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POSITION SPECIFIC & POSITIONAL PLAY TRAINING IN ELITE FOOTBALL: CONTEXT MATTERS

FEATURE / PAUL S BRADLEY, ANDRES MARTIN-GARCIA, JACK D ADE & ANTONIO GOMEZ DIAZ

Introduction

Those who have watched elite football across the last decade, realise that the game is more demanding than ever¹. This places more emphasis on training methods to prepare players for the rigors of the game². If we use the mantra of 'train like you play' it might be wise to complement existing practices with conditioning drills related to a players' tactical role³ (e.g. position specific) and even elements of the club's playing style/energetic profile⁴ (e.g. positional play). Thus, this piece will explore how such a stimulus can be incorporated into two areas of football conditioning: (1) team training and (2) individual end stage rehabilitation. Examples are presented from two European clubs.

1. Positional Approaches to Team Training: Using Examples from FC Barcelona

FC Barcelona employ a unique training model, incorporating a general and positional stimulus⁴. The distinct playing style adopted informs training. Emphasis is placed on passing and combination play while loading players physically⁵. Adding an extra layer of detail to training, staff examine match physical performances of each position/player to prepare game scenarios⁵. For example,

during FC Barcelona matches centre backs and midfielders (~300-400 m) cover less high speed running ($>19.8 \text{ km.h}^{-1}$) than forwards and fullbacks (~600-800 m) with the number of intense accelerations ($>3 \text{ m.s}^{-2}$) also highest for fullbacks and forwards ($n=57-60$) compared to centre backs and midfielders ($n=50-52$). This is combined with football specific context to create conditioning practices for the collective but also positions and individuals. Conditioning modes used at the club include simulated situations in the form of team circuits, small sided games and positional play drills.

Simulated Situations: Position Specific Team Circuits

Circuits were developed to physically load players in relation to position specific activities while adhering to the teams playing style and individual player traits (Figure 1). For instance, players occupy common pitch areas for their respective positions. One version of the circuit commences with a defensive midfielder heading a ball at the halfway line, before dribbling and passing the ball wide to a fullback (Sequence 1). The fullback then passes to a supporting midfielder so he can overlap at high intensity before turning rapidly

to recover to a defensive position (Sequence 2). Three midfielders then switch the play (Sequence 3). The opposite fullback runs down the channel while one forward drives inside. The fullback receives the ball from a midfielder and dribbles along the flank before crossing into the box (Sequence 4). All forwards break into the box while the centre backs defend the cross (Sequence 5). This circuit can end after this or be extended by including a recovery run or additional actions such as a shot on goal (Sequence 6). This can be varied to challenge players with different scenarios with load controlled by manipulating rules/drill configuration, work/rest, reps etc.

Average load metrics for this circuit are not presented as FC Barcelona alter these situations regularly to optimise the demands on each player in relation to their specific role and the team tactics for the next game. However, a similar drill has been used by English Premier League U17-18 Academy players whereby all positions are worked together (Figure 2A-C). All tactical-physical actions are based on integrated match data.⁹ The drill starts with the fullback producing an effort in the defensive third (first sequence) before overlapping the wide midfielder, to

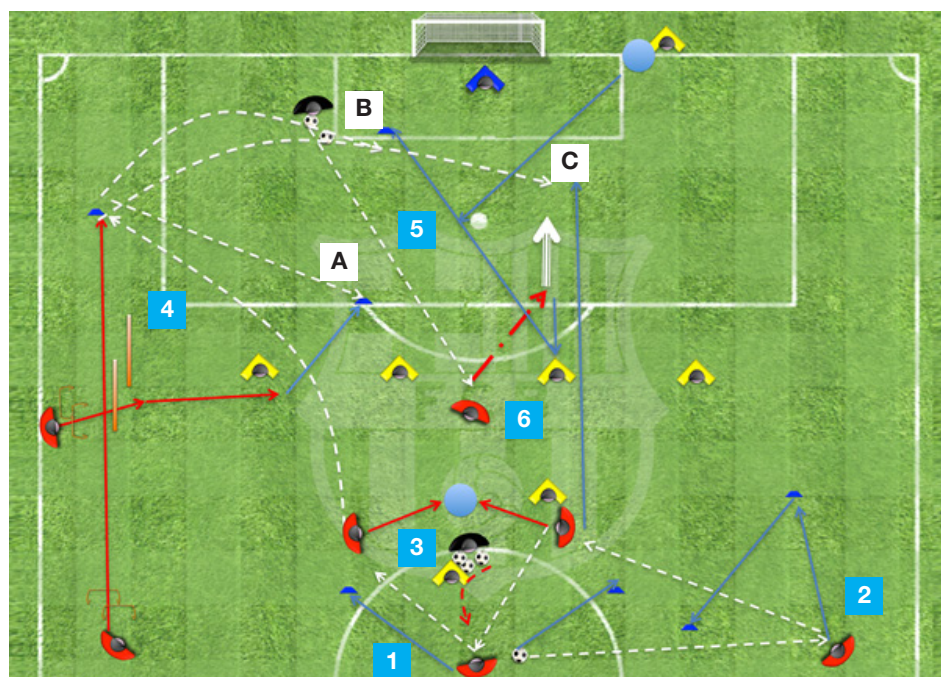
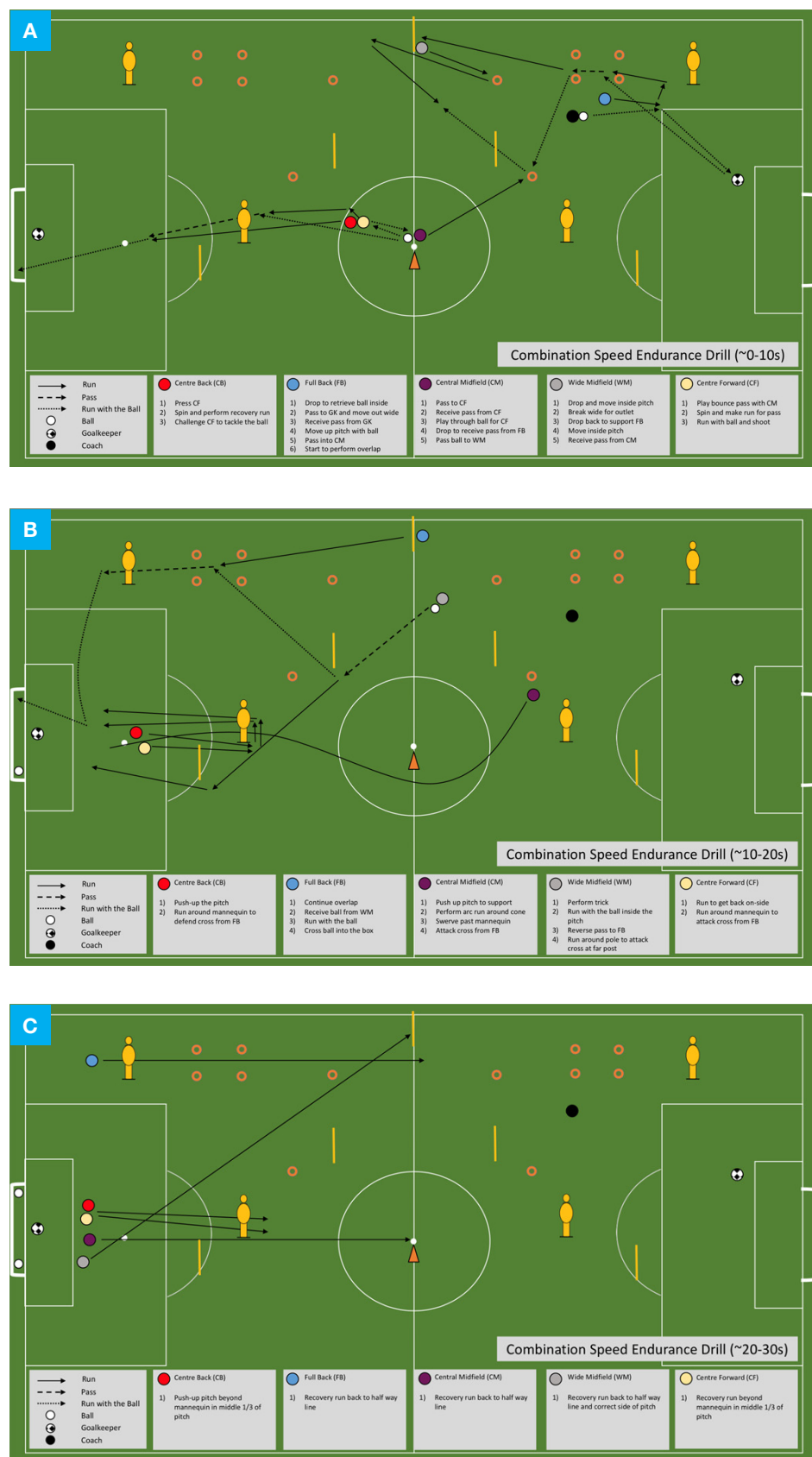


Figure 1. Position Specific Team Circuit from FC Barcelona. (1) coach throws the ball to a defensive midfielder to head before he passes to a fullback, (2) fullback passes inside to overlap before recovering, (3) midfielders switch the play, (4) ball is passed into the channel for the fullback to run onto, while a forward drives inside, (5) selected forwards/midfielders break into the box to attack the cross (options A-C) while the centre backs defend. (6) a forward moves to the edge of the box to receive a coaches pass before performing a shot on goal.

receive a pass in the wide attacking third to perform a cross (second sequence). Simultaneously, the centre forward breaks into the box to score while being tracked by the centre back, both having started in the middle third of the pitch (first sequence). The central midfielder drives through the middle of the pitch performing an arc run to support the attack ending with a possible shot on goal (second sequence). At the end, all positions produce a recovery run to individual pitch locations (final sequence). Using a speed endurance maintenance work to rest ratio of 1:2, all five positions produced 8 repetitions of ~30 seconds with 60 seconds recovery. This elicited an average and peak heart rate response of ~80 and 93% of maximal heart rate and produced a wide range of blood lactate concentrations following the final repetition of 6-16 mmol·L⁻¹. Drills in which all positions are worked in unison with specific ball work adds variety to training while loading physical qualities alongside some tactical elements. More variation per rep is present in these circuits as the intensity can drop should one player perform a technical skill poorly (pass/touch) resulting in some positions having to slow down and alter their runs. Another limitation is the lack of unpredictable scenarios whereby individual and collective positioning needs to adapt and react accordingly, hence the complemented use of position play drills (see below).

Figure 2. Position-Specific Speed Endurance Team Drill. This drill has been employed by a English Premier League Academy and has similarities to FC Barcelona's circuit. (A) first sequence of drill: Coach plays ball inside FB to recover and play back to GK, at the same time the CM plays a bounce pass with CF before playing a ball over the top for the CF and CB to run on to contest. At the same time the WM drops to support the play but then pushes up and wide for an outlet for the GK. The FB then moves wide to receive the ball from the GK, CM drops to support the FB. The FB plays to the CM, the WM drops and moves inside the pitch to support the play. The CM passes to the WM whilst the FB performs an overlapping run. At the same time the CF and CB challenge for the ball over the top in a 1v1 situation resulting in the either the CF shooting on goal or the CB performing a clearance. (B) second sequence of drill: FB continues to perform overlapping run, CB pushes up the pitch whilst the CF performs a recovery run. The WM performs a trick upon receiving the ball from the CM, runs with the ball inside the pitch before playing a reverse pass out wide to the FB. The CM performs an arced run before driving through the middle of the pitch. The WM continues to run through the middle of the pitch. The CB and CF turn around the mannequin and start to accelerate into the box. The CM continues to drive through the middle of the pitch performing a swerve inside the mannequin. The FB runs with the ball and crosses into the box. The CF and CB run into the box to attack the ball whilst the CM and WM attack the front of the box and back post, respectively. (C) final sequence of drill: All players perform recovery runs back to set positions. See text above for description of drill.



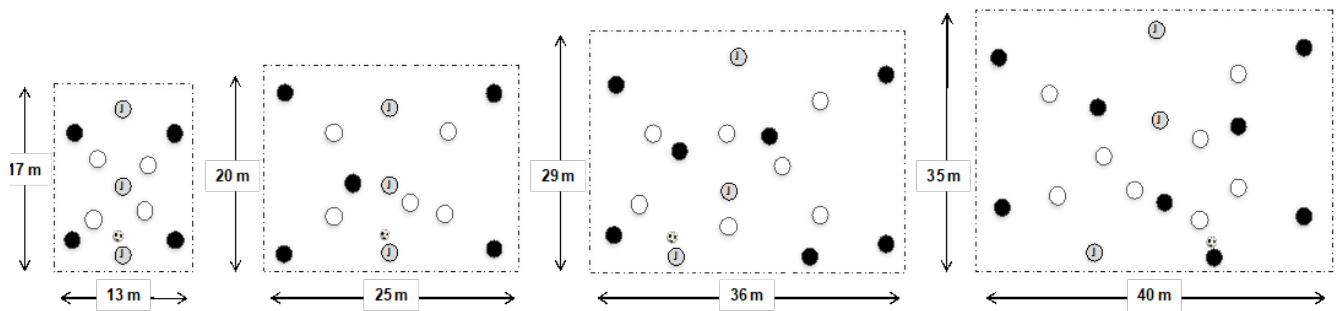


Figure 3. Game Formats of the Positional Play Drills. Black circle is team A, White circle is team B and Grey circle with 'J' is the 'joker' or sometimes known as 'floating' players.⁶

Simulated Situations: Team Positional Play and Overload in Attack/Defensive Transition Drills

Other simulated situations used by FC Barcelona that have a subtler positional stimulus but align with their playing style are adapted small sided and positional games. These games are more dynamic than the circuits above as players have priority areas in which space is tailored to the player's customary context in competition but without any rules restricting the players' space during the task.⁶ Some games adhere to the principle of 'positional play' whereby players collectively work with a high tempo to pass the ball to each other in close spaces to draw in pressing players so they can pass to a wide open player to exploit space (e.g. Paco Seirul·lo methodology). Although these drills are certainly not position specific they require selected roles to position themselves intelligently (e.g. fullbacks are wide and can move up and down the line while central players can move between the lines in highly dense middle areas) and the team works dynamically and collectively in synergy. These positional play games do place different physical demands on selected roles. For example, using 'joker' players (also known as 'floating' players) encourages ball retention and generates numerical superiority for the team in possession.⁶ Thus, 'joker' players only experience an offensive role, in possession, thus this can be tailored towards distinct players. The physical demands placed on the 'joker' players in Figure 3 are lower than that imposed on others in the game (particularly for 8v8+3 versus 4v4+3 formats)⁶. GPS data highlights the demands on 'joker' players vs others for total distance (TD), the number of intense accelerations/decelerations ($>3\text{m}\cdot\text{s}^{-2}$; ACC/DEC) and average metabolic power (AMP). These drills use a work to rest ratio of 2:1, whereby players produced 4 repetitions of 180 seconds with 90 seconds recovery.

In 4v4+3: TD: 78 vs 69 $\text{m}\cdot\text{min}^{-1}$; ACC: 5 vs 4 $\text{n}\cdot\text{min}^{-1}$; DEC: 5 vs 4 $\text{n}\cdot\text{min}^{-1}$ and AMP: 8 vs 7 $\text{W}\cdot\text{kg}^{-1}$. **In 8v8+3:** TD: 106 vs 77 $\text{m}\cdot\text{min}^{-1}$; ACC: 4 vs 3 $\text{n}\cdot\text{min}^{-1}$; DEC: 4 vs 3 $\text{n}\cdot\text{min}^{-1}$ and AMP:

11 vs 7 $\text{W}\cdot\text{kg}^{-1}$. Additionally, game scenarios in 3v2+2v1 also physically load players in their offensive/defensive roles but are not necessarily position specific but mimic common dynamic positional scenarios while conditioning players (TD: 110 $\text{m}\cdot\text{min}^{-1}$; ACC: 3 $\text{n}\cdot\text{min}^{-1}$; DEC: 3 $\text{n}\cdot\text{min}^{-1}$; AMP: 14 $\text{W}\cdot\text{kg}^{-1}$). Rules, player numbers, area, work/rest can all be adjusted based on the conditioning aim. Thus, football context is absolutely key for training prescription⁷. For instance, factors such as the style of play of the team in addition to the position of each player can be accounted for. These are important pieces of the jigsaw in order to prepare training tasks so players can perform effectively. Using this approach, some of FC Barcelona's conditioning has a distinct positional element to it (e.g. position-specific and/or positional play).

2. Positional Approaches to End Stage Rehabilitation: Using an Example from Liverpool Football Club Academy

Throughout the rehabilitation process, elite players are exposed to various conditioning methods to enable a return to training and games⁸. Once players enter end stage rehabilitation and are medically cleared to perform maximal running and changes of direction, there is a need to prescribe drills based on the demands of training. Such drills not only prepare players for the physical demands of training but also the unique movements, skills and tactical actions required for their distinct position⁹. Players continue developing their aerobic fitness during end stage rehabilitation, therefore position specific drills can supplement on-going endurance training. In addition to providing a training stimulus, position specific drills that include sprinting, jumping, kicking and changing direction also place extra demands on the neuromuscular system ensuring players are robust and able to cope with training¹⁰.

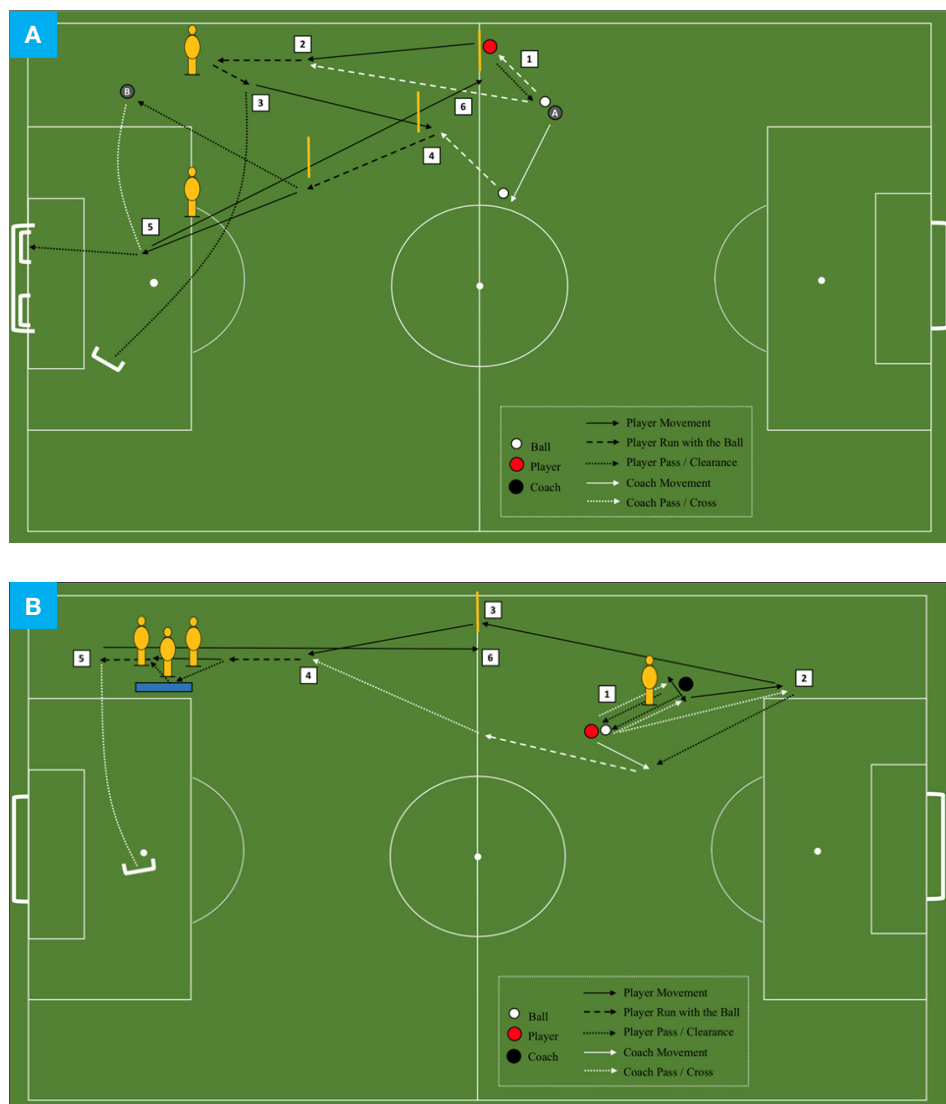
Position Specific Speed Endurance Drills:

Individual End Stage Rehabilitation Drills using intervals enable practitioners to target certain physical qualities to ensure

players adapt and thus return successfully. An effective mode for this stage of rehabilitation is speed endurance training, as it improves football endurance and sprinting abilities¹¹. This requires a player to perform intense football activity for 20-30 seconds using recovery periods between 40-180 seconds, which is repeated 8-10 times dependent on the aim of the drill (production training has a work to rest ratio of ~1:5-1:6 and maintenance training has a work to rest ratio of ~1:1-1:3). This taxes players aerobically and anaerobically whilst involving the ball, so is ideal preparation before a return to team training (complementing drills emphasizing other qualities)¹². Liverpool FC Academy fitness/conditioning staff use an appropriate blend of science gathered from match analysis and the art of coaching to design position specific speed endurance drills. Match analysis demonstrates the number of high intensity efforts ($>21\text{ km}\cdot\text{h}^{-1}$) during games is greatest for wide midfielders ($n=39$) and lowest for centre backs ($n=20$), with fullbacks ($n=31$), central midfielders ($n=29$) and centre forwards ($n=34$) falling somewhere in-between⁹. Contextualised match data provides insight into purposeful efforts in and out of possession and not just 'blind' distances and frequencies⁹. For example, in possession, centre forwards perform more efforts in the offensive third, whilst driving through the middle, running in behind, and breaking into the box. Whilst fullbacks and wide midfielders produced more efforts running the channel with fullbacks completing a greater number of overlapping runs⁹. They also perform more crosses after these runs than other positions due to efforts finishing in wide attacking areas. Out of possession, positions with a major defensive role in the team like centre backs, fullbacks and central midfielders produce more intense efforts covering space or team-mates and recovery running, whilst all positions perform frequent efforts closing down the opposition⁹. Thus, these patterns were translated into isolated position specific conditioning drills for players during end-stage rehabilitation. An example for a wide midfielder and fullback can be seen in Figures 4A-B,



Figure 4. (A) End Stage Rehabilitation Drill for a Wide Midfielder. (1) play bounce pass with coach A and make a run down the channel. (2) receive pass from coach A, run with the ball, perform a trick in front of mannequin. (3) execute in-swinging cross into mini goal, then perform recovery run. (4) receive another pass from coach A, perform a trick and run with the ball driving inside the pitch before passing the ball wide to coach B. (5) break into the box to receive a cross from coach B and finish into mini goal. (6) perform recovery run back to original start position on half way line. Please note: players are given freedom for some decision making while the coach will vary the type of pass and cross e.g. players have option to perform trick and beat mannequin during phase (2) to perform out-swinging cross into mini goal. (12) (B). End Stage Rehabilitation Drill for a Fullback. (1) Coach and FB play a one-two on either side of mannequin, moving FB side-to-side. (2) Coach plays ball down the inside for the FB to recover, FB sprints to recover the ball, turns and passes to coach inside the pitch. (3) FB overlaps coach around pole and receives pass in final third. (4) FB runs with ball and dribbles through mannequins. (5) FB delivers cross into mini goal. (6) Recovery run to the halfway line. Please note: players are given freedom for some decision making while the coach will vary the type of pass e.g. players have option to play off bounce board during phase (4) and cut back to play in swinging cross during phase (5). 12 Individual player traits in terms of movements, tactical/technical events in training/games can also be added to conditioning drills for ecological validity purposes. Given the complexity involved in returning a player to training after injury, this drill is only one example from the players detailed end-stage rehabilitation plan



with some movements adapted to the teams tactical requirements for each position. GPS data captured during a speed endurance maintenance session (work to rest ratio of 1:2) completed by Liverpool FC Academy players returning from injury revealed that for selected speed thresholds (>14.4 and >19.8 km.h $^{-1}$) wide midfielders (120 & 56 m) and fullbacks (104 & 60 m) covered greater distances per repetition across these drills than centre backs (68 & 16 m), central midfielders (93 & 28 m) and centre forwards (80 & 30 m), which is consistent with match trends¹³. Furthermore, centre backs and forwards covered the lowest overall distance per repetition (215 & 233 m.min $^{-1}$, respectively) but performed greater total accelerations and decelerations ($n=14$ & 15) than full backs ($n=11$) and wide midfielders ($n=9$) though similar to central midfielders ($n=13$). High intensity accelerations and decelerations were more frequent for full backs ($n=6$), centre backs ($n=6$) and forwards ($n=4$) than central midfielders ($n=3$) and wide midfielders ($n=3$)¹². This also elicited an

average and peak heart rate response of ~ 85 and 91% of maximal heart rate and produced blood lactate concentrations following the final repetition of >14 mmol.L $^{-1}$. This format can also be useful for 'top up' sessions when players are not getting game time or working multiple positions in unison to add a dynamic scenario. The conditioning coach not only prepares players for the demands necessary for training but also familiarizes them with ball striking, discrete positional movements, orientation of space on the pitch, whilst providing a reactive stimulus so players are exposed to uncontrolled movements when training with additional players. Elite clubs should use their analysis department to study player movements to create bespoke drills that are not only position specific but ideally individual specific (moving away from 'blind' distances/frequencies). This may enable practitioners to identify movement dysfunction and improve mechanics such as turning off a particular shoulder or body position when decelerating to press an opponent.

Summary

Elite football training requires a blend of science and the art of coaching to design appropriate team and individual drills⁷. The approaches presented (position-specific and/or positional play) illustrate that context really does matter when implementing personalized conditioning practices. It might be advantageous to supplement training with a stimulus related to a players' tactical role in the team and even elements of the club's playing style/energetic profile. It's important to stress that there are many effective ways to accomplish this type of work and we have only provided a few examples for the interested reader (e.g. many approaches can be used that are specific to the methodological and cultural aspects of each club). Ideally, future work would use integrated match analysis systems to detail football specific context when providing conditioning guidelines.^{7,9,12,14,15}



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1. Bradley PS, Archer DT, Hogg B, Schuth G, Bush M, Carling C, & Barnes C. Tier-specific evolution of match performance characteristics in the English Premier League: it's getting tougher at the top. *J Sports Sci.* 2016;34(10):980-987.
2. Ade JD, Harley JA, Bradley PS. Physiological response, time-motion characteristics, and reproducibility of various speed-endurance drills in elite youth soccer players: small-sided games versus generic running. *Int J Sports Physiol Perform.* 2014;9(3):471-479.
3. Bush M, Barnes C, Archer DT, Hogg B, Bradley PS. Evolution of match performance parameters for various playing positions in the English Premier League. *Hum Mov Sci.* 2015;39:1-11.
4. Martín-García A, Gómez AD, Bradley PS, Morera F, & Casamichana D. Quantification of a Professional Football Team's External Load Using a Microcycle Structure. *J Strength & Cond Res.* 2018; 32(12):3511-3518.
5. Martín-García A, Casamichana D, Díaz AG, Cos F, & Gabbett TJ. Positional Differences in the Most demanding Passages of Play in Football Competition. *J Sports Sci & Med.* 2018; 17(4), 563-570.
6. Casamichana D, Díaz AG, Morera FC, & Martín-García A. Jugadores comodines durante diferentes juegos de posición [Wildcard Players during Positional Games]. *Apunts. Educación física y deportes.* 2018; 3(133), 85-97.
7. Bradley PS, Di Mascio M, Mohr M, Fransson D, Wells C, Moreira A, Castellano J, Gomez Diaz A, & Ade J. Can Modern Football Match Demands Be Translated into Novel Training and Testing Modes? *Aspetar Sports Med J.* 2018; 7, 46-52.
8. Morrison S, Ward P, & duManoir GR. Energy system development and load management through the

- rehabilitation and return to play process. *Int J Sports Phys Therapy.* 2017; 2 (4) 697-710.
9. Ade JD, Fitzpatrick J, & Bradley PS. High-intensity efforts in elite soccer matches and associated movement patterns, technical skills and tactical actions. Information for position-specific training drills. *J Sports Sci.* 2017; 34 (24), 2205-2214.
10. Vanrenterghem J, Nedergaard NJ, Robinson MA, & Drust B. Training Load Monitoring in Team Sports: A Novel Framework Separating Physiological and Biomechanical Load-Adaptation Pathways. *Sports Med.* 2017 47, (11) 2135-2142.
11. Bangsbo J. Performance in sports – with specific emphasis on the effect of intensified training. *Scand J Med & Sci Sports.* 2015; 25 (Suppl. 4), 88-99.
12. Ade JD, Drust B, Morgan O, & Bradley PS. Physiological Characteristics and Acute Fatigue Associated with Position Specific Speed Endurance Soccer Drills: Production vs Maintenance Training. BASES Conference, Free Communication – Sport & Performance. 2018.
13. Bradley PS, Sheldon W, Wooster B, Olsen P, Boanas P, & Krstrup P. High-intensity running in English Premier League soccer matches. *J Sports Sci.* 2009; 27, (2), 159-168.
14. Bradley PS, Evans M, Laws A, Ade JD. 'Context is King' when interpreting match physical performances. *Football Medic & Scientist Magazine.* 2018; 24:42-45.
15. Bradley PS, Ade JD. Are current physical match performance metrics in elite soccer fit for purpose or is the adoption of an integrated approach needed? *Int J Sports Physiol Perform.* 2018; 13: 656-664