

# The Noble Ranks of Performance Roles - Who's a king - who's a duke?

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#### Headline

he world of elite sport fascinates. Following the performances and even the personal lives of top athletes has never been easier (e.g., TV sport channels, social media apps). However, what actually happens behind the spotlights, as well as the intricacies of the different professions in this domain remains difficult to visualize from the outside. If someone working in sports tells you that he is a coach or a physic for example, the chances are pretty high for you to appreciate his actual responsibilities within the organisation, as well as the nature of his interactions with the athletes. These professions are well defined in terms of job description, and there aren't many possible variations in daily task and responsibilities. There are other positions, however, for which the exact job descriptions and roles are less straightforward. Although self-explanatory from their titles in theory, Head of Strength & Conditioning (S&C) or Head of Sport Science practitioners are often required to look after more than what is just understood from their title. For example, and especially in the smaller structures, the Head of Strength & Conditioning often also manages the sport scientists, or conversely the Head of Sport Science may also lead the conditioning program. Not as simple as meets the eye.

Further than those typical roles, the number of Head/Director of (High/Elite/Athletic) Performance (and their variations in the title) has grown exponentially over the past years. But to what does "Performance" refer to in terms of role and daily practices?

Despite its somewhat lack of clarity, the word "Performance" is definitely the most used term in elite sport job titles today, whatever the actual role; strength coaches are now called "Performance coaches", analysts, "Performance analysts" and nutritionists have become "Performance nutri-"Performance" ultimately refers to the verb "to tionists". perform", which has two main meanings: 1) the act of doing something (irrelevant in the present context) and 2) how well something is made or how successful it is, with the term "high-performance" referring to even higher levels of accomplishment. This second aspect of the definition is likely more related to the topic of the present manuscript and can be, in turn, translated into winning games and trophies. But in this case, shouldn't the coaches, and even the players also considered/renamed as performance coaches and performance players!? It all becomes very confusing as to who is responsible for what, and even their accountability to the result. In fact, we need think further than the end results (i.e., winning games and trophies) and also consider the overall processes around training and planning. The common problems in structures with a high number of staff and departments are the tendency to work in silos, unclear communication lines and hierarchy between staff, and the lack of a common and shared vision. Heads of Performance, High-Performance Managers, Director of Sports Medicine & Athletic Performance types of roles have in fact been created to eliminate the segregated configuration of the different departments, improve between-staff communication, long-term club operations and procedures, and in turn, players and teams results (1, 2). The first example is the common merge of both the Strength & Conditioning and Sport Science entities into a single "Physical Performance and Science" unit. At a higher level, this latter department is also sometimes integrated with the medical department into one unique and global "Athletic Performance"/"Player health and fitness" type of model (1, 2) that is under the leadership of a (High) Performance Manager. These performance professionals tend to operate at higher levels (i.e., less field-based and less operational) and need to have an extensive background in at least one of these vocations, as well as an extensive appreciation of the complementary profession(s) (1, 2). Leadership and management abilities are also compulsory in those roles, as well as the ability to lead the advancement, expansion, and implementation of the required processes for the vision and culture of the department and even club model (1, 2).

However, an important confusion still exists regarding the actual roles of those Performance professionals, i.e., which domains are they really in charge of, who do they manage and which level of contact with athletes they have (operational vs strategic planning). To add up to the confusion, there is little or no consensus for those tiles; they are often self-given, so that there are (almost) as many job titles as practitioners and structures, and there are also large variations in roles within the same job title (3)!

## Aim

To shed a bit of light upon the Performance area, we recently invited Performance practitioners to fill a short online questionnaire. The current article provides an overview of the results gathered from 218 practitioners and eventually offers an overall reflection around the importance and impact, if any, of these types of jobs. The paper also touches on the various communication lines around those people and the challenges they must face during their daily work.

#### Methods

The questionnaire was conducted using Microsoft forms. It includes 15 questions and requires about 5-7 min to be filled. The questionnaire was advertised on social media, i.e., the author's twitter account and then relayed by many other accounts with leadership/interest in the topic. Additional individual messages (email, SMS, twitter and WhatsApp) were also directly sent to a selection of identified practitioners (mainly in large organisations with high management roles). At the time of the present manuscript, 218 responses were analysed. We acknowledge the likely 'selection biases' around the practitioners' participation to the survey (i.e., practitioners knowing the author's work and/or already having a relationship were more likely to respond positively). The questionnaire remains accessible to anyone willing to participate (even post publication of the present report) - we may update the present document in the future as/if new entries accumulate.





**Fig. 1.** Suggested job categorisation and titles based on the types of management roles and domain of expertise. There are obviously many other ways to identify those roles, see results. Note that the analytical/analytics/video name fields have been left out and will not be discussed further in the manuscript due to insufficient information and lower priority for the current manuscript (focused on the physical aspect of the profession). Note also that there may be a level 0 for assistants, trainees or intern/student placements- currently getting experience, perhaps qualified but not always delivering. They were not included in the overall classification and above figure since they may not have a proper full-time contract; they are worth mentioning however to complete the full possible structure. Head of R&D: Head of Research and Development (also named Scientific advisor)

# **Data Analysis**

Given the very large variations in titles and associated roles, is was impossible to make any statistics firsthand! It was then decided the focus only on team sports structures at the moment, and reclassify all club-based positions (i.e., full-time jobs only) in relation to their 1) actual roles and 2) domain of expertise:

#### Roles:

- 1. No management role (Level 1)
- 2. Management of a single department (unique work domain, Level 2)
- 3. Higher level of management in the same department or managing at least 2 departments with a close relationship (Level 3)
- 4. Management of at least 2 departments in clearly different domains (Level 4)



**Fig. 2.** Word Cloud showing the 43 countries where the responders used to work at the completion of the survey (words corresponding to the countries provided, with the greater the word size, the greater the frequency of the country cited).

Work domains:

- 1. Medical
- 2. Strength and Conditioning
- 3. Sport Science (e.g., load monitoring, nutrition)
- 4. Analysis
- 5. Scouting
- 6. Psychology
- 7. Research
- 8. Others or non-appropriate (N/A)



Fig. 3. Re-classified roles behind the titles provided by the 218 responders to the questionnaire.



**Fig. 4.** Word Cloud for the Level 4 High-Performance Manager role (upper left), Level 3 Head of Performance role (upper right), Level 2 Head of Strength & Conditioning role (lower left) and Level 2 Head of Sport Science role (lower right) (words corresponding to the titles given, with the greater the word size, the greater the frequency of use in the title).



**Fig. 5.** Structure with 2 main departments with no position to act as a High-Performance Manager. In this case, the person leading the physical/performance side of the things is either called Head of Performance, Head of S&C and often Head of Sport Science.

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| High Performance Manager   | %   | Head of Performance   | %                                      | Head of Strength &<br>Conditioning          | %   | Head of Sport Science   | %                                |
|--|---|---|--|---|-----|---|----------------------------------|
| Director of High Performance   | 8%  | Director of Performance   | 2%                                     | Coordinator of Strength and<br>Conditioning | 6%  | Director of Applied Science   | 3                                |
| Director of Performance  | 10%   | Director of Sports Science and<br>Athletic Performance  | 2%                                     | Head of Human Performance                   | 6%  | Director of Performance   | 3%                               |
| Director of Performance & Health   | 2%  | First team sport scientist  | 2%                                     | Head of Performance                         | 13% | Director of Performance Science<br>and Reconditioning   | 3%                               |
| Director of Player Health and<br>Performance   | 4%  | fitness coach   | 2%                                     | Head of S&C                                 | 31% | Embedded Scientist  | 3%                               |
| Director of Sports Medicine  | 2%  | General Manager- Football   | 2%                                     | Physical Performance Manager                | 19% | Exercise physiologist   | 3%                               |
| Director of Sports Medicine and<br>Performance   | 2%  | Head of Performance   | 25%                                    | Strength & conditioning specialist          | 6%  | First team sport scientist  | 3%                               |
| Director of Sports Science and<br>Fitness  | 2%  | Head of Performance Diagnostics   | 2%                                     | Strength and conditioning coach             | 13% | GPS/Sports Scientist  | 3%                               |
| Head of Athletic Performance<br>Head of Medicine and Performance   | $\frac{4\%}{2\%}$                             | Head of Physical Performance<br>Head of S&C   | $\frac{2\%}{11\%}$                     |   |     | Head of Performance<br>Head of Sport Science  | $\frac{3\%}{31\%}$               |
| Head of Performance  | 14%   | Head of Sport Science   | 18%                                    |   |     | Head of Team and Individual<br>Fitness  | 3%                               |
| Head of S&C  | 2%  | Head of Sport Science & Medicine  | 2%                                     |   |     | Innovation Director   | 3%                               |
| Head of Sport Science  | 2%  | Head of Strength and Conditioning<br>and Applied Sport Sciences   | 2%                                     |   |     | Lead Sport Scientist  | 3%                               |
| Head of Sports Medicine & Science<br>Head physio<br>High Performance Manager<br>Lead Academy Sports Scientist<br>Lead S&C Coach<br>Performance Analyst<br>Performance Coordinator<br>Performance Manager<br>Physical Performance Manager | 14%<br>2%<br>6%<br>2%<br>2%<br>2%<br>2%<br>6% | Head Performance Expert<br>High Performance Manager<br>I don't have exact title<br>Lead Sport Scientist<br>Physical Coach/ assistant coach<br>Physical Performance Coordinator<br>Physical Performance Manager<br>Rehabilitation Strength &<br>Conditioning Coach | 2%<br>2%<br>2%<br>2%<br>2%<br>9%<br>2% |   |     | Performance Analyst<br>Performance Data Analyste<br>Physical Performance Coach<br>Physical Performance Manager<br>Senior Performance Science Lean<br>Senior Performance Scientist<br>Sport Science Coordinator<br>Sport Scientist | 3%<br>3%<br>6%<br>3%<br>3%<br>9% |

| Table 1. | Possible titles for the four typical job | roles examined. |
|----------|--|-----------------|

| Table 2. Actual roles of some of the most frequently cited titles | Table 2. | Actual | roles of | some | of the m | lost freq | uently | cited | titles |
|---|----------|--------|----------|------|----------|-----------|--------|-------|--------|
|---|----------|--------|----------|------|----------|-----------|--------|-------|--------|

Common Job Titles cited in the questionnaire

| Common Job Titles cited in the questionnaire        | High<br>Performance<br>Manager<br>(Level 4) | Head of<br>Performance<br>(Level 3) | Head of S&C<br>(Level 2) | Head of<br>Sport<br>Science<br>(Level 2) |
|---|---|-------------------------------------|--------------------------|--|
| Director of Athletic Development                    |   |                                     | 1                        |  |
| Director of High Performance                        | 4   |                                     |                          |  |
| Director of Performance                             | 5   | 1                                   |                          | 1  |
| Director of Performance and Sports Science          | 2   |                                     |                          |  |
| Director of Player Health and Performance           |   |                                     |                          | 1  |
| Director of Sport Science                           | 1   |                                     |                          |  |
| Director of Sports Medicine                         | 1   |                                     |                          |  |
| Director of Sports Medicine and Performance         | 1   |                                     |                          |  |
| Director of Sports Science and Athletic Performance |   | 1                                   |                          |  |
| Director of Sports Science and Fitness              | 1   |                                     |                          |  |
| Head of Athletic Performance                        | 2   |                                     |                          |  |
| Head of Human Performance                           |   |                                     | 1                        |  |
| Head of Medicine and Performance                    | 1   |                                     |                          |  |
| Head of Performance                                 | 7   | 16                                  | 2                        | 1  |
| Head of Physical Performance                        |   | 1                                   |                          |  |
| Head of S&C   | 1   | 7                                   | 5                        |  |
| Head of Sport Science                               | 1   | 12                                  |                          | 11                                       |
| Head of Sports Medicine & Science                   | 7   |                                     |                          |  |
| High Performance Manager                            | 3   | 3                                   |                          |  |
| Performance Coach Manager                           | 1   |                                     |                          |  |
| Performance Coordinator                             | 1   |                                     |                          |  |
| Performance Manager                                 | 1   |                                     |                          |  |
| Physical Performance Coordinator                    |   | 1                                   |                          |  |
| Physical Performance Manager                        | 3   | 6                                   | 3                        | 2  |
| Planning and Performance Manager                    | 1   |                                     |                          |  |
| Science and conditioning coordinator                |   | 1                                   |                          |  |
| Sport Scientist                                     |   | 2                                   |                          | 3  |
| Sports Medicine and Performance Coordinator         | 1   |                                     |                          |  |
| Vice President of Human and Player Performance      | 1   |                                     |                          |  |
| VP Performance Healthcare                           | 1   |                                     |                          |  |
| Total   | 46  | 52                                  | 12                       | 19                                       |

| Job Tiles                          | Averages | $\mathbf{SD}$ | Minimum | Maximum |
|------------------------------------|----------|---------------|---------|---------|
| High Performance Manager (Level 4) | 10       | 6             | 3       | 25      |
| Head of Performance (Level 3)      | 6        | 6             | 2       | 27      |
| Head of S&C (Level 2)              | 4        | 8             | 0       | 32      |
| Head of Sport Science (Level 2)    | 6        | 17            | 0       | 107     |



Based on the different combinations of management levels, roles and work domains reported by the responders, we suggested the following job categories (not saying that this organigram really exists as it is in any structure) (Figure 1):

#### Results

Job titles variations. The actual (i.e., reclassified) roles behind all the titles provided by the 218 responders (from all over the world, Figure 2) to the questionnaire are shown in Figure 3. Those practitioners reported to be holding those jobs for  $4 \pm 5$  years in average (range: 0.4 - 14 years). Their education background was also extremely variable and included all possible academic levels (from Msc to PhDs and above) and technical diplomas (e.g., sport specific, job specific), with no correlations at all between education and job levels (Figure 1). For those reasons, the education data are not presented in the present manuscript.

All the exact title variations received (and % of occurrence) for the main four roles defined in Figure 1 are shown in Table 1. Figure 4 shows same information visually via a Word Cloud. The actual roles of some of the most frequently cited titles are shown in Table 2.

In addition to the current questionnaire results, we had also informally identified the titles "Head of Sports Science, Fitness and Conditioning" and "Director of Performance & Rehabilitation" as a High Performance manager roles.

Here are also some jobs titles that were not included in the following organigrams since practitioners were working with individual and Olympic sports, University-based or national Institute of Sports for example: Senior Associate Athletic Director of Athletic Performance, Athletic Development Coordinator, Coordinator of Performance Support Services in Sport



Fig. 6. Structure with 2 main departments but where the Head of Performance, Head of S&C or Head of Sport Science acts as the High-Performance Manager.



Fig. 7. Structure with 2 main departments but where the Head of Medical acts as the High-Performance Manager.

Science, National Pathways Manager, Performance Physiologist, Sport physiologist/Strength and Conditioning coach.

**Staff.** Table 3 shows the average number of staff managed by each of the 4 main Performance roles. It is worth noting that people with no or little management roles, but who oversee almost everything in their small structure, occupy in fine all levels of the organigram.... so they can call themselves Head of everything and can then be identified as High Performance Managers!



Fig. 8. Structure and level of intervention of the different job roles.



**Fig. 9.** Structure and level of stability of the different job roles. There is the central "player" module, surrounded by the "Transitional" coach/staff module, further surrounded by the "Club Core Staff" module and then the "Strategic Module" on the outside. Frequently we now see that when the Manager leaves, the "Transitional Module" is replaced – but to maintain consistency for club practice, culture and data – the "Club Core Module" provides a bridge and a transition to new "Transitional Staff Module".



**Fig. 10.** Word cloud showing the strategies used to inform, communicate and share decision making (if any) with the coaching staff (with the greater the word size, the greater the frequency of its use as a strategy).

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**Club structure and reporting lines.** Different examples of common structures identified are shown in Figure 5, 6 and 7. Figure 1 may be the ultimate/most complete structure, but in reality none of the responders provided a structure that was 100% similar (some positions were missing or there were unclear leadership roles). The people to whom the Performance practitioners reported to was also extremely variable (likely related to almost each club structures) and didn't allow for any sort of generalisation. They included all sorts of club-based positions including those presented in Figure 1 (levels 3 and 4 mainly), but also very frequently directly the Head Coach and higher-level leading club positions such as Sporting/Technical Director, Chief Operating Officer (COO), Chief Executive Officers (CEO), Board, President, Vice President, etc.

The possible levels of intervention of the different roles with respect to player contact, staff management levels and strategic missions is shown in Figure 8. The figure 9 shows a different way to examine the different staff roles in relation to the types of contracts and likely stability into the organizations, i.e., club (long-term contracts) vs. technical staff contracts (short-term contracts).

The communication procedures mentioned to inform, share and make decisions with the technical staff are illustrated in Figure 10. To summarize in a concise manner all responses, we offer below a few bullets points with respect to Performance practitioners' overall philosophy and their means of communication. It appears, as previously stated, that the communications strategies between Performance practitioners and technical staff must be highly flexible both in the terms of content and form to fit the context and coach's personal preferences. The main points can be summarized as follow:

- Philosophy
  - Collate info, digest and provide a summary to the Manager/Head Coach to support his vision
  - Respecting Manager's opinions most of the time they (need to) have the last word or at least the casting vote where division exists ("Democratic dictatorship")
  - "We prepare the Ferrari, but we don't drive it"
  - Our role is to 'publicly' support the coach, even when we disagree (!)
  - Shared decisions is the goal, at least!
  - Push for transparency and promoting discussion
  - Push for Evidence-Based practices
  - Try for best practices to be recognized



**Fig. 11.** Response to the question "In the end, how often are YOU making the final decision?" provided by the practitioners in the main four roles described in Figure 1.

- Assist with decision making with data and evidence when possible
- Focus on players availability, individual needs, compensation, top ups, recovery needs, load management, return to play practices and timing, and any special care that is required. Looking for what is invisible at the team level
- Means
  - Define first what the Manager and his coaching staff really need and want
  - Regular meetings with the Manager and his staff (daily, weekly, seasonal)
  - Building personal relationships is key
  - Emphasis on personal communication channels (face to face)
  - Informal chats in the locker/pitch/gym/wherever!!
  - Sit, drink, eat together. Even, shower together!!
  - Daily reports (Sport Science type, actual work done, etc.) both at night (post session) and early morning (pre session)
  - Use of all medias possible based on preferences and context (4) (pdf vs paper vs oral, email, phone calls, text messages, online platform, athlete management system, share drive, etc...)
  - Data visualization is important

# Discussion

Based on the responses received, we tried to provide for the first time a simple classification of the common Performance roles/titles based on 4 levels of managements and the most common domain of expertise found in elite team sport structures (Figure 1). As expected (3), there were incredibly large variations in roles for a given titles, and conversely (Table 1 and 2, Figure 4). This may be related to the fact that there is still no consensus on how those practitioners should be named, and more importantly, that many of these job titles are often self-given. In other terms, everyone wants to be unique, so nobody is! It is also worth noting that there was no correlation at all between education and job levels, which suggests that recruitment processes may be more related to people network and experience than education per se. Another interesting point (Table 3) was the very large variation in the number of staff managed among the same positions (e.g., the average SD of the number of staff managed was n = 9), and the lack of a consistent relationship between job levels and the number of staff managed (e.g., Level 3 Head of Performance and Level 2 Head of Sport Science showing both an average of 6 staff managed).

Not surprisingly, the higher the level of the club, the greater the staff number, and the greater the specificity in terms of roles and job description. Conversely for those teams with less staff, roles were more generalist. For instance, while in large structures, Head of S&C, Head of Sport Science and Nutritionists can be found to be working alongside (high level of specialisation), the Head of S&C may be doing a bit of Sport Science and Nutrition himself in smaller structure (more generalist type of role). While more staff with higher levels of specialisation likely increases the overall knowledge at disposal for players, "more" doesn't always equal "better" (performance) when things are not properly organized. Specialists may lose the ability to see the overall picture, and this is where Performance Manager roles become essential. In fact, it was also



apparent from the different responses that Performance Managers (Level 3 and 4) must embrace an interdisciplinary approach in their daily actions. They have an important role to eliminate the segregated configuration of the different departments, improve between-staff communication, long-term club operations and procedures, and in turn, players and teams' results (1, 2). This also includes empowering all staff while creating first a safe environments for them, and then facilitating their daily job (providing them with important information, giving them the appropriate tasks in a timely manner) and maximising their impact for the team.

However, the reality and the challenges that club Performance practitioners face daily is their integration with the technical staff, and how they share decision making (Figure 11). In our survey, when practitioners were asked about their ability to make final decisions, responses were variables but showed that most of the decisions were shared and especially with the technical staff. In logical relation to hierarchy, Level 4 High Performance Managers held the role where practitioners tended to make the greatest proportion of the decisions on their own (50% of them making >70% of the final decisions). In fact, in top level clubs (especially football/soccer), the Manager may often come with his own fitness assistant (i.e., Assistant Fitness Coach), which then tends to also act as kind of (High) Performance Manager or Head of S&C (Figure 12) at least when it comes to leading the (S&C) training program on a daily basis. In one hand, it is fair to say that the Manager's assistant is likely the person who knows and understand at best the Manager's training vision (load patterns, training approach and system). He is therefore legitimate to (co-)lead the physical/health program in relation to the coach vision and can make the required load/training adjustment to allow continuity and development of the manager's program. On the other hand, the club's (High) Performance Manager is likely the only one with a clear understanding of the overall club structure and its capacity to support the manager's vision. He knows the strength of his staff and knows player's profiles and habits, which give him some important legitimacy to be involved in the decisions too. The club Performance staff have also the mission to guarantee a minimum level of long-term club processes (stability, consistency) over the often-frequent changes in training/testing methodologies with coaches' replacements. From this instance, agility, adaptability (5, 6), understanding the context (7-9), objectivity (10), and most importantly mutual respect and humility (11, 12) from both



**Fig. 12.** When a Manager comes to a club with his own Assistant Fitness Coach, the later may tend to act as a High-performance Manager, at least for the operational aspect of daily training organisation (Figure 8). Note that Transitional and Club Core Staff as presented on Figure 9 are also shown.

sides must be of use to guarantee effective collaboration for the best of players and team success.

Overall, the position of the Assistant Fitness Coach, when positioned as in Figure 12, may question the need for (or at least the roles of) the club (High) Performance Manager in relation to daily practices. In this context, while club (High) Performance Managers may need to take a step back with regard to the daily field operational aspects, they still need to drive the long-term development of the club, and ensure the continual growth of the club's players and staff (maintain stability/consistency vs. the need for a permanent adaptability to the ever changing technical staff). To deal with this two potentially clashing perspectives (consistency vs. adaptability), Performance Managers must guarantee that past and present practices are precisely documented with both quantitative (e.g., GPS) and qualitative (e.g., technical session reports, return to play plans) information. They should also facilitate the acceptance of the club current (best) practices when new staff come in ("This is what we do, and what we don't") using objective and scientific evidences over experience and opinions. As Raymond Verheijen likes to ironize when discussing the challenges of changes in coaches in professional football, "imagine if the new CEO of Apple wanted now to produce IFridge..." - we need to guarantee a minimum level of constancy to perform. (High) Performance Managers are here for this, at least, whatever their exact title!!

## Key points

- Based on the 218 responses received, there is clearly no consensus regarding job titles in the Performance world of elite sports.
- There are extremely large variations in job tiles for similar roles, and conversely.
- We have therefore provided here for the first time a "framework" to try to clarify the chaos (Figure 1).
- Performance Managers (Level 3 and 4) have an important role to eliminate the segregated configuration of the different departments, improve between-staff communication, long-term club operations and procedures, and in turn, players and teams results.
- The communications strategies between Performance practitioners and technical staff must be highly flexible both in terms of content and form to fit the context and coaches' personal preferences (4, 9).
- Overall, most of the decisions are shared by all and especially with the technical staff, with Level 4 High Performance Managers being the role where practitioners tend to make the greatest proportion of the final decisions on their own (50% of them making >70% of the final decisions).
- The position and role of external-to-the club Performance Managers (i.e., Manager's Assistant Fitness Coaches, Figure 12) can be challenging for club practitioners, who therefore requires flexibility, adaptability (5, 6), humility (11) and open-mindedness (9, 12) to i) integrate the technical staff vision and appropriately support the Manager's work while maintaining ii) the club processes and overall culture.

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#### References

1. Panariello R. Considerations for the Director of Sports Medicine & Athletic Performance. Simply Faster Blog,

https://simplifastercom/articles/key-considerations-directorathletic-performance/. 2019; July 1.

2. Slemen D. Why top clubs need a Director of High Performance. Training Groung Guru

https://traininggroundguru/articles/david-slemen-why-topclubs-need-a-director-of-high-performance. 2019;May 2.

3. Austin S. EPL Staff Profiles. Training Ground Guru

https://traininggroundguru/staff-profiles/ 2019.

4. Buchheit M. Want to see my report, coach? Aspetar Journal. 2017(6):34-43

http://www.aspetar.com/journal/upload/PDF/

2017216161135.pdf.

5. McCunn R. Adapt or die. The Sport and Exercise Scientist, BASES. 2019;Autumn(61):30.

6. Buchheit M. . . . And Wile E. Coyote Caught the Road Runner. Int J Sports Physiol Perform. 2019;14(3):277-8.

7. McGuigan MM. Extreme Positions in Sport Science and the Importance of Context: It Depends? Int J Sports Physiol Perform. 2016;11(7):841.

8. Buchheit M. HIIT Science Blog 2018. Content is king, but context is God. https://martinbuchheit.net/2018/09/23/content-is-king-but-context-is-god/ 9. Le Meur Y, Torres-Ronda L. 10 Challenges Facing Today's Applied Sport Scientist Sport Performance & Science Reports. 2019;57(March):V1.

10. McCunn R. Form over function. The Sport and Exercise Scientist, BASES. 2019;Summer(60):30.

11. Foster C. Sport Science: Progress, Hubris, and Humility. Int J Sports Physiol Perform. 2019;14(2):141-3.

12. Buchheit M. Outside the Box. Int J Sports Physiol Perform. 2017;12(8):1001-2.

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