



**ISSPF**  
INTERNATIONAL SOCCER SCIENCE  
& PERFORMANCE FEDERATION



# SOCCER SCIENCE & PERFORMANCE

YOUR ESSENTIAL GUIDE TO ENHANCE  
THE DEVELOPMENT & EVOLUTION OF  
YOUR SOCCER TEAM

[ISSPF.COM](https://www.isspf.com)



"I am not a perfectionist, but I like to feel that things are done well. More important than that, I feel an endless need to learn, to improve, to evolve, not only to please the coach and the fans, but also to feel satisfied with myself. It is my conviction that here are no limits to learning, and that it can never stop, no matter what our age."

CRISTIANO RONALDO

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## SOCCER SCIENCE & PERFORMANCE

Someone once said "soccer is a simple game complicated by fools...."

Soccer is the most popular sport in the world with approximately 265 million players actively playing and training every week. Successful performance in soccer depends on a myriad of factors including the technical, tactical, psychological and physical aspects, as well as the interactions between them.

The engagement and recent developments in both the tactical detail and physical performance of team sport athletes has been as a result of sport science pushing boundaries and innovative techniques in order to maximise performance.

The game of soccer is no different! Actually, over the last 20 years the demand placed on the game has grown substantially, alongside the physical, technical & tactical demand on coaches, support staff & players themselves to reproduce performance after performance 2 sometimes 3 times per week.

As a result of that the science behind the coaching and the game itself has grown exponentially.

Here at ISSPF we provide you with the opportunity to stay ahead of the game by becoming a serious student of the game to ensure players across all levels are exposed to the best practice in terms of fitness, technical development, tactical analysis, soccer science & nutrition, strength & conditioning techniques & injury reduction strategies that will assist you to enhance performance of individuals and collectively teams.

Not only are we keeping things simple for individuals who are keen to progress in their own area of development within team sport and soccer, but we are enhancing the capability to self-develop through our unique faculty of staff and elite practitioners to bring key messages and expert advice to the comfort of your own self paced, learn anywhere, preferred learning environment.

Travelling to and from games, training, at home, in the office..... we have a fully functioning educational and self-directed continual professional development strategy ready to work with you.



"...the soccer player's athletic capacity has developed exponentially over the last 20 years....the scientific data suggests this, and this will continue through the next generation also.... individuals involved with the physical, technical, tactical & psychological development of soccer players must continue on a constant self-development learning pathway...the industry continues to progress, as should the coaches working within it... staying ahead of the game and driving for an even higher performance level is paramount..."

PROFESSOR KARIM CHAMARI

## WHY ARE WE DIFFERENT?

ISSPF is unique in its approach based on the fact that we combine both high level academic professors who are also experienced practitioners within soccer. The combination of both academic & practical integration ensures you will experience not only the science behind the theories discussed but also the practical application employed with the knowledge.

Offering an online 'Certificate in Soccer Science & Performance' and exposing learners to high level International lecturers from across the globe who bring different philosophies of work and methodologies of training make this a unique proposition.

## WHO ARE WE FOR:

- Youth, amateur, professional soccer coaches
- Under-graduate & post-graduate sport students
- Federations & organisations
- Performance related coaches & scientists

"Sports science, without question, is the biggest & most important change in my lifetime... It has moved the game onto another level that maybe we never dreamt of all those years ago... Sports Science has brought a whole new dimension to the game."

## SIR ALEX FERGUSON

During his 26 years with Manchester United he won 38 trophies, including 13 Premier League titles, five FA Cups, and two UEFA Champions League titles.



### WHY CHOOSE THIS COURSE?

This specific certificate aims to add specific knowledge and upskill certain aspects of your academic, coaching and practitioning profile subsequently helping to develop your employability credentials through the ISSPF accreditation.

Choose the ISSPF Certification in Soccer Science & Performance and:

- Expose yourself to a higher learning demand and gain the practical insights of scientifically justified working experiences demanded for a career in the soccer industry.
- Study a course delivered by expert academics & soccer practitioners working international, professional and professional-youth soccer teams.
- Develop your skills, understanding and employment prospects through gaining the accreditation through a soccer science specific community.
- Increase your network and soccer connections in the industry through links with our ISSPF lecturers from around the World.
- Further challenge yourself to upskill and add continued professional development resources through our online platform to develop and enhance your career prospects by adding industry recognised accreditations to current qualifications.
- Soccer science is constantly evolving...

*You need that competitive edge*

At the International Soccer Science and Performance Federation we will provide you with that edge through our online global soccer performance coach education platform offering the opportunity to enhance and upskill from both a scientific perspective of the game, in addition to a performance coaching standpoint.

Exposure to cutting edge, modern approaches across key performance disciplines such as:



**COACHING  
PRINCIPLES**



**NUTRITION**



**PHYSIOLOGY**



**INJURY  
REDUCTION**



**STRENGTH &  
CONDITIONING**



**TESTING &  
MONITORING**



**PERFORMANCE  
ANALYSIS**



**FITNESS  
TRAINING**



**PSYCHOLOGY**



**TRAINING  
METHODOLOGY**



**TALENT  
IDENTIFICATION**

Soccer Science & Performance aims to take the key elements of the practical application and implement best practice to ensure player, technical, performance coaches and medical practitioners in the game are constantly evolving.

We cover all these suggested aspects of the topic & returning to play through specific rehabilitation techniques, by learning from practitioners academics explaining their justifications of strategies used with players all across the globe within our unique ISSPF course in Soccer Science & Performance.

# SOCCER PSYCHOLOGY & TALENT IDENTIFICATION

While all soccer science and performance disciplines are key to making a team competitive, these two key disciplines are inextricably linked and are vital to development and high level performance. Psychology is playing an ever increasing role in talent identification and player performance at all levels in the game.

Spotting, nurturing and then developing players throughout their career requires "different strokes for different folks". You'll hear that some players respond to arm around them, others respond and thrive under pressure that would crack some players.

Good coaching and management requires you to be flexible in your approach, how do you answer these following questions:

- What are your mental strengths as a soccer coach, performance staff member, practitioner?
- What do you do to assist & support your players or athletes from a psychological or mental skills approach?
- Do you understand the most untapped area of cognitive behaviour that can be the difference between winning and losing or maximising development?
- Do you have mental toughness as an individual?
- What does it mean?
- How can these elements be developed.... particularly under pressure?
- Do you have the ability to let go of mistakes, poor decisions as coach or individual in a sporting environment?
- Can you maintain confidence in the face of adversity, how do you coach, reflect & progress as an individual?
- Do you get the best out of your group & motivate them in the right way?
- What type of technical, physical coach or performance development staff member are you?
- Where do you need to improve?
- How do you improve?
- What is talent identification & how do we really engage in this topic?
- Is it possible to talent spot at young ages or do we talent select?

Did the answers to the above questions come to mind quickly for you? Have you considered these questions in relation to your performance as a specialist? These are a small subset of questions that top quality specialists and practitioners focus their efforts to improve their contribution to the team environment.

Competitive teams are constantly seeking small incremental changes as well as huge paradigm shifts. Unlocking the mental strength, resilience and fortitude within your individual players and the team as a collective is a key objective for all involved with players at any age and level.

## WHAT IS SPORT OR SOCCER PSYCHOLOGY

- Sport or soccer psychology is the use of psychological knowledge & skills to optimize performance and well being of athletes
- Maximizing the developmental aspects of sports participation & understanding the systemic issues associated with sports settings and organizations

## WHAT IS MENTAL SKILLS TRAINING

- Mental skills training is the process involving methods & techniques to improve performance

Techniques involve such things like:

- Developing self confidence & creating a positive mindset through goal setting, positive self talk, visualization, imagery & self efficacy



**Romelu Lukaku**  
Belgium

"People in football love to talk about mental strength. Well, I'm the strongest dude you're ever going to meet. Because I remember sitting in the dark with my brother and my mom, saying our prayers, and thinking, believing, knowing... it's [success] going to happen."

## WHAT IS TALENT IDENTIFICATION & TALENT SELECTION

- Talent identification is the process of recognising current players that have the potential to excel within football (Vaeyens, Lenoir, Williams, & Philippaerts, 2008).
- Talent selection is the acceptance of individuals into representative teams and development programmes

## WHY CHOOSE THIS COURSE?

Understanding the key components of what drives coaches, players, & athletes to succeed is of paramount importance, the ability to do this will enable you to quickly read situations, individuals and plan your responses, tactics and strategies to these situations.

When you develop effective strategies that prepare players for both training & competitive games from a psychological perspective it will be noticable to the wider coaching faculty within the club.

Developing an understanding in this key result area can exponentially achieve quick results. Significant performance enhancements can be achieved with even small changes.

*"Don't be disheartened if you have setbacks; instead learn from them and always celebrate any successes. Remember: you always have a choice."*

**Steve Peters, The Chimp Paradox**

All practitioners, coaches and players will benefit from a more in-depth knowledge of applied psychology & mental skills training development. A deeper understanding will benefit you to maximise your decision making through a better understanding and appreciation of psychological and mental skill principles.

This growing field of sport specific psychology and mental skills training involved in athletic performance has become a prominent proponent of successful teams and is being embraced by coaches, individual and team players.

Sport psychology and cognitive skill development has been discussed as the last untapped or limited applied area of sporting development & understanding. Applied research & studies in this performance area have largely included individual psychological factors and their influence on performance encompassing confidence, motivation, attention & psychosomatic skills (Gucciardi et al., 2009).

**Soccer Science and Performance Specialists with psychology and mental skills training are in high demand. Accelerate your understanding in this area and immediate boost your career prospects and become a trusted advisor within your club structure.**



## CERTIFICATE IN SOCCER PSYCHOLOGY & MENTAL SKILLS TRAINING

The difference between great players and average players can often be seen in their mastery of the mental aspect and dealing with adversity.

The Certificate in Soccer Psychology & Mental Skills Training course has been developed by some of the most respected soccer psychologists and mental skills practitioners to help players and coaches develop in the mental aspect of the game.

**Click Here**  
**Certificate in Soccer Psychology**  
**& Mental Skills Training**

## SOCCER NUTRITION

Soccer nutrition is the study and practice of nutrition and diet with the distinct objective of improving soccer physical and psychological performance. Nutrition in terms of fuelling and promoting recovery for players from training and match-play is vitally important.

A rounded overview of how nutritional specialists work in the team environment and with individual players is essential knowledge for all specialist backroom staff.

Working collaboratively, the need to integrate training load management, including competition demands placed on players with their nutritional consumption to optimise performance and recovery can not be underestimated.

We have an extensive faculty of soccer specific nutritionists delivering content and courses within ISSPF. Working actively within elite level clubs and associations, they understand the importance nutrition plays on the developing player, and specific strategies used across various levels of the game.

Our Nutritional specialists understand that every player has a different, unique genetic makeup and physiology, subsequently there is no one food plan that meets the needs of all players at any given time. Therefore a broad knowledge about provision of sound information to assist in improving the performance of the players.



## GOOD NUTRITION & GOOD HABITS

Soccer, the largest participation sport in the world is constantly evolving based on the professionalisation and understanding of the science behind the game.

What make the game so exciting for fans and those involved, is two similar teams seeking those competitive advantages.

Meritocracy is key within the game. A teams position in a league table, is derived from success, power, and influence based on the demonstrated abilities and merits.

Watching a team in full flight, is something to behold. Whether that's a high energy, pressing style or a deep lying, fast counter attacking style, effective coaching, tactical awareness, physical capacities & technical qualities are the external manifestation of such activities.

However, all of the above would not be possible without detailed understanding of fuelling and recovery strategies through good nutritional practice.

These incremental changes can be the game-changers by:

- Maximising the outcomes from specific training programs & interventions
- Maximising recovery within, between & after games & training sessions
- Ensuring the ideal body composition for players – developing player or elite level players
- Significantly influencing the rates of injuries & illness

Despite being surrounded with an abundance of nutritional and lifestyle advice, even at elite level clubs slippage still exists. Antonio Conte, has removed ketchup from the canteen at Tottenham Hotspurs, and he's not alone. Steven Gerrard, Aston Villa manager has too in a bid to improve player health and fitness.

However, as we've already discussed it's the compound effect of all of the incremental changes that have the paradigm leaps in performance.

That's why serious students of the game, irrespective of their own specialism need to have a deep understanding in all facets of the game.

As suggested by FIFA, many players do not meet their nutrition goals with common problems and challenges players face include:

- Lack of knowledge regarding food & drinks combined with and inadequate cooking skills
- Poor choices when shopping or eating out
- Lifestyle issues leading to inadequate time to obtain or consume appropriate foods
- Reduced availability of appropriate food and drink choices to aid performance & recovery
- Excessive travel to and from games & work
- Lack of appropriate knowledge surrounding the use of supplements and sport specific food substances

At ISSPF our mission is to provide comprehensive information that will enable you to achieve better performance with your players and team.

Whether you are a full-time professional or semi-professional coach, player or manager, youth or grassroots player, coach or manager, physiotherapist, medical doctor, analyst or psychologist!

We believe all individuals working within a team sport environment, who aid player development should have access to world class content, whatever their discipline.

# CERTIFICATE IN SOCCER NUTRITION

Certificate in Soccer Nutrition  
Nutrition is so important;  
it's part of the game.

It has helped me with my recovery,  
allowed me to sleep better,  
and helped my body adapt quicker.

**MOHAMMED SALAH**



Nutrition is a vital aspect of physical performance and body composition for the modern soccer player. There are many case studies where professional players owe their increased performance to radical but sometimes subtle changes in their diet.

The composition of a player's diet, can positively or detrimentally affect their performance, from decision making, quality of their skill execution, endurance, through to rest and recovery.

It's imperative that sports professionals understand and implement, sound dietary, hydration and supplements in the context of soccer as all of these key components, directly impact physical performance.

In our Nutritional education course you will discover the effects that foods, hydration and supplements have on the body and what this means in terms of player performance.

The objective of the course is for you to learn, comprehend, adapt, influence and educate players on requirements of dietary components so they can maximise performance.

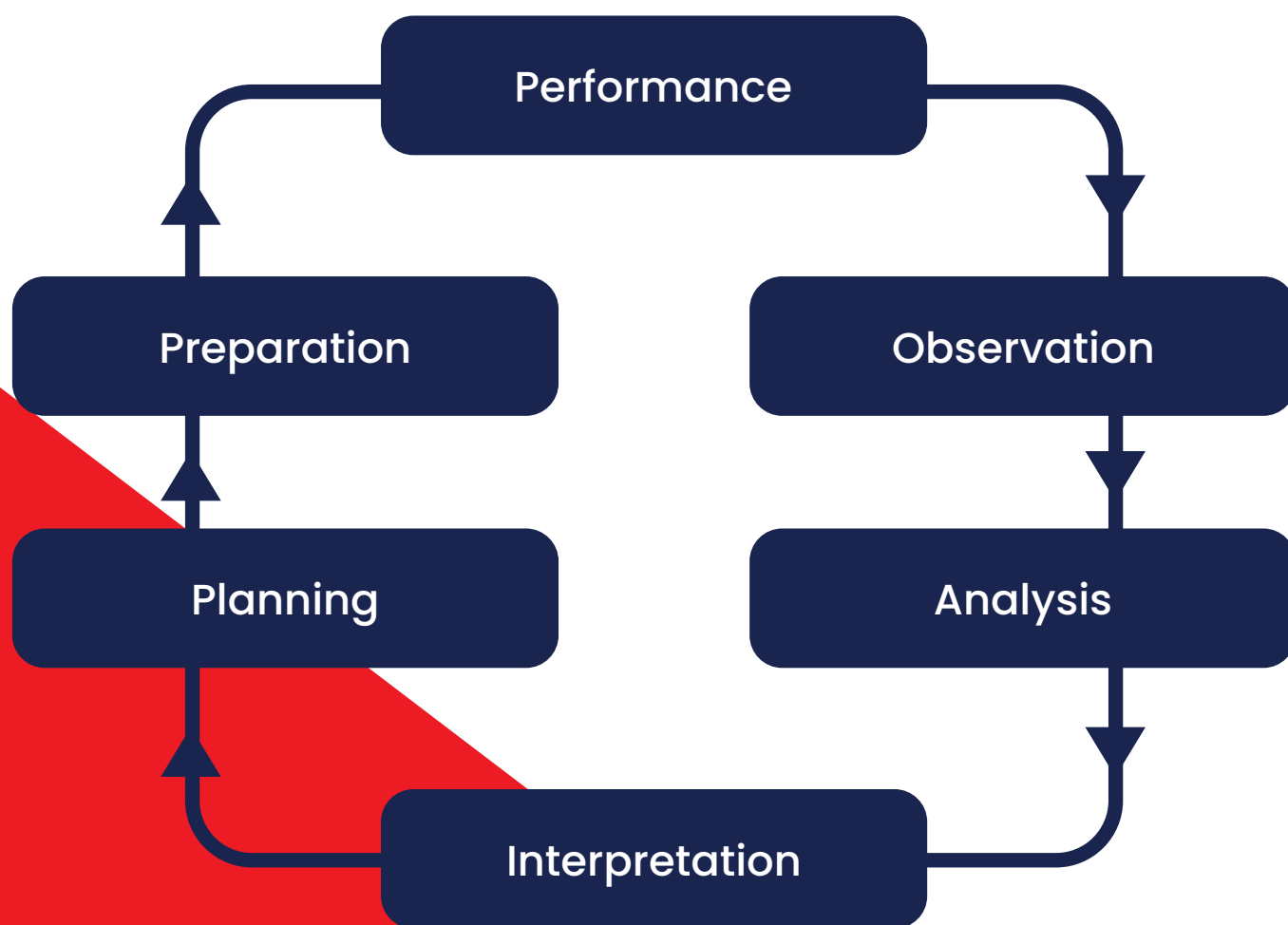
## TACTICAL & PERFORMANCE ANALYSIS

This particular discipline of high performance coaching has become one of the most important and highly utilised methods across many levels of soccer. Performance analysis in soccer is the process of assessing performance to develop an understanding of soccer specific technical, tactical & physical actions to inform better decision-making, whilst supporting coaches and players to become more efficient with their practice and performance.

Recent literature in this area explained how "elite performance in sport had been attributed to innovations in sport science, technological advances, training systems and nutritional analysis", however little attention had been paid to role of the coach and how they fit in with the modern day advances in sport science and technology.

Over the last decade, there has been a significant increase in interest and research on match analysis in soccer, this has led to the enhancement of observational systems and strategies to dissect a teams' performance and player's in-match behaviours (Abreu et al, 2012).

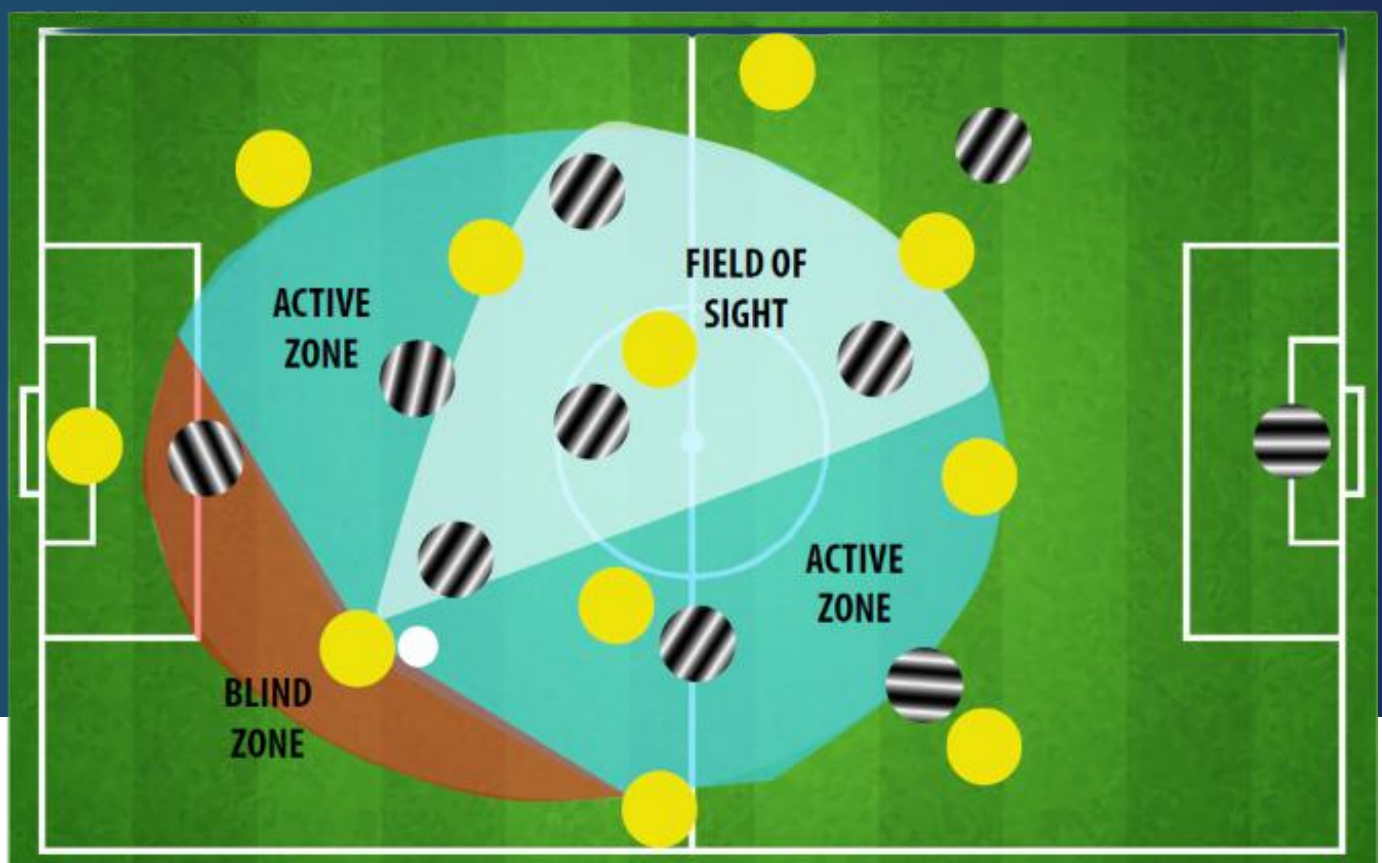
Highlighted below is a simplistic diagram outlining the coaching cycle devised by Carling, Williams and Reilly (2007) highlighting 6 key components (Performance, Observation, Analysis, Interpretation, Planning and Preparation). Carling et al (2007) identify that the analysis process tends to concentrate specifically on analysing, evaluation and providing feedback on completed actions and movements. Here in ISSPF and our SS&P course we include an excellent opportunity to view the work of some elite practitioners and the detail they show in this key area of analysis (soon to come the ISSPF Certificate in Team Sport Performance Analysis).



## THE COACHING CYCLE, HIGHLIGHTING THE IMPORTANCE OF OBSERVATION AND ANALYSIS.

Research has identified that performance analysis is now one of the key building blocks within the coaching process; where the ability of coaches to assess performance, diagnose problems and give corrective technical information is central to effective coaching (Lyle 2002). Kidman and Hanrahan (2011) specifically identify how video analysis has become a major aspect in a sports coach's toolbox to help them analyse performance into great depth as well as enhancing the feedback provision from coaches to athletes.

It was recently explained that video-based performance analysis is so prevalent within sports such as soccer, that the majority, if not all, professional teams engage in this form of performance analysis from a unit, individual & collective approach. This is a statement shared by Williams (2013) who explains that there is "a plethora of commercial computerized performance analysis systems and software that exist in soccer" however not all need to be expensive to have a positive impact, and it can be done across a range of levels of play from youth to senior, professional to amateur.



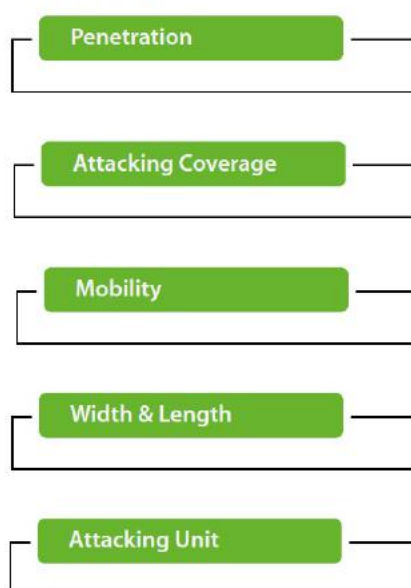
Hughes and Franks (2008) also identify that performance analysis is a relatively new addition within the multidisciplinary sports science support services available to high performing sports coaches.

More specifically, performance analysis refers to the objective recording and investigation of behavioural events that occur during a match or competition. The main reason for the gathering of this information, is in order to develop an understanding of the sport, that can further inform the decision-making processes carried out by those who are seeking to enhance their sports performance.

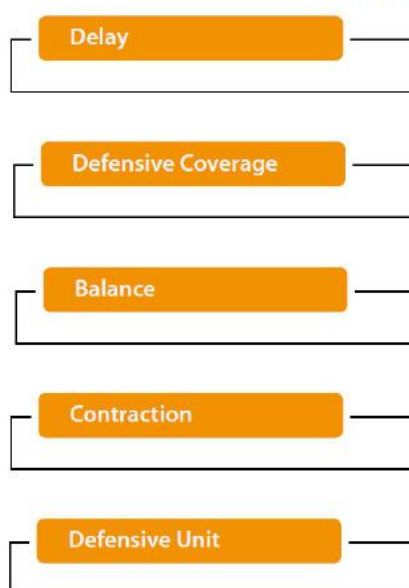
Tactical analysis is extremely helpful and fundamental within the team performance enhancement process, as this can afford coaches with the opportunity to identify match regularities and seemingly random features of game events, information that is crucial in achieving enhanced sports performance by the individuals and the team.

## TACTICAL PRINCIPLES

### OFFENSIVE



### DEFENSIVE



*The above graphic is from Small Sided Games and Tactical Behaviour Lecture  
Dr. Filipe Clemente*

One of the ISSPF faculty members Dr. Filipe Clemente is a well known analyst and expert in tactical development & analysis, his lectures are one element of the new course coming soon.

Specifically, he discusses the use of small sided games to promote tactical principles, the specific demands placed on players in attempting to execute these principles and how you can manipulate these small sided game sessions to promote a variety of desired outcomes. Task constraints, SSG design and then integration of SSG into style of play is all covered.



“

Post-match performance analysis, including video analysis, has become one of the most important elements of coaches roles in recent times. It's increasingly widespread now in soccer, and indeed allows me to evaluate good and poor performance.

**SLAWOMIR MORAWSKI**

**ISSPF**  
INTERNATIONAL SOCCER SCIENCE & PERFORMANCE FEDERATION

**SLAWOMIR MORAWSKI**

COGNITIVE METHODOLOGY OF TRAINING

ANALYSIS + COGNITIVE ASPECTS IN TRAINING

COACHING INSIGHT OF ANALYSIS



To understand the genius of Leo Messi, one must take a closer look to the decisions he makes, and try to understand why he makes them.

Not just the technical executions. The way he perceives and uses the space is almost unstoppable.

TAKE THE COURSE  
**NOW!**



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SOCCER SCIENCE  
& PERFORMANCE



## STRENGTH & CONDITIONING

Many facets of the modern game are quickly developing and evolving, with different philosophies, strategies and principles constantly being worked on by Soccer Scientists and Professionals seeking to gain those marginal and incremental advantages that propel teams forward... improving the win percentages.

These evolutions are increasing the demands being placed on modern players. For example, while players have always been asked to close down and press opponents, the high intensity pressing game deployed by many elite clubs requires another level of strength, conditioning and fitness from all players.

Therefore, modern soccer specific related training methods should reflect the style and philosophy of the team (train as you play) and assist the entire physical capacity of the soccer player, in order for them to perform to their fullest potential during training and in match play.

The importance of conditioning players in bespoke and specific ways using applied methodologies linking the science and the art of coaching is what we excel at. Our ISSPF faculty are constantly developing their approaches to achieve this and we share our ground breaking insights and lectures with our students and followers.

One such area that requires careful assessment, planning and execution of sound coaching principles is in the area of Strength & Conditioning of soccer players.

The following are some insights and context that should be shaping your strength and conditioning schedule.

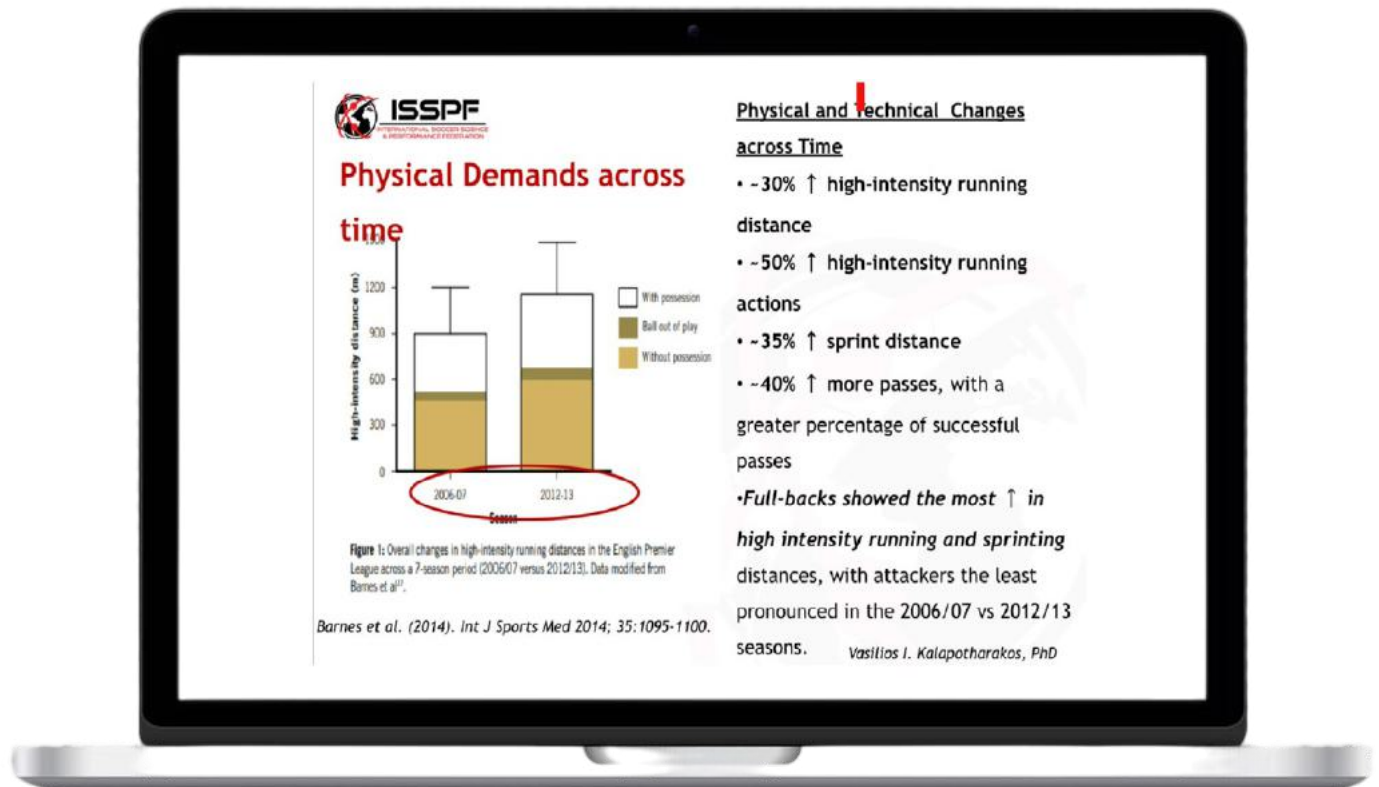
In an eminently aerobic context such as a soccer game, the most decisive events depend on the performance of high intensity actions - sprints, goal shots, individual duels or jumps - (Hoff & Helgerud, 2004). These actions are directly related to strength.

Diving deeper in to the analysis of the soccer player highlights how the straight-line sprint is the most repeated action before a goal is scored (Faude et al., 2012), closely followed by the vertical jump. Changes of direction which are a highly skilled movement with agility, speed and power required at the elite level, occupy an important place within the activity profile (Chaouachi et al., 2012).



In addition, professional players perform approximately 50 actions in which they must maintain balance and control of the ball under pressure and contact from an opponent (Hoff & Helgerud, 2004), again highlighting the need for functional strength qualities to perform.

In his lecture on The Demands of Professional Soccer: Physiological Costs of the Game, ISSPF Professor Vasilios Kalapotharkos identifies these and more physical demands of the game.



Specifically, explored are the physical and technical changes that have occurred. As you can see from the illustration taken from Module 1 of the Certificate in Soccer Science & Performance course, there are more high intensity running distances and actions required in the game today.

These insights and what they mean to coaches and sports scientists Course.

In his lecture on Peak Velocity in Soccer: To Sprint or Not to Sprint, ISSPF Faculty Professor Dr. Efthymios Kyprianou explores the physical demands of players, in particular sprinting.

The necessity for data driven analysis to shape training is explored, in this lecture and how this data then influences the specific training required for players.



As you can see from the illustration, data on player sprinting is captured according to their positions, which should then influence training sessions, where the different types of acceleration, sprints and high speed running can be tailored to positions.

Adopting the "We train as we play and we play as we train philosophy" in this instance, means that training sessions should be designed that accurately reflect the demands that are placed on players, specific to the role and reflective of game dynamics that they are likely to experience.

It should be noted there are many other factors that should be considered, when designing specific training sessions, such as opponents style and intensity of play of course, amongst other factors which Dr Efthymios Kyprianou discusses in his lecture.

In addition to sprinting, more soccer actions require our attention, as we'll discuss briefly here.

The force needed to generate striking the ball repeatedly over short, long passes and shooting is immense and again highlights the requirements of strength within the game.

It is known that players make an average of 50–70 ball contacts during a competitive match, which can vary in form and quantity depending on the level or intensity of play (Dellal et al., 2011).

Furthermore, the speed of the ball upon striking is one of the main biomechanical indicators of success in shooting and is the result of several factors, among with which the combination of both strength and technique stand out (Lees & Nolan, 1998).

During elite soccer matches, the ball speed recorded in goal shots varies between 115 and 126 km/h (Eklom, 1994), again highlighting the physical qualities required to perform.

In order to run fast, it is not only necessary to generate high levels of force and apply it horizontally (Morin et al., 2011), but it's vital to do it within a context of maximum contraction speed (Morin & Samozino, 2016).

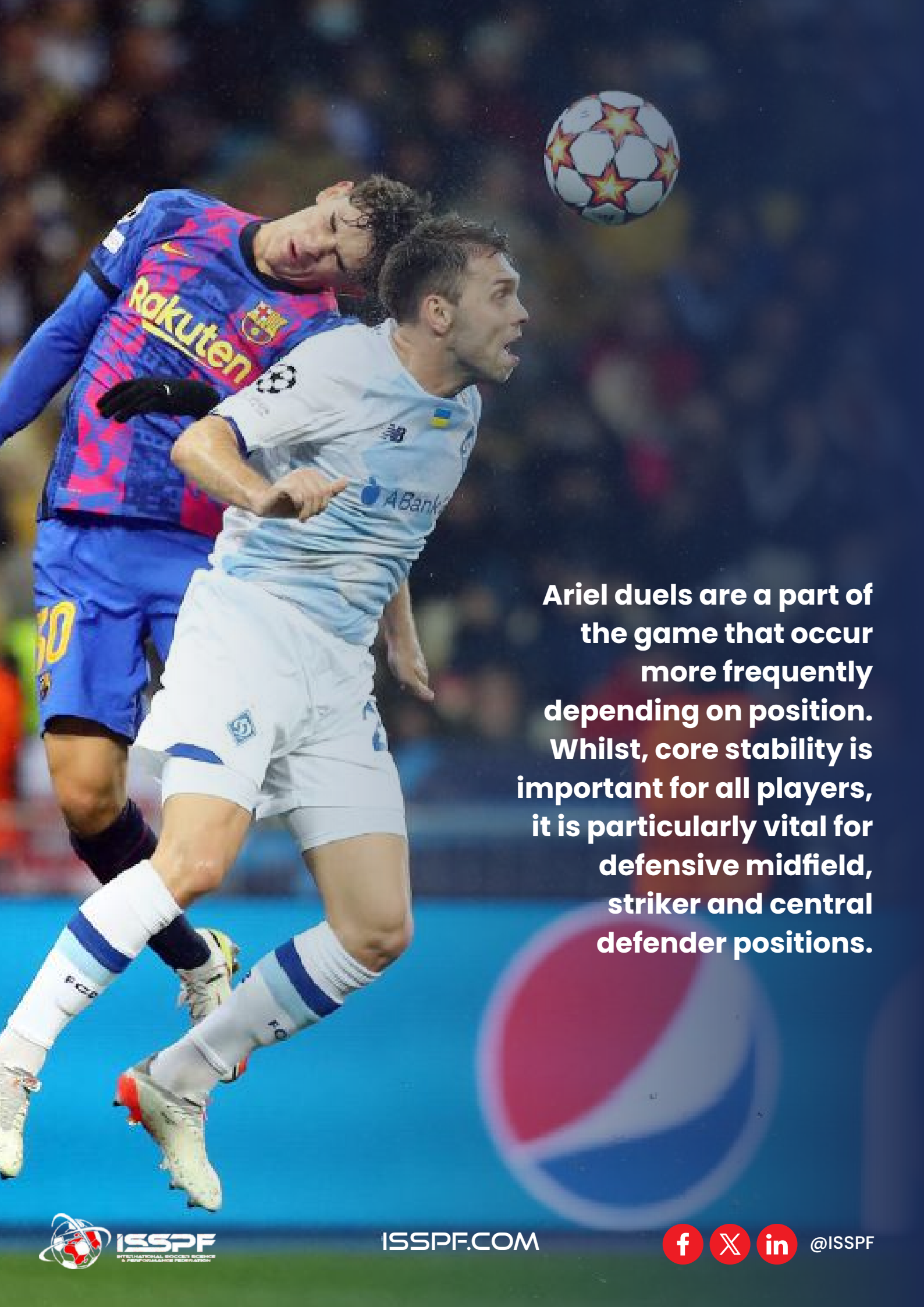
In order to maximise this the improvement of the strength in hip extensors (gluteus and hamstrings) through basic strength exercises such as the squat or the deadlift (Young et al., 2001) has been very effective and these are shown within various lectures available within ISSPF.

These muscle groups have a greater presence during the running biomechanics when the speed is high, since at this time the position of athletes tends to be more vertical. In the same way, the sprint is a horizontal movement, and therefore requires training in this plane (Behrens & Simonson, 2011). For this reason, hip thrust is one of the star exercises for the improvement of the first steps (maximum acceleration phase) (Loturco et al., 2018).

Regarding the improvement of performance in changes of direction, the most recent research seems to show that bilateral lower limb exercises such as squat are more effective than unilateral work (step-up) for this purpose (Appleby et al., 2020). In the words of the same authors, these findings highlight the importance of understanding the physiological stimulus produced by the desired adaptation and not selecting the exercises based on the specificity or similarity with the movement that is intended to be improved.

In conclusion, and according to Sáez de Villarreal et al. (2012), the combination of plyometric exercises, bilateral strength work with loads and sprints with and without extra loads is recommended for the optimization of the different movements that predominate in soccer.

According to the data to which we have been able to access, the approximate number of tackles per team during a match is 134. Of these, 47% are satisfactory in terms of avoiding rival advancement or regaining possession without committing infraction (Luhtanen et al., 2001).



**Ariel duels are a part of the game that occur more frequently depending on position. Whilst, core stability is important for all players, it is particularly vital for defensive midfield, striker and central defender positions.**

Similarly, it is estimated that each player participates in 2.5-18.5 aerial duels per game, and may vary depending on the position and competition (Dellal et al., 2011; Rampinini et al., 2009).

Many of these actions involve contacts with regulatory surfaces. The players who are most exposed to this type of situation are the defensive midfielders, the strikers and the central defenders, and that is why they may generally need to be the strongest players (Bangsbo et al., 2006; Bloomfield et al., 2007).

These disputes pose a physical challenge for players as they need to remain stable so as not to lose possession of the ball. For this reason some authors have highlighted the importance of the middle zone of our body for this stabilizing function (Kibler et al., 2006).

Following the same authors, this anatomical region is presented as a great ally when it comes to controlling the movement of the trunk over the pelvis to allow optimal production, transfer and control of force and movement.

Although it seems obvious that the shot action is one of the most decisive in soccer, the great influence of the technical mastery over this ability means that the increase in the shot force does not necessarily have to be linked to an improvement in performance. In any case, what seems clear is that muscle weaknesses in one or more of the structures that act during these actions - such as the hip adductor muscles - can increase the risk of injury in the medium-long term (Whittaker et al., 2015), and the injury is the most obvious form of loss of performance.

## **WHAT THIS MEANS TO AND HOW IT SHOULD BE SHAPING YOUR TRAINING SESSIONS...**

Understanding these factors and then tailoring player specific strength and conditioning sessions for players is vital. Role specific actions, accelerations, sprint distances and velocity all require planning.

Conditioned small sided games, that challenge players physically and mentally... focusing on core muscle groups that will enable them to optimise performance for their position should feature in your session plans.

Awareness, interpretation and using the appropriate data can assist in the optimum training of soccer players, and this approach is more preventative.

We focus on Injury Prevention, including some of the most used techniques in this area of preventative measures being delivered by some of the leading academics and practitioners in the soccer world.

# CERTIFICATE IN SOCCER PSYCHOLOGY & MENTAL SKILLS TRAINING



**The difference between great players and average players can often be seen in their mastery of the mental aspect and dealing with adversity.**

**The Certificate in Soccer Psychology & Mental Skills Training course has been developed by some of the most respected soccer psychologists and mental skills practitioners to help players and coaches develop in the mental aspect of the game.**

**[Click Here](#)  
Certificate in Soccer Psychology  
& Mental Skills Training**

## PHYSIOLOGY & RECOVERY STRATEGIES

Understanding and managing the balance between work & recovery is something that is vital to maximal soccer performance & player success. Training Load Management is a term you'll hear a lot around professional and semi professional clubs. Within the learning environment of ISSPF, we bring together some of the leading researchers & applied soccer scientists to discuss the function of rest & recovery and science behind the latest research surrounding the recovery procedures.

Recently there has been an increased emphasis and focus on recovery following bouts of heavy training and competition. Obviously, a manager wants their best players fit and in contention for all competitions, and so many methods and strategies being explored to provide sufficient recovery & injury prevention.

Maintaining peak performance and accelerating the process of recovery are vital when managing a squad of players who are competing regularly and consistently. This is especially true, when squads are playing multiple high-intensity competitive matches within congested fixture periods, exacerbated by seasonal fixtures (e.g. December/January in English Premier League) or due to external influences like pandemic factors. Throughout such periods, it's common at many levels of the game to have to play at least two or three times a week.

Full recovery is obviously very important... but it is possible?

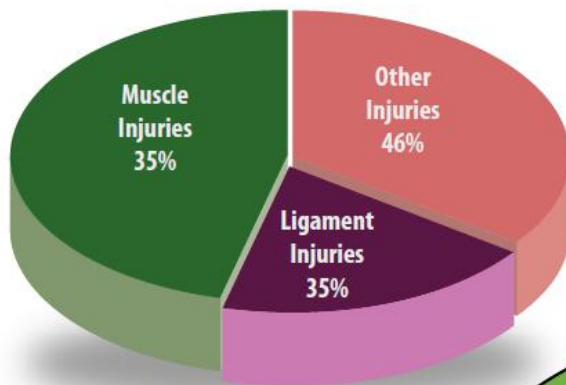
Even for players, competing weekly, it is important to fully recover as quickly as possible to enable the player to train effectively during the week and maximise the benefits of the training content whilst reducing the injury risk.

In all these situations, recovery from exhaustive activity is important both for physical & mental freshness, and coaches, performance staff & medical practitioners should understand the recovery process integrate post-game & training programs to enhance recovery.

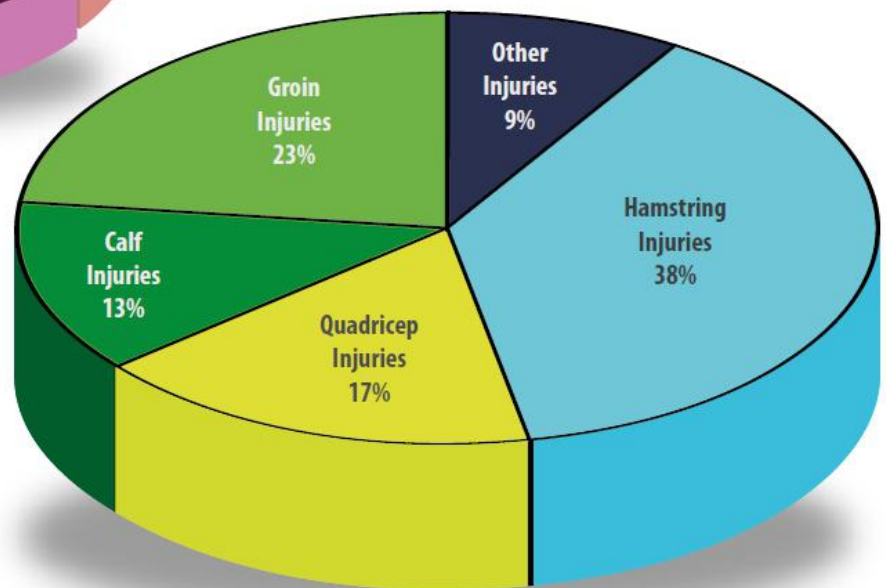
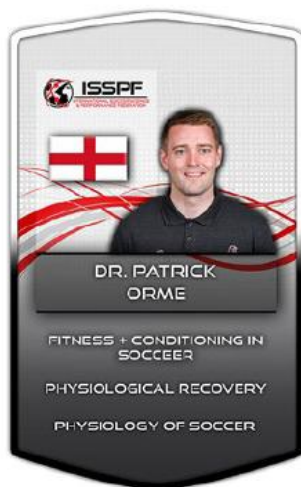
In order to achieve maximum performance and minimise the potential for injury, there are five important objectives to be considered in the recovery process:

- Restoration of energy levels
- Neuromuscular recovery
- Muscle tissue repair
- Reduction of muscle soreness
- Cognitive recovery

Dr. Patrick Orme is a UEFA A Licence holder and ISSPF faculty member, he has produced a lecture exploring injury reduction strategies. Specifically, the lecture explores the location and prevalence of injuries, strategies and considerations to prevent and minimise injuries, and how planning and scheduling in soccer is vital to player welfare.



## INJURY PREVALENCE IN SOCCER



Current research within the game to date covers some of the main issues listed below:

- Warm-down or active recovery
- Most serious athletes perform a warm-down or active recovery following the conclusion of intense exercise. The warm-down period generally varies with the level of the participant's activity but ranges from 5 to 15 minutes. This is usually followed by self-selected stretching of the muscles used in training or competition.
- The benefits of warm-down on muscle soreness and performance after 24-48 hours are not clear from current research. One research study compared immediate recovery procedures to next-day recovery training (25 minutes of pool exercise) and found no difference in recovery of muscle soreness, flexibility and power so individual preference would be apparent here.

**Within the Soccer Science & Performance Certificate you can discover more about Physiology, Injury Prevention, and Recovery Strategies that you can implement with your team.**

## TESTING & MONITORING

Without understanding the demands imposed on soccer players at various levels and age groups makes it very difficult to ensure coaching methods are having the correct impact on development of the player.

Within the Soccer Science and Performance Certificate, you will discover research and analysis performed by our Faculty Professors in the area of modern testing & player monitoring strategies.

At the end of the lecture on Testing & Monitoring, you will understand and be able to apply the correct training stimulus & further justify coaching methodologies to maximise performance & reduce the risk of injury with your squad of players.

One of the main objectives of any training professional should be to know what the specific demands of the game. In particular, player physical preparation, the conditional (physical) variables specific to position, will require the most attention.

Recent studies suggest that during a 90-minute game, a professional player usually travels around 10-12km intermittently, performing between 1000 and 1400 short-time actions, generally less than 5 seconds and rarely above 10 (Vigne et al., 2010).

A significant number of these activity changes are directional in nature (Chaouachi et al., 2012). Only 1.2 -2.4% of the distance is covered with the ball, which is equivalent to approximately 200 meters. Wingers usually report higher values in this section (Di Salvo et al., 2007). Although, more fluid attacking and pressing styles, such as the styles of Manchester City, Liverpool Real Madrid and Bayern Munich require full back to cover greater distances than many other players.

In this same study it was illustrated that around 70% of the distance is covered below 11km/h and that 200-500 meters are accumulated above 23km/h. Of these, 93% of displacements are less than 20 meters (Vigne et al., 2010).

Despite being scarce compared to the low and medium intensity amount, this distance is usually related to the most decisive moments of the matches (goal actions, goal attempts, plays around the area, etc.), and therefore requires a special attention.

Following Krustup et al. (2005), in women's soccer we found similar values of distance travelled (9.7-11.3 km). Of these, 0.7-1.7 km are completed at high intensity (>18 km/h) and 50-280 meters at a speed exceeding 25km/h (Datson et al. 2014).



The intermittent nature of soccer allows for the coexistence of low and extreme demands of the players. Analysis is carried out through a methodology called "rolling average periods", through which soccer matches are divided into short intervals of time (from 1 to 10 minutes, generally).

Studying games in this manner, allows us analyse what are the most demanding periods during the game and to track player demands.

Distances covered, intensity of movement, sprints, accelerations and explosive decelerations are all compiled during these periods. (Martín-García et al., 2018).

As you would conclude, there will be differences in the distance covered at different intensities depending on the playing position. Generally, midfielders are the players who accumulate the greatest distances. However, the full-backs, wingers and strikers are those with greater distance at high intensity and sprints (Mohr et al., 2003). When you analyse a portfolio of games, you will also discover variations depending on the level of performance, both in men and women. International players cover 28% more meters in high intensity zone and 58% more sprint (+24% in women's soccer) than non-international professional players (Datson et al. 2014; Mohr et al., 2003).



## PHYSIOLOGY & RECOVERY STRATEGIES

All professionals in soccer development and training should be aware that physical abilities are only one of the important factors in performance, but its complex and multifactorial nature prevents a reductionist analysis of the reality of this sport. In fact, it is equally necessary to highlight, as technical-tactical performance indicators, the percentage of possession that takes place in the rival field, the number of passes made to the last third of the field (finishing zone) or the proportion of duels and 1 to 1 situations won (Yang et al., 2018).

In addition to the technical and tactical skills required, we can highlight strength, speed, agility and the ability to repeat high intensity actions as the main physical determinants of soccer performance (Turner & Stewart, 2014).

A broad scope taking information and analysis from current scientific evidence, should guide our methodological training proposals for the correct preparation of soccer players.

In the Certificate in Soccer Science and Performance, you'll discover testing & monitoring principles within the initial lecture – The Demands of Professional Soccer: Physiological Costs of the Game. Specifically in this lecture Professor Kalapotharakos, explores:

- Physical demands of the game,
- Understanding positional differences within match play and training Identifying tactical
- Differences in the physical output of players
- How to analyse and incorporate this information into your coaching

Coaches and specialists involved in the physical development & preparation of soccer players have to balance a number of key elements when training players:

- Technical
- Tactical
- Strength & conditioning

Understanding the effects of testing & monitoring within training, and more importantly how we prepare players for the demands is critical.

ISSPF will open the literature & link specific applied ways elite clubs & coaches assist players in the management of training load through testing & monitoring strategies.

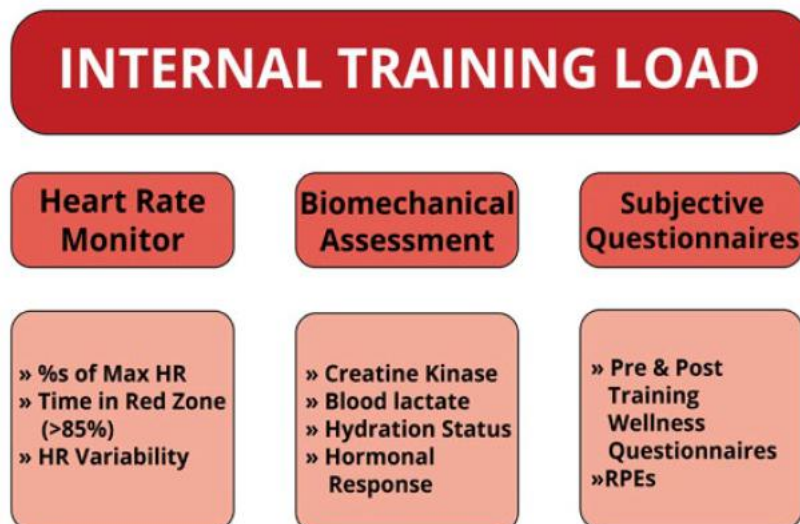
Training Load Management is an essential outcome of the testing & monitoring process to ensure players are physically and psychologically prepared for the demands of competition. When effectively implemented, well managed workload has multiple benefits including a reduction the risk of injury, improvements and maintenance of peak physical performance.

The main area of control that coaches and performance staff have when working with soccer players surrounds the modification and monitoring of the load experienced by the athlete during training. Training Load is broken down into two main areas; External Workload and Internal Load.

External Workload is the physical exercises and tasks performed by the athlete on the training pitch and in the gym. This can include the amount of distance the player runs, the number of times they change direction, the number of jumps they perform, or how much weight they lift.



Depending on the amount and quality of these exercises performed, the athlete will experience a physiological, psychological and biomechanical response to this external stimulus. This is what is known as the athletes' Internal Load response.



Manipulation of the training environment by coaches will affect the training outcome. For example, if the head coach increases the training volume, intensity, and frequency, this will lead to a greater training load and an influence on the training adaptation experienced by the player. It is our job as performance staff to ensure that this preparation leads to positive training adaptation and optimal performance during games.

## COACHING PRINCIPLES & TRAINING METHODOLOGY

AN ALL TIME CLASSIC QUESTION; How to achieve and manage the balance between physical and tactical training? Where does a fitness coach's work end and where does the work of the soccer coach start? To begin with, training to enhance physical performance is an adaptive process that involves progressive manipulation of the physical load (Manzi et al, 2010), which is the sum of the fitness coach and soccer coach's work. Monitoring training load is therefore essential (as all practitioners would suggest), in managing the training "dose" to ensure the desired improvements in performance are attained whilst minimizing the incidence of loading related injury (Akenhead & Nassis, 2016; Weston, 2018).

Furthermore, in modern soccer, match analysis and technology provide coaches with important information on the physical, technical and tactical demands of the game, highlighting each player's performance (Sarmiento et al 2014; Rein & Memmet 2016).

Every action performed in the game includes a decision (tactical part), an action or motor skill (technical part) that requires a particular movement (physiological part) and is directed by volitional and emotional states (psychological part) (Delgado & Mendez-Villanueva, 2018). How well are we taking into account this information? How do we implement this in our daily training process?

Before going to the pitch as coaches need to ask ourselves:

**WHY**

we have to understand the game revolution?

**WHAT**

is our training philosophy coming from that game understanding?

**WHEN**

can we apply all these (periodization)?

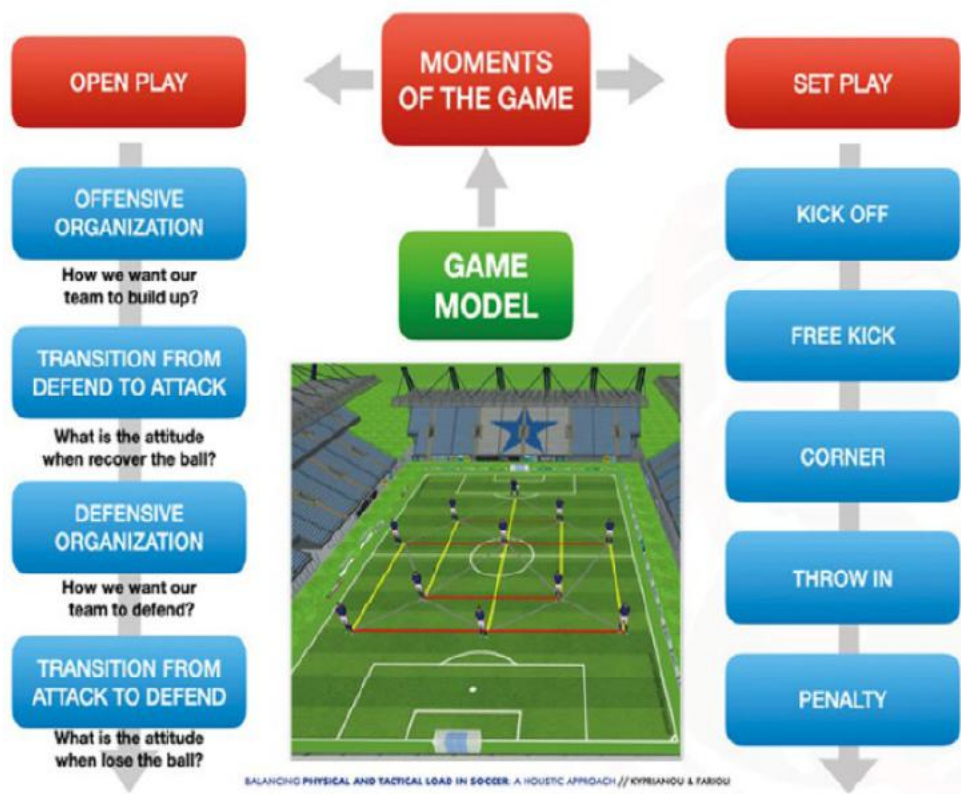
The biggest things in life have been achieved by people who, at the start, we would have judged crazy.

And yet if they had not had these crazy ideas the world would have been more stupid.

---

**ARSENE WENGER**





Across the previous decade, training demands in soccer have been exponentially increased in order to meet the high conditioning requirements of numerous competitions.

As a consequence of this reality, and in order for soccer players to cope with the huge repetitive match related requirements enabling them to maximally perform during competition match-play, ways to control, analyse, and eventually manipulate training sessions has increased substantially. How can managers and coaching staff play a specific system or style of play if the players are physically inadequate to cope with the positional demands?

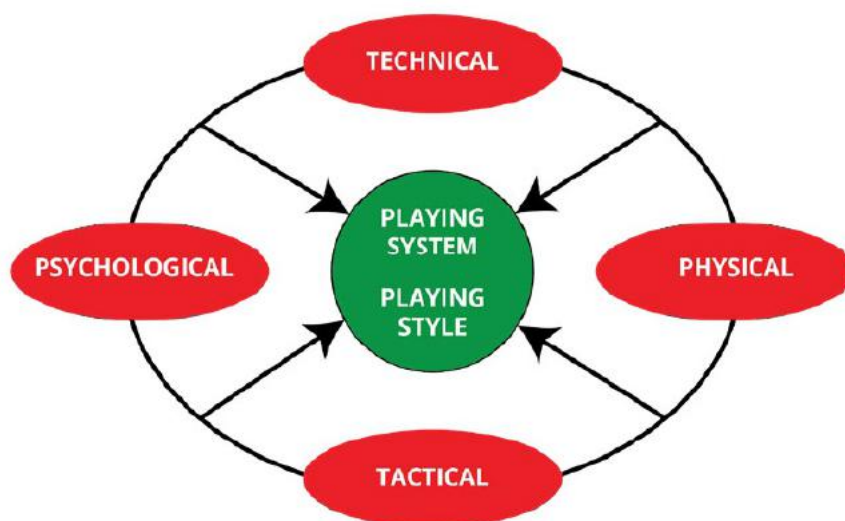


In this context, coaches & specialist performance practitioners involved within the preparation & development of soccer players continually seek ways to analyse and examine the training loads, aiming to maximize performance.

When developing a training methodology – as coaches its vitally important that we fully understand what is meant by the 'Tapering Process' where below we have outlined some of the recent literature in this area:

### ***What is tapering?***

- Tapering = "a progressive reduction of the training load during a variable amount of time,intended to reduce physiological & psychological stress of daily training and optimize sport performance".
- Training Intensity
- Maintained during taper
- Training Frequency
- Decreasing number of weekly sessions has not been shown to improve performance
- Training Volume
- Max gains generated with reductions of 41-60% of pre-taper value
- Taper Duration
- 8 to 14 days seems to represent the balance between fatigue reduction and detraining effects



These methodologies and coaching principles are all taught by our Elite Professor Faculty in the Certificate in Physical Training and Soccer Methodology.



## EDUCATIONAL ASSOCIATES & PARTNERS



# CERTIFICATE IN PHYSICAL TRAINING & SOCCER METHODOLOGY



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## UNDERSTANDING INJURY MECHANISMS

Sports practice is accompanied by the risk of injury. One of the goals of medical team and other professionals in the sport is the prevention of injuries and thus keeping the athlete competent for longer. The use of programs consisting of both structured and general warm ups have shown to be effective in preventing frequent injuries in soccer, reducing them by almost 30%.

Soccer is a high intensity intermittent contact sport exposing elite level players to continual physical, technical, tactical, psychological and physiological demands. The incidence of injuries among elite soccer players during competitive match-play is suggested to be between approximately 24.6 to 34.8 per 1000 match hours, and injuries during training session ranging between 5.8 to 7.6 per 1000 training hours according to reports.

The risk of injury in European professional soccer is high. It has been reported that an average of 1.3 injuries per player, per season in English professional soccer. Almost one third of all soccer related injuries are muscle related with the majority (92%) affecting the major muscle groups of the lower extremity: hamstrings, 37%; adductors, 23%; quadriceps, 19%; and calf muscles, 13%.

The Soccer Association Audit of Injuries showed the hamstrings to be the most commonly injured muscle, constituting 12% of all strains and also implicating the fact that players are 2.5 times more likely to sustain a hamstring strain than a quadriceps strain during a game.

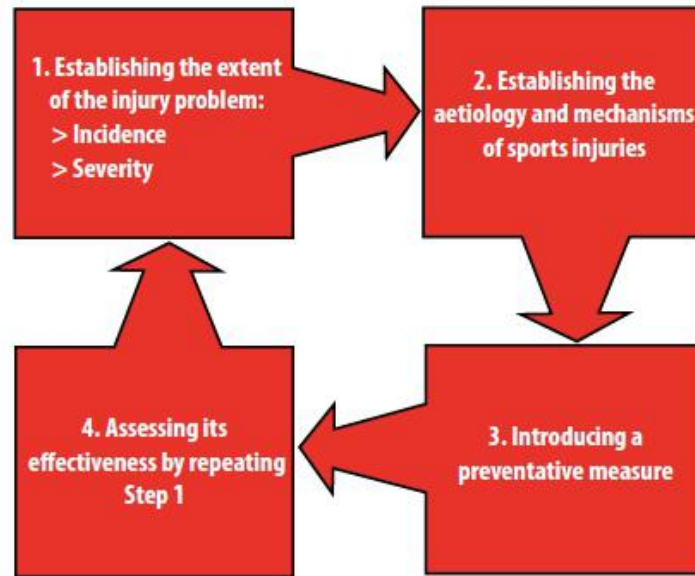
Previous research has suggested that muscle strains may occur due to insufficient warm-up, poor flexibility, muscle imbalances, muscle weakness, neural tension, fatigue and previous injury implying that an injury prevention program should consist of a multi-component approach.

Junge et al., (2002) showed a multi component injury prevention program that included exercises for stability, flexibility, coordination, power and reaction time was able to reduce the incidence of injury. The incidences of injury per 1000 hours of training and playing soccer were 6.7 in the intervention group and 8.5 in the control group, which equates to 21% fewer injuries. The greatest effects of the intervention were seen for mild injuries, overuse injuries and injuries incurred during training.

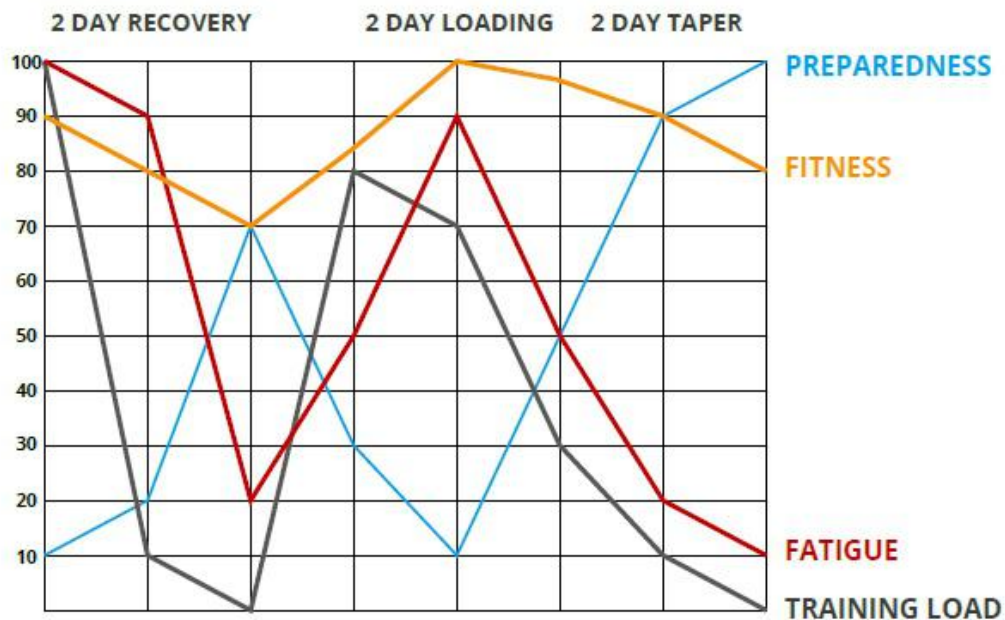
Additionally, an investigation by Owen et al., showed that performing a multi component injury prevention intervention twice weekly throughout the course of a training season, can have a positive effect on reducing muscle injuries (strains/tears) within the elite level of professional soccer. Although in this report, in view of the greater numbers of unavoidable contusion injuries occurring during the intervention season, the investigation revealed the positive relationship between the intervention, muscle injuries and total number of injuries.

Therefore, the findings from this study (Owen et al) should encourage players, coaches, conditioning coaches and medical practitioners to implement injury prevention training techniques to supplement regular traditional soccer training from youth to senior levels of the game.

## UNDERSTANDING INJURY MECHANISMS



Four Step sequence of injury prevention research.



When dealing with younger age groups the FIFA 11 intervention is something that is very useful, time & cost effective and integrates key physical literacy movements into injury reduction promotion at the younger age groups.

We cover all these suggested aspects of the topic & returning to play through specific rehabilitation techniques, by learning from practitioners & academics explaining their justifications of strategies used with players all across the globe within our unique ISSPF course in Soccer Science & Performance.

# CERTIFICATE IN SOCCER SCIENCE & PERFORMANCE

## COURSE SUMMARY

This Certificate in Soccer Science & Performance has been developed with some of the most respected coaches, sports scientists, physical specialists, practitioners and academics working within elite level clubs and associations.



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The latest in soccer science & performance principles, strategies and tactics adopted by elite clubs to maximise the performance of their players and teams is all covered in this brand new course.

Through focussed lectures you'll attain deeper knowledge of the physical, technical, tactical and psychological demands imposed on your players, and gain an understanding of the practical applications and tools needed to enhance the development of your team within match and training environments.

The course covers the following key areas of soccer science & performance:

- |                                           |                                          |
|-------------------------------------------|------------------------------------------|
| <b>1</b> The physical demands of the game | <b>5</b> Mental skill development        |
| <b>2</b> Tactical periodisation           | <b>6</b> Injury reduction strategies     |
| <b>3</b> Leadership and culture           | <b>7</b> Goal scoring trends             |
| <b>4</b> Soccer nutrition                 | <b>8</b> Competitive training microcycle |

These days, a basic level of soccer science and performance fundamentals is required if you're looking to enter the professional ranks of coaching. These skills are becoming more and more required, and even in non-specialist roles you'll need a grounding in all facets to remain competitive. Today almost every team employs a wide range of staff to support and develop the team. The more proficiency you have in all broad soccer science and performance areas - the more attractive you'll be to a prospective club; or if you're already working within club structure your career advancement opportunities will be improved.

There is great merit to making soccer science and performance courses to give yourself a leg up by acquiring this specific knowledge, adding it to your repertoire to help provide you with an edge over other candidates.

***The main advantages for taking this course are threefold:***

- 1** You'll be introduced to the key fundamentals of soccer science and performance by some of the most progressive minds in the soccer game
- 2** You'll be more confident and able to converse intelligently on a broad spectrum of soccer science and performance fundamentals,
- 3** You can chose to specialise in a topic at a later stage, while immediately developing a good practical understanding of this multi faceted field.

Read overleaf the lectures contained within this Certificated Soccer Science & Performance Course which has been accredited by a number of leading Institutions and Universities.



TAKE THE COURSE  
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## Lecture 1: The Demands of Professional Soccer

### PROF. VASILIOS KALAPOTHARAKOS

In this lecture you will Identify the physical demands of the game, understand positional differences within match-play & training, identify tactical differences in the physical output and understand the challenges of coaching.



## Lecture 2: Developing Resilience in Soccer

### DR NIKKI CRAWLEY

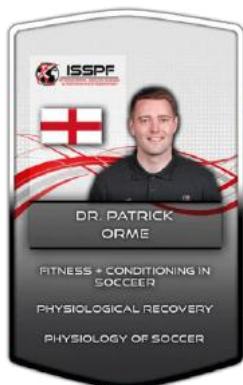
In this lecture you will understand what resilience is and why we should care, resilience bandwidth & the environment, challenging mindsets - predictability vs unpredictability and the psychological environment - pressure, development & awareness.



## Lecture 3: Game Model Building & Development

### DR. ALEJANDRO ROMERO CABALLERO

In this lecture you will understand tactical periodisation background, implications & considerations of training methodology, developing a game model and structuring the microcycle.



## Lecture 4: Injury Reduction Strategies in Professional Soccer

### DR PATRICK ORME

The focus of this lecture is to increase knowledge about the types of injuries we see in soccer, understand what can be done on the pitch to reduce the risk of these injuries happening and identify what can be done in the gym to reduce the risk of these injuries happening.



## Lecture 5: Leadership & Culture for High Performance Soccer Teams **MAX LANKHEIT**

In the lecture, we will cover leadership & managing change, group dynamics & team optimisation, problem solving & systematic thinking, developing high performance teams & performance models.



## Lecture 6: Goal Scoring Trends in Leading European Teams **CHRIS MEEK**

In this lecture we will look at goal scoring trends of the UEFA Champions League, comparative analysis of goal scoring trends: Case Study. We will look at analysing crosses & cutbacks within the game and tactical differences - creating chances.



## Lecture 7: Soccer Nutrition & The Role of Nutritionist **MATTHEW JONES**

In this lecture we will look at the physical performance & nutrition link, soccer specific nutrition, nutritional periodisation, nutritional analysis, intervention & education.



## Lecture 8: Competitive Soccer Training Microcycle **DR. MANUEL SEGOVIA**

In this lecture we will explore the evolution of competitive soccer demands, an example of a weekly training structure - working microcycle, training session examples and specific content, opposition analysis & game plan development and technical-tactical- conditioning implications of the microcycle.



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