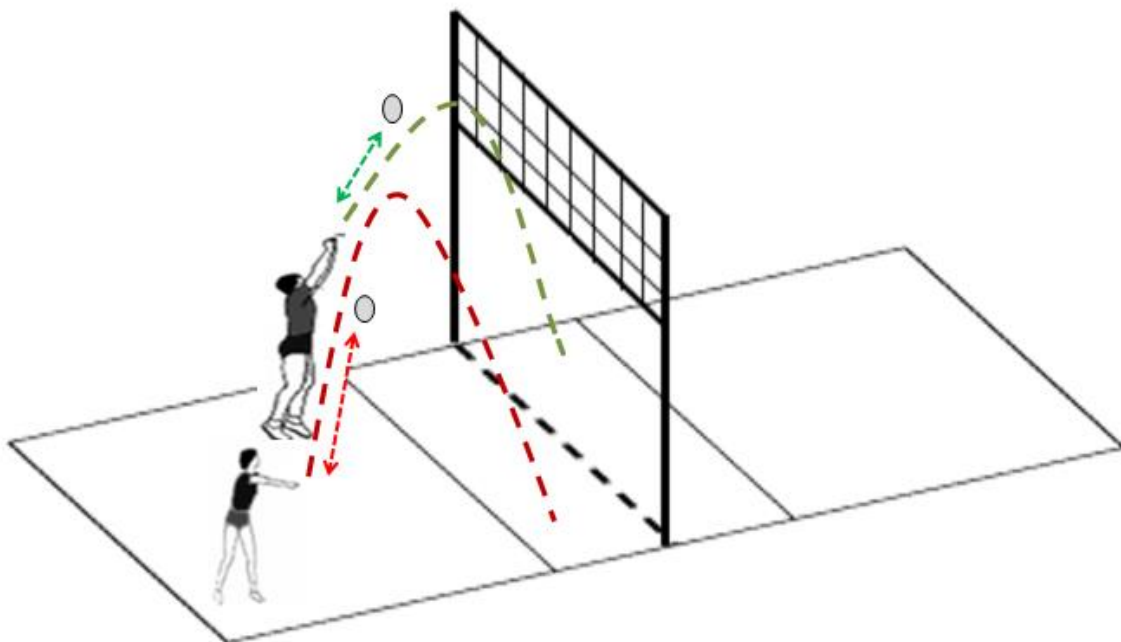


Figure 1 – Difference in the point of contact between overhead and forearm pass.

The figure shows that the contact with the ball in overhead pass occurs above the head. This implies that the ball has to cover a smaller distance, thereby producing a more flattened out parabola. That explains why it is possible to accelerate the ball and, consequently, the offensive organization. At the same time, the opponent's defensive organization can be shortened in time, providing the attacking team the chance to unbalance an eventual counterattack. Conversely, when using forearm pass the contact with the ball is performed nearer to the shoulders, meaning that the ball has to cover a wider distance until the set can be performed, which lengthens the parabolic course taken by the ball. This way a slower offensive organization will emerge, therefore providing the opponents additional time to organize their defence, and consequently lowering the odds of creating an advantage in attack. It is also clear that for similar ball trajectories, it takes longer for the ball to get into the setting zone if the first contact is performed using forearm pass, since the athlete has to perform this action closer to the back of the court.

Attempting to disrupt the opponent's game even when having to place a freeball

Even under difficult conditions, teams might still attempt to create difficulties to the opponent's defence, thereby making the most of an already complicated situation. "In the situations where we cannot attack the ball with intent to score, we can still look to create situations that limit our opponent's offensive options and reduce the chance of them scoring" (Chao, 2006). The zone to where the freeball must be preferentially sent is zone 1, and this ensues mainly due to three reasons:

1. When the setter is in the back row, he/she may be forced to perform the first contact, and therefore another player will have to set. In most cases, this will imply a severe disruption on the number and type of attack options;
2. The setter receives a ball coming from the left, thereby receiving the ball from a more difficult angle, possibly impairing his/her technical execution and/or reading the opponents' blockers;
3. When the setter is in the front row, this may force the best spiker (i.e., usually the opposite player) to play the first contact, such as he/she will lose optimal positioning, thus possibly impairing his/her attack action or, at least, slowing down his/her attack tempo. In this situation, the ball can also be sent to an area between zones 1 and 2, consequently generating conflict between the setter and the opposite.

Conclusions

Despite these tactical thoughts concerning the freeball, there are an extremely low number of scientifically grounded studies approaching this game complex in a systematic manner. This complex is referenced in several volleyball textbooks, albeit most of the times it is addressed to in a very simplistic way, meaning its specific analysis has still a long way to go. Despite not being one of the most frequent game complexes during a match, we believe its importance is paramount, since it allows widening the advantage in the score, and in well-balanced matches may act in differentiating success and defeat. We can further comment that there are significant differences in the defensive and offensive organization between the freeball and downball, although they might resemble in some aspects, as was previously described. We believe these differences play an important role in the game model. Such concepts should be taught from young ages, in order to build essential routines in more differentiated training levels. It seems clear to us that it is necessary to enlighten the importance of returning a freeball or downball in an aggressive way, starting in the younger age groups. This behaviour represents a higher knowledge of the game, hardening the opponent's offensive construction as much as possible.

Notwithstanding, it seems that not all teams are making the most out of complex V, as the study of Afonso and Almeida (2013) has suggested. In general, a great contrast exists between the number of first contacts using forearm pass and overhead pass, both in men and women, but particularly in the latter. Systematic research should address other relevant issues, such as: *a) are teams being more effective in complex V than in complexes II and III, as they are expected to be?; b) are teams adopting faster and/or more diversified attack plays in complex V relatively to complexes II and III? Such questions haven't been the focus of scientific research, despite emerging as relevant for coaches. Often, what we believe is obvious works quite differently from how we believe it does.*

References

Afonso, J. and Almeida, M. (2013) Playing the freeball in volleyball: differences between men and women at the elite level. EfDeportes, 18(184).

Chao, F. (2006). The not so Freeball. Volleyball, 17: 62-63.

Dunphy, M. and Wilde, R. (2000). Team Defense. Volleyball Today, 9 (11): 131-132.

Laporta, L., Nikolaidis, P., Thomas, L., & Afonso, J. (2015). The Importance of Loosely Systematized Game Phases in Sports: The Case of Attack Coverage Systems in High-Level Women's Volleyball. Montenegrin Journal of Sports Science and Medicine, 4(1): 19-24.

Author Report



Ana was a volleyball player for 10 years, getting to play in the 1st division. As a player she won two national championships and played in eight finals. As an assistant coach she was finalist in the 1st division. As a main coach, she was present in another national final with an under-16 team. She has a degree in Sports Science from the Faculty of Sport of the Oporto University and she is currently undertaking a Master degree in high-level training.



José Afonso has been a volleyball coach for 17 years now (level III), having worked with all age groups, from under-10 minivolleyball to adults (1st division). Along this path, he has conquered 4 national championships, 1 Portuguese Cup, 7 regional championships, and has made its way into 16 national finals. For two seasons he was the Head Coach of the Regional Team of Minivolleyball (Boys), and for two seasons was Assistant Coach of the U-18 Girls National Team. He was awarded Coach of the Year twice (2010-11, Youth - Girls, Portuguese Association of Volleyball Coaches; 2013-14, Female, Oporto Volleyball Association). A Ph.D. in Sports Sciences, he is a Professor at the Faculty of Sport of the Oporto University.



Mário Martins has been a volleyball coach for 23 years now (level III), having worked with all age groups, from under-10 (minivolleyball) to adults (1st division men [11 seasons] and women [1 season]). Along this path, he has conquered 4 national championships, 1 runner-up in the Portuguese Cup, 1 regional championship, and has made his way into 8 national finals. For four seasons he was the Head Coach of the U-12 Regional Teams of the Oporto Volleyball Association (boys), and was also the Men's National Team Assistant Coach during one season (2001). He was acknowledged Coach of the Year in 1997/98 for Youth - Boys by the Oporto Volleyball Association. He has a M.Sc. in Sports Sciences (Faculty of Sport of the Oporto University) and is a Teacher at a secondary school in Matosinhos.