Module 2. Coadjuvant training

As we know, FC Barcelona methodology includes structured training as a method to optimize performance and to achieve desired goals.

Inside structured training, we can observe two main areas for its development.- One of them is optimizer training, composed by planning, design, execution and control of training tasks and its goal is to optimize performance for athletes who play basketball, for all the competitions in which they take part throughout their athletic life. The goal that could clearly define this optimizer training is preparation for competition; that is, to generate the basis, to provide the context and all the necessary aspects so that athletes that play basketball could optimally develop during competitions.

Likewise, the other great area is coadjuvant training, which we understand as an essential complement for optimizer training.

It is composed by all the practices that allow basketball athletes to enjoy their healthy state and protection and they allow athletes, in turn, to perform daily tasks proposed by the optimizer training.

Besides, it allows optimizing structures and systems required by basketball and the ones that help basketball athletes to achieve intended performance.

In this module, we are going to focus on coadjuvant training. To understand this better, we observe that competition calendars for a high level team that participate not only in ACB, but also in Euroleague can have up to ninety matches; this number rises to more than a hundred for international players in competitions with their national teams.

This way, for example, in December 2019 our team found out that they played a big amount of matches during that month (ten matches in a month). Therefore, we are talking about a match every three days, and in some periods in the same month, they even played one match every two days during ten days.

Sometimes, the demands to which high performance basketball athletes´ bodies are subjected are extreme. Together with optimizer training, they force athletes to develop another type of training: the coadjuvant training, which is the focus in this module and which contributes to keep the best conditions, in order to support necessary optimizer loads and to maximize individual potentials of each one of basketball athletes.

Coadjuvant training implies various training system categories that are essential and that must be applied as juxtaposed processes to the optimizer training process (Romero and Tous, 2010).

This way, while optimizer training mainly reflects the collective load to which a team is subjected, coadjuvant training is useful for identifying and balancing individual needs for basketball athletes; the goal is to achieve, between both, an optimal adaptation to high conditional demands, whether neuromuscular, physiological or energetic ones in a basketball match and in different competition models like the League, the ACB League, the basketball Euroleague, the Spanish Super Cup or Copa del Rey competition in its format of eight teams.

This new conceptualization for coadjuvant training is the evolution of the concept born in the eighties, proposed by Professor Seirul lo, in a medical-sport context more focalized in injury and injury recovery area, than in sport performance optimization itself.

This evolution implies a wider focus than the previous one and it includes concepts such as individuality and specificity, which are shared also with optimizer training within structured training.

Let's review this focus's vision by professor Seirul lo. There were three categories that were initially part of coadjuvant training:
1. The first one application phase before the injury and which included suppressive training.
2. The second one category for application during injury, composed by training of avoidance and alternative training.
3. The third one category for the application during recovery, with its subcategories divided in post-dramatic training and peremptory or final-resolution training.

Basically, suppressive training or first category training is aimed at preventing and suppressing any possible injury; therefore, it is pre-pathological and parallel to traditional training for improvement in capacities.

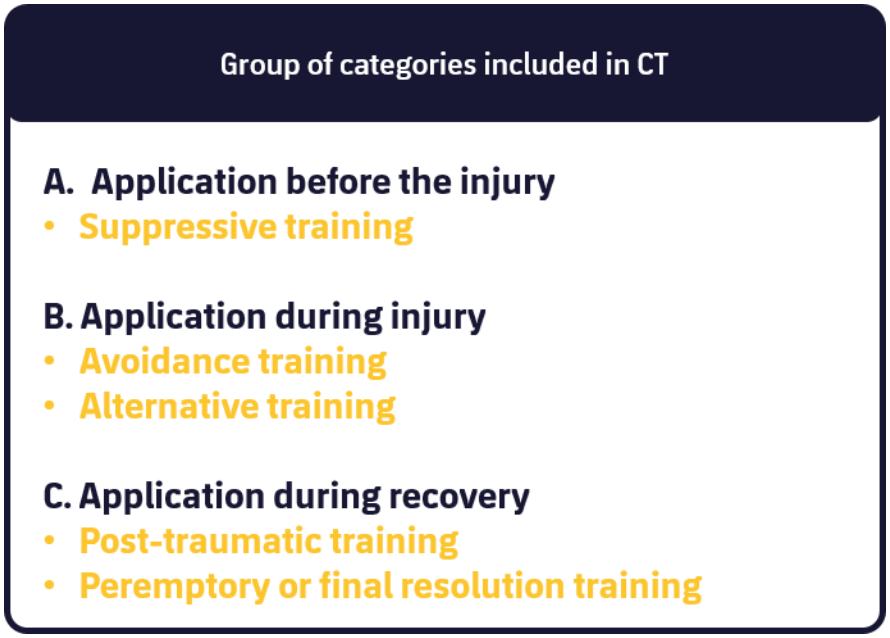
The second category, the one for application during injury, is divided into an avoidance category, when basketball athletes are prostrated due to an injury. This training preserves injured players from total loss of muscular function in the affected zones. Its application is parallel to the planned medical training, with which it must be coordinated.

The next alternative training subcategory tries to keep conditions and performance capacities at the highest possible level. It must provide enough training stimuli to the muscle groups that are not affected by the injury.

The third category is the one for application during recovery. Here, we have two subcategories: on the one hand, post-dramatic training takes into account that athletes have already finished their curative treatment. Its goal is to cooperate in the quickest recovery of lost functions. Inside that third category, the subcategory is peremptory or final-resolution training that is in charge of providing the training loads from the moment of medical discharge until athletes achieve a condition level that the rest of the training group already has.

Below, we will see the coadjuvant training model in FC Barcelona. In the next section, we present the coadjuvant training model taxonomy in FC Barcelona. It is a reviewed proposal, which is updated and exemplified for basketball and it broadens its acting level with the goal of optimizing performance, an aspect that is central to optimizer training.

Figure 1. Categories inside coadjuvant training

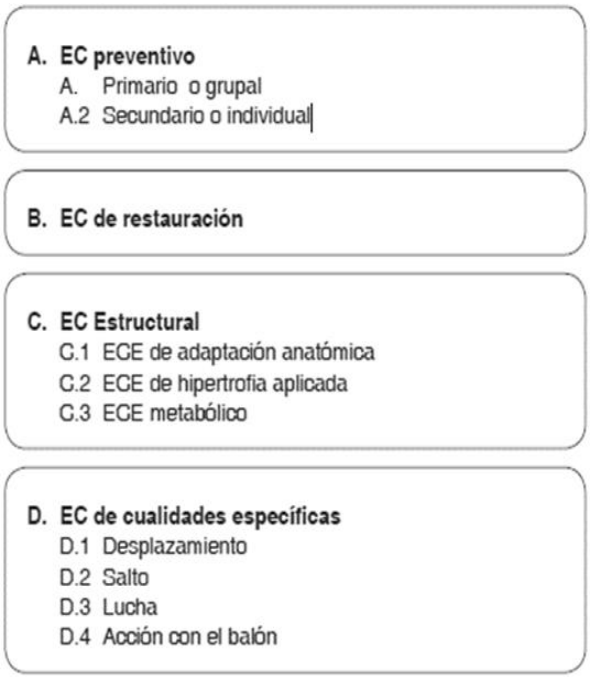


Source: own creation.

This way, we distinguish four big groups inside coadjuvant training:
1- Preventive coadjuvant training, in which we can distinguish two subcategories: primary or group and secondary or individual.
2- The second category, the coadjuvant training for restoring, e.g., the coadjuvant training that is for recovery.
3- The third category includes the structural coadjuvant training and, inside this one, we distinguish three subcategories:

a. the anatomic adaptation's structural coadjuvant training;
b. the one for applied hypertrophy and
c. the metabolic one.
4. The fourth category called specific features coadjuvant training, which distinguishes four subcategories: the displacement, the jump, the fight for the ball and the action with the ball. Understood as the four areas in which basketball players can develop during competition.

Figure 2. FC Barcelona coadjuvant training model



Source: Gómez et al., 2019, p. 15.

A. EC preventivo	A. Preventive CT
B. Primario o grupal	B. Primary or group
A.2 Secundario o individual	A2. Secondary or indvidual
C. EC de restauración	C. CT for restoring
D. EC Estructural	D. Structural CT
C1. ECE de adaptación anatómica	C1. SCT of anatomic adaptation
C2. ECE de hipertrofia aplicada	C2. SCT of applied hypertrophy.
C3. ECE metabólico	C3. Metabolic SCT
E. EC de cualidades específicas	E. Specific features SCT
D1. Desplazamiento	D1. Displacement
D2. Salto	D2.Jump
D3. Lucha	D3.Fight
D4. Acción con el balón	D4.Action with ball

Sections below will show goals and characteristics that differentiate previous categories with each other, which constitute a network of multi-causal processes, which can take part in sport performance optimization, as a complement.

The category for preventive coadjuvant training could be general and/or directed. In this sense, we are talking about more or less specificity for proposed training and it is aimed to correction, adjustment, anticipation, control and protection of those internal and external factors that can constitute overload or injury risk for basketball athletes.

The first goal is to achieve a balance and an adequate preparation of muscle-tendon groups and muscle chains that take part in motor patterns typical in each of the basketball specific actions, including agonist, antagonist and possible asymmetries caused by sport practice.

The second goal is to adjust muscle-tendon system to the demands caused by high intensity actions, especially in presence of eccentric and unexpected manifestations, such as imbalances, impacts, landings and decelerations, usual in basketball.

Another goal is to increase efficiency of coordinative capacities as the basis for specific technical actions, in order to adjust it to changing and unexpected conditions, typical in basketball. That is, we are talking about episodes that happen during game in a shared space and in a certain period of time.

Another goal is to prioritize sensory-motor system stimulation, in a way that technical gesture is optimized. The *sensory-motor system* expression is presented as the combination of neurosensory and neuromuscular processes. This complex system incorporates all the afferent elements, the integration process and the central processing and the efferent responses, with the goal of generating the adequate force in each condition to achieve the intended goal in motor action.

Next goal is to prioritize stabilizing musculature adaptations to help, facilitate and optimize the technical gesture.

Just as we have pointed out, preventive coadjuvant training is divided in different subcategories:

1. Coadjuvant training, primary, preventive or group. As its name indicates, it is for group application, it is generated for the group and it is structured and designed with basis on casuistics damaging basketball, and positional requirements as well. That is, we have to learn about the most habitual injuries in basketball and how they affect also at the positional level, to try to implement programs that could minimize injury risk.

2. Preventive training is the secondary or individual training. It is structured and designed in relation to individual needs, taking into account sport medical records in injuries for basketball athletes.

That is, we are going to start with deficits, with problems, with injuries players had previously had or in their adequate predisposition to suffer from any injury, due to their individual characteristics, whether they are detected on tests or in different exercises that players could execute.

Session designs for this internalization should be individualized and adapted to specific players needs and to the demands of different structures.

The block below is about coadjuvant training for restoring. It is devoted to using all means for recovery after intense training and/or competition sessions.

Said recovery must be done thoroughly in all of its structures, preferably for the conditional, cognitive, emotional-volitional and bioenergetic ones (Calleja-González *et al*., 2018).

Likewise, said processes will take place in cooperation with other work teams and with specialists, such as doctors, physiotherapists, nutritionists and psychologists. The main goal is to restore, after competition and training, the energetic and functional levels to the previous levels, as a way to help basketball athletes' individual biophysiology. Said values must be clearly differentiated in the different moments in the basketball athletes' athletic life. That is, we have to resort again player's individuality, experience and backgrounds to tailor it to each athlete. Very likely, a veteran player will not be treated in the same way as a twenty-year-old one, given that their recovery abilities will be different.

The next block includes structural coadjuvant training.

We understand this training as everything related to basketball athletes' development or morphological body modification, taking into account their anthropomorphic variables and practice of different general force manifestations, decontextualized, in general, in basketball. These activities will always be related to age, genre and type of specific practice they have taken during their athletic life.

Which are the goals?

One goal is to increase basketball athletes' features by an optimal composition between muscles mass and body fat mass. Also, to condition joints and soft tissues, so that they

can support high intensity and elevated specificity loads. Besides, it should allow identifying needs of the individual morph type.

Just as we have pointed out, inside this structural coadjuvant training we distinguish three subcategories.

The one for anatomic adaptation. This subcategory has into account the own body physiological and neuromuscular of the basketball athletes. They contribute to conditioning connective tissues related not only to stability, but also to joint mobility. From a functional point of view, it is about to give basketball athletes enough mobility or range freedom and an adequate stability in different joints, facilitating, this way, tendons, ligaments, fascia and cartilage functionality and also balancing force features and resistance to muscle groups force, agonists and antagonists. In the same way, this training should avoid possible resolutions and structural decompensations generated by the repetitive basketball specific practice.

The next subcategory is hypertrophy, structural coadjuvant training for applied hypertrophy. It consists in developing basketball athletes´ muscle-tendon structures, with the goal of increasing force, as a consequence of increasing muscles mass percentage adapted to individual needs and to their position. The main goal is to achieve the necessary force in movement patterns to perform basketball specific actions. Together with an optimal hypertrophy that would facilitate development of explosive and multidirectional force manifestations that are necessary for basketball specific actions like displacement, fight for the ball, jump and ball actions.

We will also discuss that we are not in the way to sarcoplasmic hypertrophy, which is more common in body builders. We are talking about applied or sarcomere hypertrophy that could give support to movement patterns that basketball athletes will develop.

The last subcategory inside this structural coadjuvant training is metabolic. Said method is an acronym for High Intensity Interval Training (HIIT) and it consists in alternating very high intensity phases with variable recovery periods inside the different metabolic training options. And when the goal is to lose fat body mass, it is habitual to run force sessions aimed at increasing energy consumption hours after exercises, contributing, in this way, to the achievement of intended goals. That is, it is about those training strategies whose main goal is to elevate, temporarily, the metabolic mass and, as a consequence, to increase calories burning facilitating the residual thermal effect, also called EPOC (Excess Post Exercise Oxygen Consumption).

Next section inside coadjuvant training is about specific features coadjuvant training. This training is based on a methodological proposal, adapted from Gerard Moras (1994) and Francisco Sirulo lo Vargas (1998), in which they propose a game itemization in work

areas, in content and in an alternative training for this content, in relation to orientation and to approximation levels. What do we understand as areas? When we refer to *work areas*, we refer to the four specific force manifestations required in basketball, which are force for displacements, for jumps, for fighting for the ball and for actions with the ball.

Content is for the specific technical ability, that is, all those technical gestures typical in basketball with all their variations. For example, the rocker step or the crossover step, a bank shot, a layup, a pass. Each one of them will be related to one or more practice tasks. The organization of specific features coadjuvant training develops in relation to the degree of similarity among exercises connected to competition practice, that is, in a five on five match. The proposal for said exercises will be carried out by starting from their orientation and the different approximation levels. We are talking mainly about putting content in order, in relation to specificity level in competition.

We are going to develop, in the first place, the general and directed orientation in coadjuvant training. General orientation refers to those interventions in which athletes practice all sort of force manifestations, speeds and variable covered distances that are not necessarily specific to basketball.

Inside general orientation, just as Moras (1994) points out, we observe the following approximation levels:

1. Unoriented zero level: it is about a muscle work not implicated in the technical gesture in an essential way, making references to antagonist stabilizers or fixers mainly.

2. Oriented zero level: it consists of exercises that work the technical gesture main musculature, that is, agonists muscles and muscle groups that help in movement, but in a non-specific way and at different speeds, with different distances and loads.

3. Level 1: it is usually associated with classic force exercises that should show certain similarity with a basketball technical gesture. Oriented zero level as well as unoriented zero level can also be called complementary or compensatory.

In relation to directed orientation, we can say that they are those actions or practices that have a relation with movements produced in the technical gesture.

Moras associates approximation levels 2 and 3 with the directed orientation area and he points out what these two levels consist of.

Level 2 includes exercises that imitate a whole technical gesture, that is, a complete similarity with said technical gesture, but including a small overload, either a weighted belt or a resistance band.

Level 3 includes technical exercises, in which it is possible that there is cooperation, with or without taking simple decisions that would not condition movement execution.

It is important to highlight that special orientation exercises corresponding to level 4 and level 5 competitive orientation are not taken into account in coadjuvant training, since they are part of optimizer training, which is the other big area inside structured training.

Therefore, they should choose specific features and content and also use orientation and approximation levels to design coadjuvant force training programs.

Said training format consists in the prescription of a series of three, combining different levels based on the initial proposal by Francisco Seirul lo. Then, we make a distinction between the essential exercise and a complementary or compensatory exercise and one for application. What do these exercises consist in? Essential exercises are poliarticular, they imply a global movement and they have an incidence in main musculoskeletal structures involved in basketball.

Complementary exercises, for its part, are characterized by being involved in secondary muscle groups inside the technical gesture or session. Compensatory exercises are the ones directed to asymmetry and imbalances correction and, in that way, they contribute to minimize injury risk. They are designed and executed following biomechanical and cinesiologic criteria.

Lastly, we will talk about application exercises: those that facilitate muscle actions that are similar or identical to the technical gesture, those that reproduce not only articular range, but also execution speeds in relation to approximation levels for different exercises. They can include actions that require simple decision making.

Which are the goals? To achieve the highest specific neuromuscular effectiveness and efficiency level in each of the four psychological, social and motor manifestations, in order to provide or overcome intended or unexpected energy interchanges when these executions appear during competition.

Another goal is to provide the development and optimization of those force characteristics and manifestations that are determinant to basketball, for example, useful adequate force to each one of sport gestures. The different maximum force indexes, that is, the RFD or force deficits for different gesture actions.

Systems that are part of the specific features coadjuvant training are the following: In the first place, specific features coadjuvant training of force, of displacement that is

composed by all those actions in which there are position changes in space with or without ball and with variable intensity duration. That is, any movement in the player´s space that supposes a position change will correspond to a displacement force. This way, it includes all type of multidirectional sprints, direction or way changes, turns, dribbles, accelerations, decelerations, stops, etcetera, where the main basic movement principles are focused on the efficient application of certain force in a determined space and time.

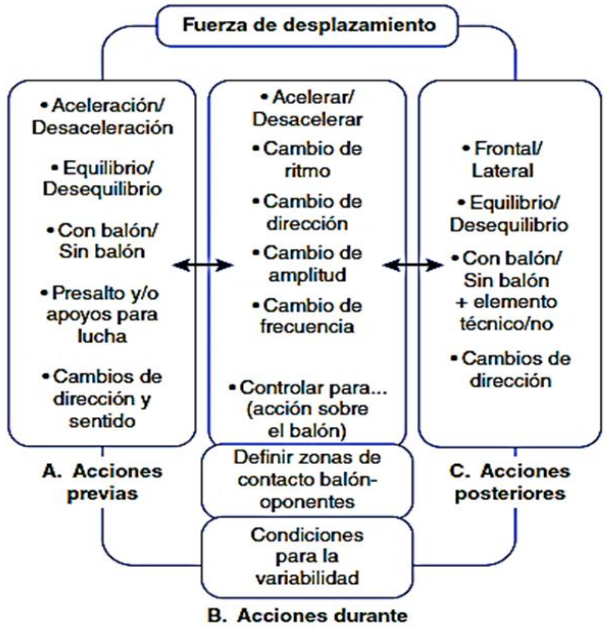
Just as we have previously said, there are different aspects like accelerations, direction changes, way changes that are included in displacement force.

Besides, as we have previously studied, structured training conceives the concept of variability as very important, taking the complex systems theory into account. In order to establish variability in the different specific features proposed, there appears an idea to establish three types of moments in which displacement force is produced. That is, actions previous to displacement force, actions during displacement force and actions after displacement force.

This way, modification for some or each of these phases will help us to generate the intended variability to represent, more similarly, the gestures that occur in basketball competitions. So, we can establish that actions previous to displacement force influence by modification, including accelerations or decelerations, balances or imbalances. We can include the ball or not, introduce a pre-jump and also some direction changes and way changes.

Inside actions, we include accelerations, decelerations, direction changes, rhythm changes, range changes, frequency changes and ball reception.

Figure 3. Displacement force



Source: Gómez *et al.*, 2019, p. 22.

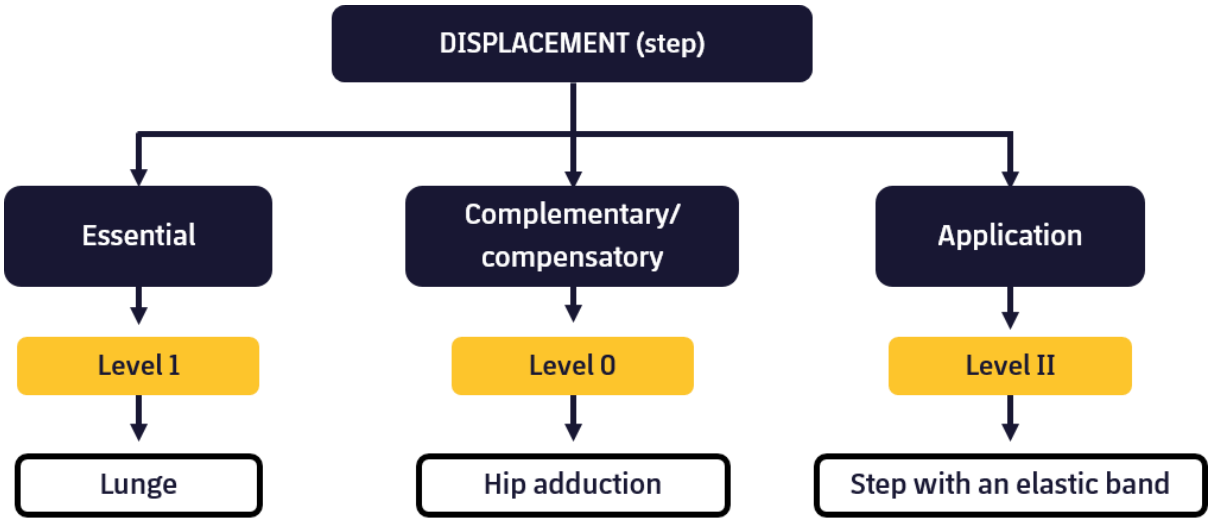
Fuerza de desplazamiento	Displacement force
Aceleración/Desaceleración	Acceleration/Deceleration
Equilibrio/Desequilibrio	Balance/Imbalance
Con balón/sin balón	With ball/without ball
Presalto y/o apoyos para lucha	Prejump and/or supports for fight
Cambios de dirección y sentido	Direction and way changes
Acelerar/desacelerar	Accelerate/decelerate
Cambio de ritmo	Rhythm change
Cambio de dirección	Direction change
Cambio de amplitud	Range change
Cambio de frecuencia	Frequency change
Controlar para (acción sobre el balón)	Control for (action on ball)
Frontal /lateral	Frontal/lateral
Equilibrio/Desequilibrio	Balance / Imbalance
Con balón/sin balón + elemento técnico/no	With ball/without ball +technical element /not
Cambios de dirección	Direction changes
A. Acciones previas	A.Previous actions
Definir zonas de contacto balón-oponentes	Define contact zones ball-rivals
Condiciones para la variabilidad	Conditions for variability
B. Acciones durante	B. During actions
C. Acciones posteriores	C. After actions

In the actions after displacement, we will highlight that they are produced in a frontal or lateral way, with balance or imbalance, with or without ball. And with a technical element or without element and with direction changes.

This way, the following can be an example for displacement: This is the series of three we present as essential exercises. We can include a lunge exercise, that is, a step forward with a certain load or with certain weight, with dumbbells or a bar over the shoulders. The second exercise, inside a group of zero level complementary and compensatory exercises, can include, for example, a work with a hoist that implies a hip adduction. Meanwhile, an application exercise related to the third exercise in this series of three and related to level 2 can be a crossover step using a band, in such a way that these three exercises form a series of three oriented to the work of specific feature for displacement in basketball and, specifically, to the content of a crossover step.

After this, in each of the three exercises we can introduce aspects that we have previously discussed about modifications to generate variability through previous actions, during and after.

Figure 4. Example of a series of three for displacement force



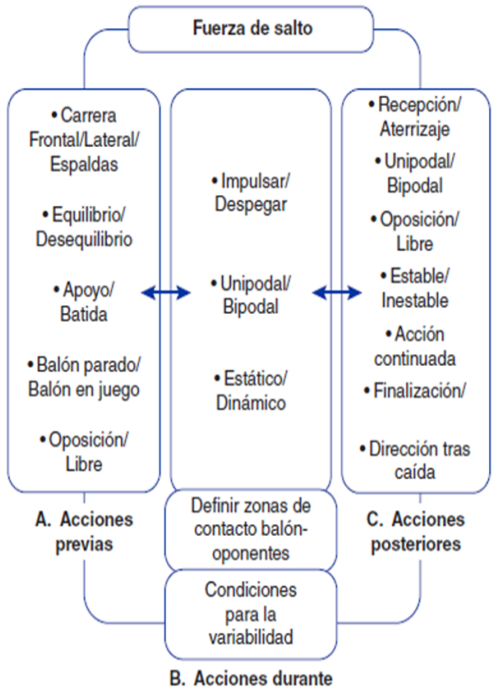
Source: own creation.

In this case, we can modify the first exercise of the three by variability in the phase previous to the lunge or the stride. How? By establishing a destabilization or, for example, doing two small steps, previous to the lunge or the stride. How can we establish variability during lunge or stride? By modifying range in the stride. By establishing also a destabilization during the stride and stepping on a bosu. How can we include variability in the application exercise? Level 2 exercise with a crossover step with a band. Before, we can establish a destabilization. We can perform a jump before the crossover step. During the exercise, we can include a ball or not. To vary the range in the stride. To include a signal so that players will have to make the step to one side or

the other one, that is, making a simple decision. Variability after that step could be finished with a bank shot or with a pass, for example. It is important to say that, in relation to zero level, the complementary-compensatory exercise, in this case the hip adduction, would modify variability, it would be established, for instance, in position.

Let's now analyze the specific feature on jump force. It is composed by all those actions with or without ball with a variable duration and intensity, in which a jump is executed. Said initial impulse can be unipolar or bipolar, static or in movement and it can produce an aerial phase of the body itself with bigger incidence on vertical displacement.

Figure 5. Jump force



Source: Gómez et al., 2019, p. 23.

Fuerza de salto	Jump force
Carrera frontal/ lateral/espaldas	Frontal/lateral/backwards sprint
Equilibrio/Desequilibrio	Balance/ Imbalance
Apoyo/Batida	Support/ Chase
Balón parado/balón en juego	Dead ball/ alive ball
Oposición/libre	Resistance/ No resistance
Impulsar/Despegar	Impulse/ Takeoff
Unipodal/Bipodal	Unipodal/Bipodal
Estático/ Dinámico	Static/ Dyamic
Recepción/Aterrizaje	Reception/Landing
Unipodal/Bipodal	Unipodal/Bipodal
Oposición/libre	Resistance / No resistance

Estable/Inestable	Stable/ Unstable
Acción continuada	Continued action
Finalización	Ending
Dirección tras caída	Direction after fall
A. Acciones previas	A.Previous actions
Definir zonas de contacto balón-oponentes	Define contact zones ball-rivals
Condiciones para la variabilidad	Conditions for variability
B. Acciones durante	B. During actions
C. Acciones posteriores	C. After actions

This way, as we have previously seen, we can establish desired variability in a jump force, establishing different criteria for actions before, during and after. So, in previous actions we can include frontal, lateral or backwards sprint, balances or imbalances, supports and chase, dead ball or alive ball and if there is resistance or not.

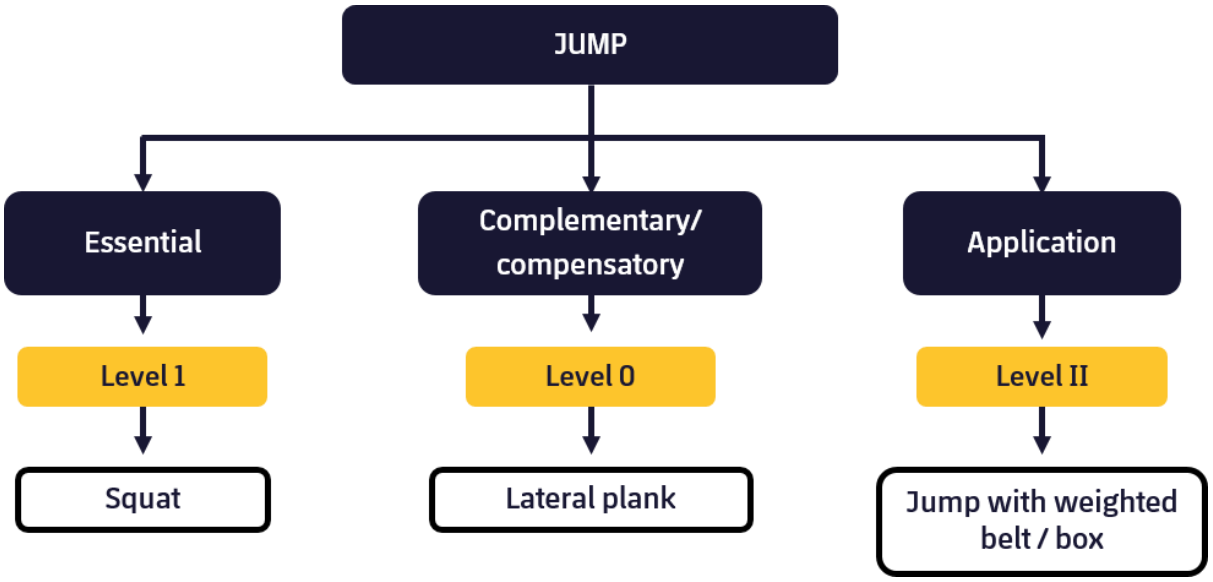
In during actions impulses and takeoffs can be modified. Support being disputed and it being produced in a static or dynamic way.

Finally, in relation to actions after, we can try reception or landing, unipodal or bipodal landing, resistance or not, imbalance or balance, technical gesture being carried out and the direction changing after a fall, after landing.

In relation to the modification of different phases to include variability in the level 1 essential exercise, we can modify feet space and in this case it could be the squat. We can also execute the squat with a bar or with dumbbells. If we do it with a bar, we can do it with the bar on the shoulders or with another type of support for the bar or including more or less weight on one side or the other of the bar.

In relation to the zero level complementary-compensatory exercise, we can include a lateral plank and, in relation to the level 2 application exercise, we can include a jump with a weighted belt.

Figure 6. Example of a series of three for jump training



Source: own creation.

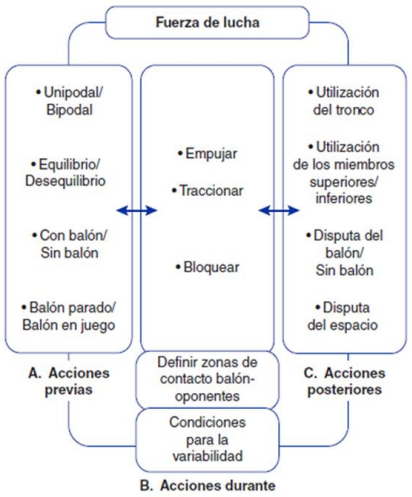
The essential exercise in level 1 is the squat. The complementary-compensatory or zero level exercise is the lateral plank and the level 2 application exercise is the jump with weighted belt.

Previous variability in the squat can be achieved by modifying feet space. In the squat exercise, variation can be established by modifying distance covered and speed, including static action in covering the distance and done in a rotational resistance machine; that is, in a yoyo machine or in a conical pulley, we can introduce a pass with a ball and also provoke a destabilization.

In relation to the after phase, in this case we will include no variability, neither the zero level complementary-compensatory exercise in the lateral plank. We include the different options for a lateral plank, as it is executed statically, a small rowing movement, with arms, overcoming a band, a pulley or a dumbbell resistance, moving the leg not touching the ground, etc.

In relation to the application exercise, the jump, the previous variability could imply receiving an imbalance or not, establishing a previous sprint or not, modifying that sprint speed, using one or two supports during jump. We could establish destabilization or not, one or two supports, receive a ball and, when landing, do it on both feet or on one, receive a ball or perform another technical gesture. The specific feature for fight force is composed by all those variable duration and intensity actions with and without ball, in which at least two players dispute a position or a trajectory, interjecting any body part or the whole body to win a fight, like ball protection, screens, rebounds, layups, detachments or the fight for winning position.

Figure 7. Fight force



Source: Gómez et al., 2019, p. 23.

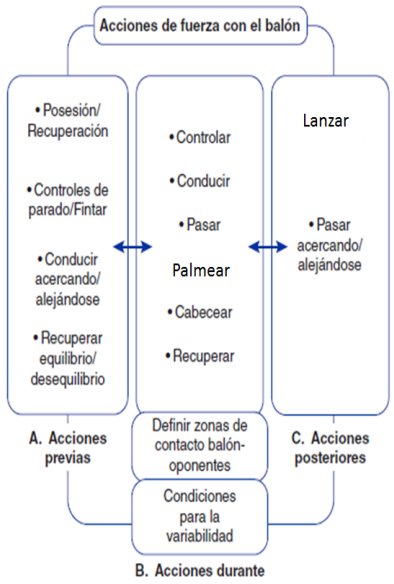
Fuerza de lucha	Fight force
Unipodal/Bipodal	Unipodal/Bipodal
Equilibrio / Desequilibrio	Balance/ Imbalance
Con balón / sin balón	With ball/ without ball
Balón parado/ balón en juego	Dead ball/ alive ball
Empujar	Push
Traccionar	Traction
Bloquear	Screen
Utilización del tronco	Trunk usage
Utilización de los miembros superiores / inferiores	Superior limbs usage/ inferior limbs usage
Disputa del balón / sin balón	Ball dispute/ without ball
Disputa del espacio	Space dispute
A. Acciones previas	A.Previous actions
Definir zonas de contacto balón-oponentes	Define contact zones ball-rivals
Condiciones para la variabilidad	Conditions for variability
B. Acciones durante	B. During actions
C. Acciones posteriores	C. After actions

This way, we present different actions that we can establish to include variability in the fight force in previous actions, being unipolar or bipolar, having balance or imbalance, with or without the ball. With dead ball, when players are performing an entry pass, for example, or when the ball is alive. In relation to during actions, we can include: pushing, tractioning and/or screening.

In after actions we include trunk usage. Using superior or inferior limbs Ball dispute with or without ball. And space dispute.

Finally, in relation to specific feature in force actions with the ball, coadjuvant training related to this specific feature in actions with the ball is composed by all those actions with variable duration and intensity in which there is contact with the ball, like dribble, passes, reception, bank shots, etc. This way, the variability that we can include is conditioned by actions, by the modification of previous actions like possession or recovery, controlling the ball when in set position, stepping up, fading when dribbling, recovering with balance or imbalance. In during actions, we have to catch, dribble, pass, tip in or recover. In relation to after actions, we can shoot and pass approaching or fading.

Figure 8. Force actions with the ball



Source: Gómez et al., 2019, p. 24.

Acciones de fuerza con el balón	Force actions with the ball
Posesión/Recuperación	Possession/Recovery
Controles de parado/ Fintar	Ball control in set position/Step up
Conducir acercando/ alejándose	Conduct approaching/fading
Recuperar equilibrio/ desequilibrio	Recover balance/ imbalance
Controlar	Control
Conducir	Conduct
Pasar	Pass
Palmear	Tip in
Cabecear	Pitch
Recuperar	Recover
Lanzar	Throw

Pasar acercando / alejándose	Pass approaching/fading
A. Acciones previas	A.Previous actions
Definir zonas de contacto balón-oponentes	Define contact zones ball-rivals
Condiciones para la variabilidad	Conditions for variability
B. Acciones durante	B. During actions
C. Acciones posteriores	C. After actions

Finally, we are going to point out that this coadjuvant training proposal addresses, more holistically, the structures and systems that facilitate and approximate basketball athletes to an optimal performance level in interaction with optimizer training.

References

Calleja-González, J., Mielgo-Ayuso, J., Sampaio, J., Delextrat, A., Ostojic, S., Márquez-Jiménez, D., ... Terrados, N. (2018). Brief ideas about evidence-based recovery in team sports. *Journal of Exercise Rehabilitation 14*(4), pp. 545-550. doi: 10.12965/jer.1836244.122

Gómez, A., Roqueta, E., Tarragó, J. R., Seirul·lo, F., and Cos, F. (2019). Training in Team Sports: Coadjuvant Training in the FCB. *Apunts. Educación Física y Deportes 138*, pp. 13-25. doi: 10.5672/apunts.2014-0983.es.(2019/4).138.01

Moras, G. (1994). *La preparación integral en el voleibol*. Barcelona, España: Paidotribo.

Romero, D. y Tous, J. (2010). *Prevención de lesiones en el deporte. Claves para un rendimiento deportivo óptimo*. Madrid, España: Panamericana.

Seirul·lo Vargas, F. (1986). Entrenamiento coadyuvante. Apunts. *Medicina de l'Esport* 23, pp. 38-41.

Seirul·lo Vargas, F. (1998). Preparación física en deportes de equipo. Curso de Postgrado en Preparación Física. La Coruña, España. Unedited manuscript.